GENERAL UTILITY NOTES:

1. CONTRACTOR TO VERIFY THE SIZE AND LOCATION OF EXISTING UTILITIES PRIOR TO COMMENCING ANY CONSTRUCTION.
2. LOCATIONS OF PROPOSED UTILITY LINES ARE SUBJECT TO MODIFICATIONS TO PRESERVE ANY EXISTING VEGETATION AS DETERMINED BY THE ENGINEER.
3. WHEN REFERENCING IMPROVEMENTS ADJACENT TO THE SUBJECT PROPERTY THE WORD "EXISTING" (OR ABBREVIATED "EX.") SHALL MEAN IMPROVEMENTS PROPOSED BY THE DEVELOPER WHICH ARE INTENDED TO BE CONSTRUCTED PRIOR TO OR CONCURRENT WITH THIS PROJECT.
4. NO TREES OR SHRUBS SHALL BE PLACED SO AS TO BLOCK ACCESS OR LINE OF SIGHT TO FIRE HYDRANTS PLACED WITHIN LANDSCAPE ISLANDS THROUGHOUT THE PROJECT SITE.
5. CONTRACTOR TO PROVIDE UTILITY RECORD DRAWINGS TO OWNER AND ENGINEER PRIOR TO FINAL PAYMENT REQUEST.
6. ALL UNDERGROUND UTILITIES LOCATED BENEATH THE STABILIZED PORTION OF THE ROAD BED SHALL BE INSTALLED PRIOR TO COMPACTION OF THE SUBGRADE.
7. CONTRACTOR SHALL NOTIFY ALL UTILITY PROVIDERS AT LEAST 48 HOURS PRIOR TO THE START OF UNDERGROUND CONSTRUCTION THE CONTRACTOR SHALL DETERMINE IF UTILITIES OTHER THAN THOSE SHOWN THE PLANS EXIST.
8. CONTRACTOR TO EXERCISE CARE TO PROTECT THE ROOTS OF TREES TO REMAIN. WITH THE BRANCH SPREAD OF SUCH TREES, PERFORM ALL TRENCHING BY HAND. OPEN THE TRENCH ONLY WHEN UTILITIES CAN BE INSTALLED IMMEDIATELY. PRUNE INJURED ROOTS CLEANLY AND BACKFILL AS SOON AS POSSIBLE.
9. THE CONTRACTOR IS REQUIRED TO ADJUST ALL EXISTING AND PROPOSED VALVE BOXES, MANHOLE RIMS, GRATES, ETC. AS REQUIRED TO MATCH THE PROPOSED GRADES.
10. CASINGS AND/OR CONDUIT SHALL EXTEND FIVE(5) FEET BEYOND THE EDGE OF PAVEMENT, BACK OF CURB AND/OR SIDEWALK AT EACH END AND SHALL BE INCLUDED IN RECORD DRAWINGS TO THE ENGINEER.
11. CONTRACTOR TO INSTALL WATER MAINS SUCH THAT A MINIMUM OF 6' HORIZONTAL CLEARANCE AND 12" VERTICAL CLEARANCE IS PROVIDED BETWEEN WATER MAINS AND WASTEWATER MAINS PER FLORIDA ADMINISTRATIVE CODE.

GENERAL SANITARY SEWER NOTES:

1. ALL WASTEWATER CONSTRUCTION TO BE IN ACCORDANCE WITH BONITA SPRINGS UTILITIES TECHNICAL SPECIFICATIONS AND DETAILS, LATEST EDITION.
2. CONTRACTOR TO VERIFY INVERT ELEVATION AND LOCATION OF EXISTING SANITARY SEWER MANHOLES PRIOR TO COMMENCEMENT OF CONSTRUCTION.
3. ALL GRAVITY SEWER LINES SHALL BE PVC (SDR 26), GREEN IN COLOR, UNLESS OTHERWISE NOTED, WITH A MINIMUM OF 36" COVER.
4. ALL SEWER LENGTHS ARE APPROXIMATE AND ARE MEASURED FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE.
5. MANHOLE TOPS ARE APPROXIMATE AND SHOULD BE ADJUSTED TO FINAL GRADE OR PAVEMENT ELEVATION.
6. ALL SANITARY SEWER SERVICES TO BE 6" IN DIAMETER, UNLESS OTHERWISE NOTED.
7. ALL SANITARY SEWER MAIN TESTING SHALL BE IN ACCORDANCE WITH THE CITY OF BONITA SPRINGS TECHNICAL SPECIFICATIONS FOR GRAVITY SEWER.
8. CONTRACTOR TO COORDINATE WITH THE CITY OF BONITA SPRINGS TO VERIFY THE CONDITION OF THE COATING OF THE EXISTING MANHOLES AND RE-COAT IF NECESSARY.

GENERAL POTABLE WATER NOTES:

1. ALL POTABLE WATER CONSTRUCTION TO BE IN ACCORDANCE WITH THE BONITA SPRINGS UTILITIES UTILITIES TECHNICAL SPECIFICATIONS AND DETAILS, LATEST EDITION.
2. THE CONTRACTOR SHALL PLACE PROPOSED VALVES AS SHOWN. THE VALVE BOX SHALL NOT BE LOCATED IN CURB AND GUTTERS.
3. ALL COMPONENTS OF THE POTABLE WATER SYSTEM, EXCLUDING FIRE HYDRANTS, SHALL BE IN CONFORMANCE WITH THE AMERICAN NATIONAL STANDARDS INSTITUTE/NSF INTERNATIONAL STANDARD 61. THE LOCATION OF PUBLIC WATER SYSTEM MAINS SHALL BE IN ACCORDANCE WITH F.A.C. RULES 62-40, 62-550 AND 62-560. ALL COMPONENTS, INSTALLATION AND TESTING OF THE POTABLE WATER SYSTEM SHALL BE IN ACCORDANCE WITH A.W.W.A. APPLICABLE STANDARDS.
4. PROPOSED WATERLINE FITTINGS ARE SHOWN AT MAJOR BENDS IN WATER MAIN ALIGNMENT. CONTRACTOR SHALL UTILIZE ADDITIONAL FITTINGS AS NECESSARY TO DEFLECT WATERLINE IN ACCORDANCE WITH THE UTILITY PROVIDER SPECIFICATIONS.
5. THE ENDS OF ALL CAPPED POTABLE WATERLINES SHALL BE MARKED WITH ELECTRONIC MARKER AND 2'x4' STAKES 5' IN LENGTH WITH 2' ABOVE GROUND.
6. THE CONTRACTOR SHALL PROVIDE AND INSTALL BLUE-BLUE REFLECTIVE PAVEMENT MARKERS AS REQUIRED IN CENTER OF ADJACENT TRAVEL LANE AT EACH FIRE HYDRANT.
7. ALL WATER VALVES SHALL CONFORM TO A.W.W.A. C-509 RESILIENT SEATED TYPE.
8. CONTRACTOR SHALL USE 45° BENDS AT CONFLICTS. RESTRAINTS TO BE MEGA-LUG. TYLER MJR GLANDS OR APPROVED EQUAL.
9. ALL WATER MAINS SHALL HAVE A MINIMUM OF 30" COVER, 36" UNDER PAVEMENT AND 48" MAXIMUM.
10. ALL POTABLE WATERLINES SHALL BE AWWA C-900, DR-18 CLASS 235 PVC RUBBER GASKETED PIPE WITH BELL AND SPIGOT ENDS UNLESS OTHERWISE NOTED. ALL WATERLINES UNDER PROPOSED ROADWAY SHALL BE DR-14 CLASS 305 PVC.
11. ALL EXISTING WATER SERVICES TO BE ABANDONED SHALL BE ABANDONED IN ACCORDANCE WITH BONITA SPRINGS UTILITIES SPECIFICATIONS.

GENERAL DRAINAGE NOTES:

1. THE LENGTH OF ALL STORM DRAIN PIPES SHOWN ARE APPROXIMATE AND ARE MEASURED FROM THE INSIDE FACE OF STRUCTURE TO THE INSIDE FACE OF THE NEXT STRUCTURE.
2. EXISTING OFF-SITE DRAINAGE PATTERNS SHALL BE MAINTAINED DURING THE COURSE OF CONSTRUCTION.
3. THE LOCATION OF THE DRAINAGE STRUCTURES SHOWN ON THE PLANS MAY BE FIELD ADJUSTED TO PRESERVE ANY EXISTING VEGETATION, AS APPROVED BY THE ENGINEER.
4. DURING CONSTRUCTION, ALL INLET OPENINGS SHALL BE COVERED WITH FILTER FABRIC (MIRAFI 140N, OR APPROVED EQUAL) TO PREVENT DEBRIS FROM FALLING INTO THE INLET.
5. THE CONTRACTOR SHALL ADJUST ALL PROPOSED ELEVATIONS TO MEET THE EXISTING GRADES AS NEEDED.
6. ALL STORM DRAINAGE PIPE SHALL BE REINFORCED CONCRETE PIPE (RCP), UNLESS OTHERWISE NOTED.
7. PROPOSED GRADES IN OPEN SPACE AREAS ARE TOP OF SOD.
8. THE SUBJECT PARCEL IS LOCATED IN FLOOD ZONES 'X' BASED ON FLOOD INSURANCE RATE COMMUNITY PANEL 12071C0659F, AUGUST 28, 2008.
9. THERE ARE NO KNOWN IMPACTS TO SURFACE GROUND WATER RESULTING FROM THE PROJECT.

FIRE PROTECTION REQUIREMENTS:

24,084 S.F. OF COMMERCIAL
TYPE III (200) CONSTRUCTION
PER NFPA 1, TABLE 18.4.5.2.1 THE REQUIRED 2 HOUR FIRE FLOW IS 3,250 GPM.

FIRE FLOW AVAILABLE IS 5,569 GPM AT 20 PSI BASED ON THE FIRE FLOW TEST PERFORMED BY BONITA SPRINGS FIRE CONTROL AND RESCUE DISTRICT ON 3/7/19.

BASED ON THE ABOVE FIRE FLOW REQUIREMENTS AND FIRE FLOW TEST, THE PROPOSED BUILDING IS NOT REQUIRED TO BE SPRINKLED. A SPRINKLER SYSTEM MAY BE ADDED AT THE OWNER'S DISCRETION.

SURFACE WATER MANAGEMENT PARAMETERS

PARAMETER	ELEVATION
CONTROL ELEVATION (FT-NAVD)	7.30
MIN. PERIMETER BERM ELEVATION (FT-NAVD)	10.80
MIN. FINISHED FLOOR ELEVATION (FT-NAVD)	11.70
MIN. PARKING LOT ELEVATION (FT-NAVD)	10.60
FEMA FLOOD ELEVATION (FT-NAVD)	N/A

PROJECT DATUM NAVD

DRAINAGE STRUCTURE TABLE

S-1
HDPE INLET - SEE DETAIL
GRATE ELEV. = **8.30**
INV. SE (15") = **5.65**
INV. NE (8") = **5.65**

S-2
HDPE INLET - SEE DETAIL
GRATE ELEV. = **8.30**
INV. NW (15") = **5.45**

S-3
HDPE INLET - SEE DETAIL
GRATE ELEV. = **8.30**
INV. E (15") = **5.40**
INV. N (8") = **5.40**

S-4
HDPE INLET - SEE DETAIL
GRATE ELEV. = **8.30**
INV. W (15") = **5.30**
INV. NE (15") = **5.30**

S-5
TYPE 'C' INLET - SEE DETAIL
FDOT #425-052
GRATE ELEV. = **10.35**
INV. SW (15") = **5.10**
INV. N (15") = **5.10**
INV. W (8") = **8.00**

S-6
HDPE INLET - SEE DETAIL
GRATE ELEV. = **8.30**
INV. S (15") = **5.00**

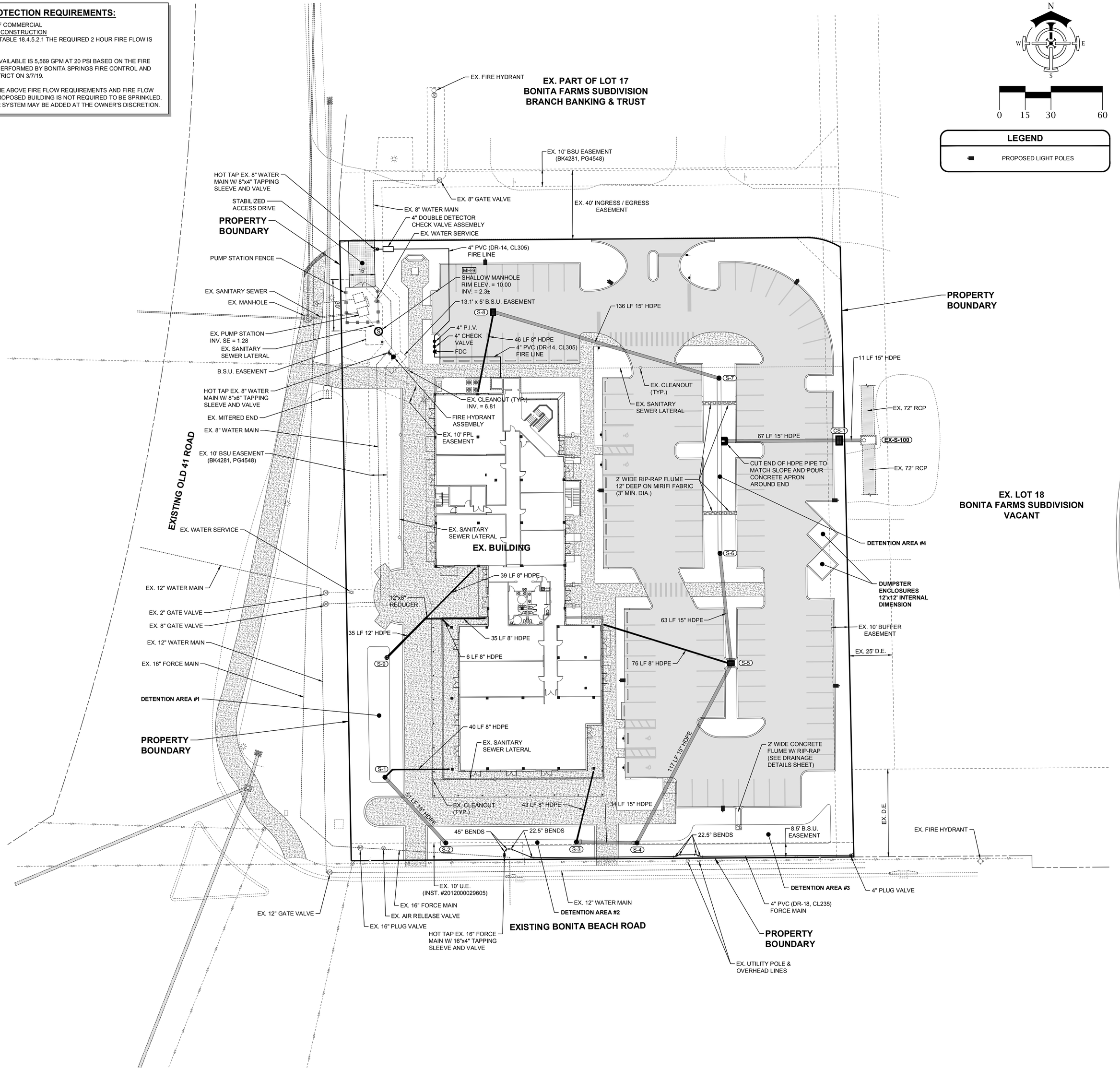
S-7
HDPE INLET - SEE DETAIL
GRATE ELEV. = **8.30**
INV. W (15") = **5.90**

S-8
TYPE 'C' INLET
FDOT #425-052
GRATE ELEV. = **10.60**
INV. E (15") = **7.70**
INV. S (8") = **7.70**

S-9
HDPE INLET - SEE DETAIL
GRATE ELEV. = **8.30**
INV. NE (12") = **6.00**

CS-1
CONTROL STRUCTURE
SEE DETAIL
GRATE ELEV. = **11.45**
INV. E (15") = **7.00**
INV. W (15") = **7.00**

EX-S-100
EX. JUNCTION BOX
RIM ELEV. = **10.89**
INV. N (72") = **-1.11**
INV. S (72") = **-1.12**
INV. W (14"x23") = **7.96**
WEST PIPE CONNECTION TO BE REMOVED AND REPLACED WITH 15" HDPE INV. = 6.90



KEVIN H. McVICKER LICENSE No. 51436 STATE OF FLORIDA PROFESSIONAL ENGINEER

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Bonita Springs, Florida 34135

Drawn by:	C. Steward
Project No.	C18-0005
Check by:	K. McVicker

No.	Issue	Date
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Sheet Name:
DRAINAGE & UTILITY PLAN

Sheet 5 of 14

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