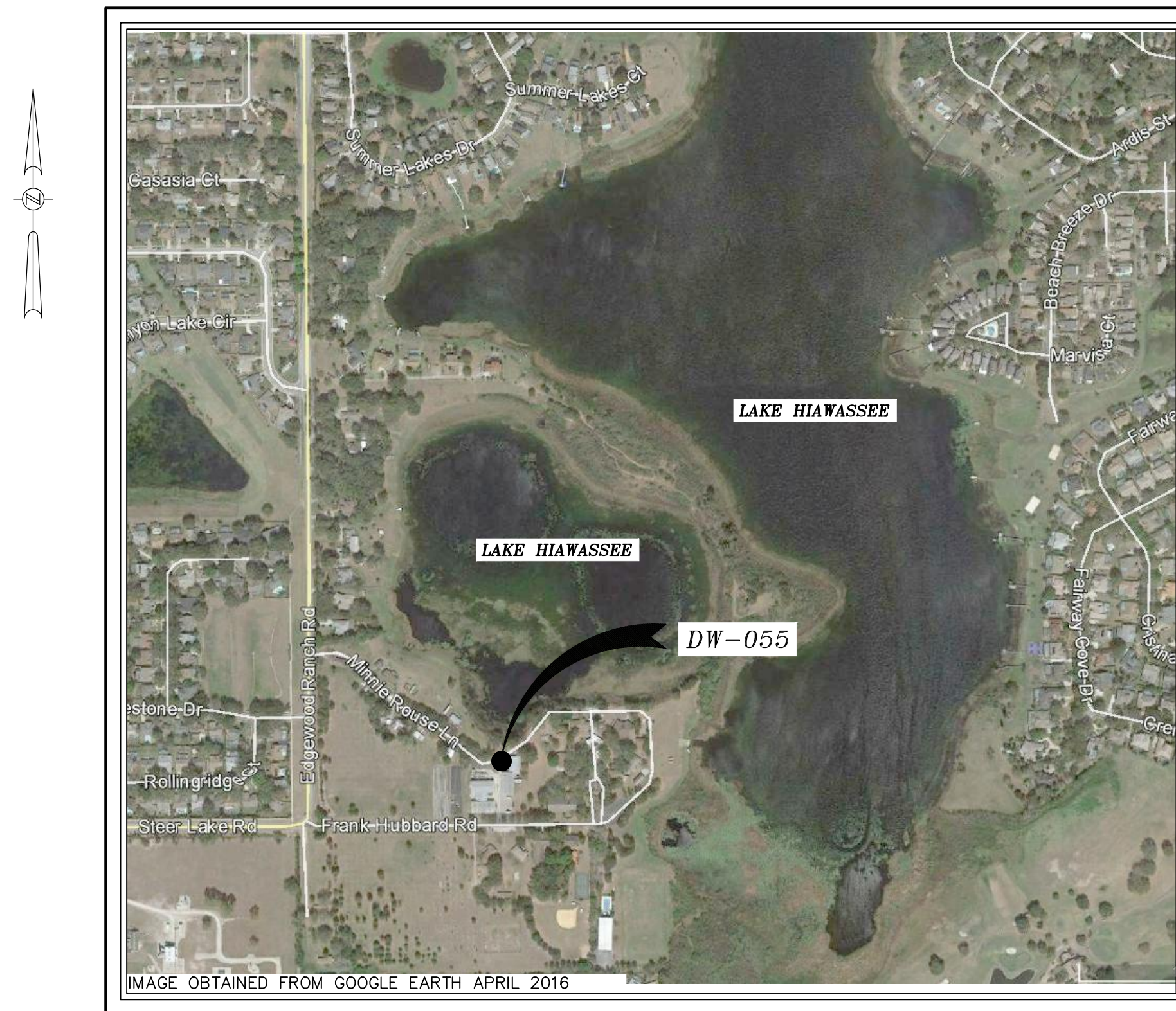




# TECHNICAL PLANS AND SPECIFICATIONS FOR HUBBARD ROAD (DW-055) DRAINAGE WELL REHABILITATION

SITE VICINITY MAP



INDEX OF SHEETS

SHEET NO.	TITLE
GENERAL	
	COVER
G-1	GENERAL NOTES AND SPECIFICATIONS
G-2	SUMMARY OF QUANTITIES
CIVIL	
C-1	TOPOGRAPHIC SURVEY (PER SOUTHEASTERN SURVEYING AND MAPPING CORPORATION FOR REFERENCE ONLY)
CD-1	EXISTING DRAINAGE WELL AND REHABILITATION DRAINAGE WELL DETAILS

NOT TO SCALE

NOVEMBER 2018

ISSUED FOR BID

MAYOR  
TERESA JACOBS

BOARD OF COUNTY COMMISSIONERS

BETSY VANDERLEY	DISTRICT 1
ROD A. LOVE	DISTRICT 2
PETE CLARKE	DISTRICT 3
JENNIFER THOMPSON	DISTRICT 4
EMILY BONILLA	DISTRICT 5
VICTORIA P. SIPLIN	DISTRICT 6

WATER  
ENVIRONMENT  
TRANSPORTATION  
ENERGY  
FACILITIES



## GENERAL NOTES:

- THESE GENERAL NOTES APPLY TO ALL WORK IN THIS SET OF DRAWINGS.
- IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR(S) TO ENSURE THAT ALL REQUIRED PERMITS ARE OBTAINED AND ARE IN HAND AT THE JOB SITE PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. CONTRACTOR SHALL ABIDE BY ALL CONDITIONS CONTAINED THEREIN.
- THE SPECIFICATIONS, NOTES AND PLANS CALL ATTENTION TO CERTAIN REQUIRED FEATURES OF THE CONSTRUCTION BUT DO NOT PURPORT TO COVER ALL DETAILS OF DESIGN AND CONSTRUCTION. HOWEVER, THE CONTRACTOR SHALL FURNISH AND INSTALL THE WORK IN ALL DETAILS AND READY FOR OPERATION.
- ALL EQUIPMENT SHALL BE HANDLED, STORED, INSTALLED, TESTED AND OPERATED IN STRICT ACCORDANCE WITH THE APPLICABLE MANUFACTURER'S WRITTEN INSTRUCTIONS.
- ALL WORK SHALL BE ACCOMPLISHED TO THE HIGHEST QUALITY CRAFTSMANSHIP STANDARDS AS APPROVED BY THE PROJECT ENGINEER.
- ALL WORK SHALL BE ACCOMPLISHED IN STRICT ACCORDANCE WITH ALL APPLICABLE FEDERAL, STATE, AND LOCAL CODES, ORDINANCES AND REGULATIONS.
- APPARENT ERRORS, DISCREPANCIES OR OMISSIONS ON THE DRAWINGS SHALL BE BROUGHT TO THE PROJECT ENGINEER'S ATTENTION BEFORE BIDDING.
- AFTER COMPLETION OF CONSTRUCTION, THE CONTRACTOR SHALL PERFORM SITE CLEAN-UP OPERATION FOR REMOVAL OF ALL TRASH, DEBRIS, EXCESS MATERIAL AND EQUIPMENT. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PRESENT THE PROJECT SITE CLEAN AND IN GOOD ORDER AT THE TIME OF FINAL ACCEPTANCE.
- THE CONTRACTOR SHALL COMPLY WITH ALL RULES, REGULATIONS, AND SPECIFICATIONS OF ORANGE COUNTY AND THE FLORIDA DEPARTMENT OF TRANSPORTATION FOR SITE IMPROVEMENT IN THE ABSENCE OF A PARTICULAR REQUIREMENT.
- FLORIDA LAW (F.S. 553.851) PROTECTION OF UNDERGROUND PIPELINES MANDATES THAT "NO EXCAVATOR SHALL COMMENCE OR PERFORM ANY EXCAVATION IN ANY PUBLIC OR PRIVATE STREET, ALLEY, RIGHT-OF-WAY DEDICATED TO THE PUBLIC USE, OR GAS UTILITY EASEMENT WITHOUT FIRST OBTAINING INFORMATION CONCERNING THE POSSIBLE LOCATION OF GAS PIPELINES IN THE AREA OF THE PROPOSED EXCAVATION." THIS INCLUDES ANY OPERATION UTILIZING HAND TOOLS OR POWER TOOLS WHICH MOVES OR REMOVES ANY STRUCTURE, EARTH, ROCK, OR OTHER MASS OF MATERIAL BY SUCH METHODS AS DIGGING, BACK FILLING, DEMOLITION, GRADING, DITCHING, DRILLING, BORING AND CABLE PLOWING. THE EXCAVATOR MUST NOTIFY THE GAS UTILITY A MINIMUM OF 48 HOURS AND A MAXIMUM OF 5 DAYS PRIOR TO EXCAVATING (EXCLUDING SATURDAYS, SUNDAYS, AND LEGAL HOLIDAYS).
- CONTRACTOR SHALL NOTIFY ALL APPROPRIATE UTILITY COMPANIES OF PROPOSED START OF WORK IN ACCORDANCE WITH THEIR STANDARD REQUIREMENTS; INCLUDING BUT NOT LIMITED TO WATER, SEWER, POWER, TELEPHONE, GAS, AND CABLE TV COMPANIES.
- ANY DIFFERING SITE CONDITIONS FROM THOSE WHICH ARE REPRESENTED HEREON, WHETHER ABOVE, ON OR BELOW THE SURFACE OF THE GROUND, SHOULD BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE ENGINEER AND OWNER IN WRITING. NO CLAIM FOR EXPENSES INCURRED BY THE CONTRACTOR DUE TO DIFFERING SITE CONDITIONS WILL BE ALLOWED IF CONTRACTOR FAILS TO PROVIDE THE REQUIRED WRITTEN NOTIFICATION OF SUCH CONDITIONS FOR REVIEW BY THE PROJECT ENGINEER AND OWNER.
- THE CONTRACTOR SHALL FURNISH OWNER WITH ACCURATE RECORD DRAWINGS SHOWING AS-CONSTRUCTED HORIZONTAL AND VERTICAL DIMENSIONING OF THE WORK. THE SUBMITTAL COPY OF THE RECORD DRAWINGS WILL NOT BE RETURNED. THE RECORD DRAWING OR A REPRODUCIBLE COPY PREPARED BY THE ENGINEER SHALL BE CERTIFIED BY THE CONTRACTOR AS CORRECT. ALL INFORMATION WHICH IS UNCHANGED AND CURRENT SHALL BE NOTED BY CHECKING OFF OR CIRCLING. ALL REVISED INFORMATION SHALL BE CROSSED THROUGH AND NEW DATA ADDED.
- ALL PRIVATE AND PUBLIC PROPERTIES AFFECTED BY THIS WORK SHALL BE RESTORED TO A CONDITION EQUAL TO OR BETTER THAN EXISTED UNLESS SPECIFICALLY EXEMPTED BY THE PLANS. THE COST FOR SUCH RESTORATION SHALL BE INCIDENTAL TO OTHER CONSTRUCTION AND NO EXTRA COMPENSATION WILL BE ALLOWED.
- IN THE EVENT THERE IS A CONFLICT BETWEEN THE PLANS AND ORANGE COUNTY TECHNICAL PROVISIONS, THE ORANGE COUNTY TECHNICAL PROVISIONS SHALL SUPERSEDE, UNLESS OTHERWISE DETERMINED BY THE ENGINEER.

## GEOMETRY & SURVEY NOTES:

- THE PROPOSED DRAINAGE WELL DESIGN PLANS ARE BASED ON A SURVEY PREPARED FOR THE OWNER BY SOUTHEASTERN SURVEY AND MAPPING CORPORATION, DATED 3/18/2016.
- REFER TO THE SURVEY SHEET AND SURVEYOR'S NOTES FOR REFERENCED BENCHMARKS.
- CONTRACTOR SHALL STAKE ALL IMPROVEMENTS USING THE GEOMETRIC DATA PROVIDED. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO COMPLETELY STAKE AND CHECK ALL IMPROVEMENTS TO ENSURE ADEQUATE POSITIONING, BOTH HORIZONTAL AND VERTICAL, PRIOR TO THE INSTALLATION OF ANY IMPROVEMENTS. THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER IF ANY APPARENT DISCREPANCIES ARE FOUND.
- ALL (P.R.M.'s) IRONS AND MONUMENTS SHOWN ON PLANS, OR FOUND, SHALL BE PRESERVED.
- PUBLIC LAND CORNERS WITHIN THE LIMITS OF CONSTRUCTION SHALL BE PROTECTED IF A CORNER MONUMENT IS IN DANGER OF BEING DESTROYED OR DISTURBED, THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER AND THE COUNTY SURVEYOR, WITHOUT DELAY, BY TELEPHONE. THE CONTRACTOR SHALL PROVIDE WRITTEN FOLLOW-UP CONFIRMATION WITHIN 48 HOURS OF TELEPHONE NOTIFICATION.

## EROSION CONTROL NOTES:

- A DETAILED DEWATERING PLAN SHALL BE SUBMITTED TO OWNER AND ENGINEER FOR APPROVAL PRIOR TO START OF CONSTRUCTION. NO DIRECT DISCHARGE OF DEWATERING WILL BE ALLOWED TO THE LAKE OR THE DRAINAGE WELL WITHOUT WRITTEN APPROVAL BY ENGINEER.
- THE CONTRACTOR SHALL COMPLY WITH ALL FEDERAL, STATE, AND LOCAL CODES, ORDINANCES, AND REGULATIONS GOVERNING POLLUTION OF THE ENVIRONMENT AND SHALL IMPLEMENT ALL MEASURES NEEDED TO ENSURE ADEQUATE EROSION AND SEDIMENT CONTROL DURING THE ENTIRE DURATION OF CONSTRUCTION. EROSION AND SEDIMENT CONTROL MEASURES SHALL CONFORM TO ORANGE COUNTY, SOUTH FLORIDA WATER MANAGEMENT DISTRICT, FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION, AND FLORIDA DEPARTMENT OF TRANSPORTATION REQUIREMENTS. INSTALLATION OF SILT FENCES AND TURBIDITY BARRIERS SHALL BE IN ACCORDANCE WITH F.D.O.T. ROADWAY AND TRAFFIC DESIGN STANDARDS AND STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST EDITION.
- EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE PLACED PRIOR TO OR AS THE FIRST STEP IN CONSTRUCTION. EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE APPLIED AS A PERIMETER DEFENSE AGAINST THE TRANSPORTATION OF SILT AND SEDIMENTS OFF THE PROJECT SITE OR INTO ADJACENT WATER BODIES OR WETLANDS.
- THE CONTRACTOR SHALL PREPARE AND IMPLEMENT AN EROSION CONTROL PLAN AS PART OF THE SCOPE OF WORK COVERED BY THESE PLANS. THE CONTRACTOR SHALL USE BEST MANAGEMENT PRACTICES IN CONTROLLING EROSION AND SEDIMENT TRANSPORT DURING CONSTRUCTION. THE FLORIDA DEVELOPMENT MANUAL "A GUIDE TO SOUND LAND & WATER MANAGEMENT" MAY BE USED AS REFERENCE FOR RECOMMENDED BEST MANAGEMENT PRACTICES RELATED TO EROSION AND SEDIMENT CONTROL.
- THE CONTRACTOR SHALL SUBMIT THE EROSION CONTROL PLAN TO THE OWNER FOR APPROVAL PRIOR TO THE PRE-CONSTRUCTION MEETING.
- ALL EROSION AND SEDIMENT CONTROL MEASURES WHICH ARE NECESSARY TO LIMIT THE TRANSPORT OF SILTS AND SEDIMENTS TO OUTSIDE THE LIMITS OF THE WORK AREA OR TO WATER BODIES OR WETLANDS ARE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL PROVIDE BEST MANAGEMENT PRACTICES AND IMPLEMENT STRUCTURAL MEASURES AS NEEDED TO PREVENT EROSION AND SEDIMENT TRANSPORT FROM THE WORK AREAS. THE FOLLOWING ARE MINIMUM RECOMMENDED GUIDELINES TO BE IMPLEMENTED DURING CONSTRUCTION AS PART OF THE EROSION AND SEDIMENT CONTROL PLAN:
  - STOCKPILING OF MATERIAL**  
NO EXCAVATED MATERIAL SHALL BE STOCKPILED IN SUCH A MANNER AS TO DIRECT RUNOFF DIRECTLY OFF THE PROJECT SITE OR INTO ANY ADJACENT WATER BODY OR STORMWATER COLLECTION FACILITY.
  - EXPOSED AREA LIMITATION & PROTECTION**  
THE SURFACE AREA OF OPEN, RAW ERODIBLE SOIL EXPOSED BY CLEARING AND GRUBBING OPERATIONS OR EXCAVATION AND FILLING OPERATIONS SHALL BE LIMITED AS NEEDED TO MINIMIZE THE POTENTIAL OF OFF-SITE SEDIMENT TRANSPORT. ALL EXPOSED AREAS SHALL BE PROTECTED BY INSTALLING EFFECTIVE EROSION AND SEDIMENT CONTROL MEASURES SUCH AS SILT SCREENS, SYNTHETIC HAY BALES, TURBIDITY BARRIERS, SWALES, OR A COMBINATION OF THESE AND OTHER MEASURES AS WARRANTED.
  - INLET PROTECTION**  
INLETS AND CATCH BASINS SHALL BE PROTECTED DURING CONSTRUCTION FROM SEDIMENT LADEN STORMWATER RUNOFF BY PROVIDING A COMBINATION OF SILT SCREENS, SYNTHETIC HAY BALES, FILTER FABRICCOVERS OR OTHER MEASURES AS NECESSARY TO CONTROL THE TRANSPORT OF SEDIMENT.
  - TEMPORARY GRASSING**  
AREAS OPENED BY CONSTRUCTION OPERATIONS THAT ARE NOT ANTICIPATED TO BE DRESSED OR RECEIVE FINAL GRASSING TREATMENT WITHIN THIRTY DAYS SHALL BE SEEDED WITH A QUICK GROWING GRASS SPECIES WHICH WILL PROVIDE AN EARLY COVER DURING THE SEASON IN WHICH IT IS PLANTED. TEMPORARY SEEDING SHALL BE CONTROLLED AS TO NOT ALTER OR COMPETE WITH PERMANENT GRASSING. SLOPES STEEPER THAN 6:1 SHALL ADDITIONALLY RECEIVE MULCHING OF APPROXIMATELY 2 INCHES OF LOOSE MEASURE OF MULCH MATERIAL CUT INTO THE SOIL OF THE SEEDED AREA TO A DEPTH OF 4 INCHES. THE SEEDED OR SEEDED AND MULCHED AREAS SHALL BE ROLLED AND WATERED AS NEEDED TO ENSURE OPTIMUM GROWING CONDITIONS FOR THE ESTABLISHMENT OF A GOOD GRASS COVER. IF AFTER 14 DAYS, THE TEMPORARY GRASSED AREAS HAVE NOT ATTAINED A MINIMUM OF 75% OF GOOD GRASS COVER, THE AREAS WILL BE REWORKED AND ADDITIONAL SEED APPLIED TO ESTABLISH THE DESIRED VEGETATION COVER.
  - MAINTENANCE**  
EROSION AND SEDIMENT CONTROL MEASURES SHALL BE MAINTAINED DURING THE ENTIRE DURATION OF CONSTRUCTION. THE CONTRACTOR SHALL INSPECT THE EROSION AND CONTROL MEASURES ON A ROUTINE BASIS AND FOLLOWING RAINFALL EVENTS AND IMMEDIATELY REPAIR ANY OBSERVED DAMAGED CONTROLS. ALL EROSION AND SEDIMENT CONTROLS SHALL BE MAINTAINED AS TO FUNCTION PROPERLY WITHOUT THE TRANSPORT OF SEDIMENTS OUTSIDE THE LIMITS OF THE PROJECT.

## EARTHWORK ACTIVITIES:

- THE DISPOSAL OF EXCESS EARTHWORK MATERIALS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. APPROVALS OF DISPOSAL SITES SHALL BE OBTAINED FROM THE ORANGE COUNTY AND JURISDICTIONAL REGULATORY AGENCIES PRIOR TO DISPOSAL. ALL EXCESS MATERIAL IS THE PROPERTY AND RESPONSIBILITY OF THE CONTRACTOR.
- THE CONTRACTOR SHALL MAKE NECESSARY ARRANGEMENTS WITH UTILITY SUPPLIERS FOR LOCATING, PROTECTING, AND/OR REMOVING THEIR FACILITIES, LINES AND EQUIPMENT. ANY DAMAGE TO KNOWN UTILITY LINES DURING CONSTRUCTION SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE BY CONTRACTOR'S FORCES IN A MANNER ACCEPTABLE TO THE OWNER AND UTILITY COMPANY AT NO COST TO THE OWNER. SHOULD UNCHARTED OR INCORRECTLY CHARTED PIPING OR OTHER UTILITIES BE ENCOUNTERED DURING EXCAVATION, THE CONTRACTOR SHALL CONSULT WITH UTILITY OWNER AND PROJECT ENGINEER IMMEDIATELY FOR DIRECTIONS. THE CONTRACTOR SHALL COOPERATE WITH OWNER AND UTILITY COMPANIES IN KEEPING RESPECTIVE SERVICES AND FACILITIES IN OPERATION.
- CONTRACTOR SHALL MAINTAIN ADEQUATE SUPERVISION AND CONTROL TO ENSURE THAT EROSION IS CONTROLLED AND FLOODING OF EXCAVATION OR DAMAGE TO STRUCTURES DOES NOT OCCUR.
- CONTRACTOR SHALL PROTECT STRUCTURES, UTILITIES, SIDEWALKS, PAVEMENTS, AND OTHER FACILITIES FROM DAMAGE CAUSED BY SETTLEMENT, LATERAL MOVEMENT, UNDERMINING, WASHOUT AND OTHER HAZARDS CREATED BY EARTHWORK OPERATIONS.
- THE CONTRACTOR SHALL SLOPE SIDE SLOPES TO COMPLY WITH ALL FEDERAL, STATE AND LOCAL CODES AND REGULATIONS HAVING JURISDICTION. THE CONTRACTOR SHALL SLOPE AND BRACE WHERE SLOPING IS NOT POSSIBLE BECAUSE OF SPACE RESTRICTIONS OR STABILITY OF MATERIAL EXCAVATED. THE CONTRACTOR SHALL MAINTAIN STABILITY OF MATERIAL EXCAVATED IN A SAFE CONDITION UNTIL COMPLETION OF BACK FILLING.
- ALL FILL MATERIAL IN IMPROVEMENT AREAS SHALL BE COMPACTED IN ACCORDANCE WITH THE GEOTECHNICAL ENGINEER'S RECOMMENDATIONS AND REQUIREMENTS AND AS SHOWN ON THESE PLANS.
- UNLESS OTHERWISE DIRECTED BY THE GEOTECHNICAL ENGINEER AND PRIOR TO THE PLACEMENT OF FILL, THE AREA TO BE FILLED WILL BE PROOF ROLLED UNDER THE SUPERVISION OF THE GEOTECHNICAL ENGINEER. ANY AREA SHOWING SIGNS OF PUMPING, WEAVING OR OTHER FORMS OF INSTABILITY SHALL BE SELECTIVELY REMOVED AND REPLACED WITH COMPACTED SELECT FILL.
- ALL DISTURBED AREAS MUST BE SODDED UNLESS OTHERWISE NOTED ON THE PLANS. ALL SODDING MUST BE DONE IN ACCORDANCE WITH SECTION 570 OF THE FLORIDA DEPARTMENT OF TRANSPORTATION'S STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST EDITION.
- ALL SOD ON SLOPES EXCEEDING 3:1 MUST BE PINNED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE MAINTENANCE OF ALL NEWLY PLANTED GRASSES AND VEGETATION UNTIL THE WORK HAS BEEN ACCEPTED BY THE OWNER.

## DRAINAGE NOTES:

- THE EXISTING DRAINAGE WELL SHALL BE PROTECTED AT ALL TIMES DURING CONSTRUCTION FROM DEBRIS, SEDIMENT, AND TURBID WATER.
- ALL DRAINAGE WORKS AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE ORANGE COUNTY CONSTRUCTION SPECIFICATIONS AND OTHER COUNTY GENERAL AND SPECIAL SPECIFICATIONS AND THE LATEST EDITION OF THE FLORIDA DEPARTMENT OF TRANSPORTATION'S STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, UNLESS STATED OTHERWISE IN THE SPECIFICATIONS OR ON THE PLANS.
- THE LOCATIONS OF EXISTING UTILITIES AND STORM DRAINAGE SHOWN ON THE PLANS HAVE BEEN DETERMINED FROM THE BEST INFORMATION AVAILABLE AND ARE GIVEN FOR THE CONVENIENCE OF THE CONTRACTOR. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR INACCURACY. PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITY, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO MAKE ARRANGEMENTS FOR FIELD LOCATIONS AND FOR ANY RELOCATIONS OF THE VARIOUS EXISTING UTILITIES WITH THE UTILITY OWNERS, WHICH SHALL BE DONE IN A TIMELY FASHION TO MINIMIZE IMPACT ON THE CONSTRUCTION SCHEDULE. ANY DELAY OR INCONVENIENCE CAUSED BY THE RELOCATION OF THE VARIOUS UTILITIES SHALL BE INCIDENTAL TO THE CONTRACT AND NO EXTRA COMPENSATION WILL BE ALLOWED.
- CONTRACTOR SHALL IMMEDIATELY NOTIFY THE PROJECT ENGINEER OF ANY PROBLEMS REQUIRING DEVIATION FROM THESE PLANS AND SPECIFICATIONS.
- THE CONTRACTOR SHALL SUBMIT DETAILED SHOP DRAWINGS OF ALL MAJOR ITEMS PROPOSED FOR THIS PROJECT TO THE ENGINEER PRIOR TO ORDERING ANY OF THE ITEMS. UPON THE CONTRACTOR'S RECEIPT OF APPROVED SHOP DRAWINGS FROM THE PROJECT ENGINEER, THE CONTRACTOR MAY PROCEED WITH THE WORK.
- ALL MATERIALS, INSTALLATION AND TESTING SHALL BE IN ACCORDANCE WITH THE ORANGE COUNTY AND THE FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION. WHERE THE SPECIFICATIONS CONFLICT, THE MAXIMUM REQUIREMENTS OF EITHER SPECIFICATION SHALL APPLY.
- THE PROJECT ENGINEER SHALL BE CONSULTED FOR ANY AND ALL REQUIRED INTERPRETATIONS OF THE PLANS AND TO GIVE SUPPLEMENTARY INSTRUCTIONS TO ACCOMPLISH THE INTENT OF THE PLANS.

## MAINTENANCE OF TRAFFIC NOTES:

- THE CONTRACTOR SHALL FURNISH, ERECT AND MAINTAIN ALL NECESSARY TRAFFIC CONTROL AND SAFETY DEVICES IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND THE LATEST FLORIDA DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN STANDARDS.

## GEOTECHNICAL AND TESTING NOTES:

- ALL SOIL STRIPPINGS, DELETERIOUS AND UNSUITABLE MATERIAL SHALL BE REMOVED FROM THE SITE AND DISPOSED OF BY THE CONTRACTOR UNLESS OTHERWISE DIRECTED BY THE OWNER OR SPECIFIED ELSEWHERE IN THE PLANS FOR SELECT DISPOSAL. IN NO CASE WILL BURIAL OF DISPOSABLE MATERIAL BE ALLOWED.

## MISCELLANEOUS NOTES:

- THE CONTRACTOR SHALL USE EXTREME CAUTION AND CARE TO ENSURE THAT THEIR WORK AREA IS PROTECTED AT ALL TIMES. THE CONTRACTOR SHALL SECURE THEIR WORK AREA AND MATERIALS DURING CONSTRUCTION AND AT THE END OF THE EACH WORK DAY TO PROVIDE FOR THE SAFETY OF ALL PERSONS.

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REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY:           L. WISEMAN            
 DRAWN BY:               C. SCOTT                
 SHEET CHK'D BY:           J. HEALY            
 CROSS CHK'D BY:           J. MILLS            
 APPROVED BY:           L. WISEMAN            
 DATE:                   NOVEMBER 2018          


  
 101 Southhall Lane, Suite 200  
 Maitland, FL 32751  
 Tel: (407) 660-2552  
 FL COA No. EB-000020

ORANGE COUNTY, FLORIDA  
**HUBBARD ROAD (DW-055)**  
**DRAINAGE WELL REHABILITATION**

**GENERAL NOTES & SPECIFICATIONS**

DATE: <b>LEE WISEMAN</b> PE NO. 43448
PROJECT NO. 6059-110780 FILE NAME: G001NFNT.DWG
SHEET NO. <b>G-1</b>

XREF: [CDMS\_2456] Images: [ ]  
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Table 1 - "Base Bid" Hubbard Road (DW-055) Drainage Well Rehabilitation				
Item No.	O.C. TP or Spec #	Item Description	Estimated Quantity	Unit
<b>General</b>				
DW-055-1	101-1	Mobilization (Not to exceed 5% of the total for items DW-055-2 thru DW-055-10)	1	LS
DW-055-2	900-1	As Built Plans	1	LS
DW-055-3	7	Permits	1	LS
DW-055-4	900-2	Indemnification	1	LS
DW-055-5	102-1	Maintenance of Traffic	1	LS
<b>Site Preparation</b>				
DW-055-6	570-1	Sodding non-pinned (match existing)	100	SY
<b>Drainage Well Rehabilitation</b>				
DW-055-7	COD-1	Precondition existing 20-inch diameter steel casing to 378 feet below land surface for DW-055	378	LF
DW-055-8	COD-2	Furnish, install, and cement 16-inch diameter steel casing sleeve to 378 feet below land surface for DW-055	378	LF
DW-055-9	COD-3	Furnish, install and operate well development pumping and piping, equipment, complete for DW-055	1	LS
DW-055-10	COD-4	Conduct pre- and post-rehabilitation geophysical (caliper and gamma) and video logging of DW-055	1	LS
<b>Notes:</b> COD-* Refer to Engineer's Specifications <b>Unit Abbreviations:</b> LS = Lump Sum SY = Square Yard LF = Linear Feet				

REV. NO.	DATE	DRWN	CHKD	REMARKS

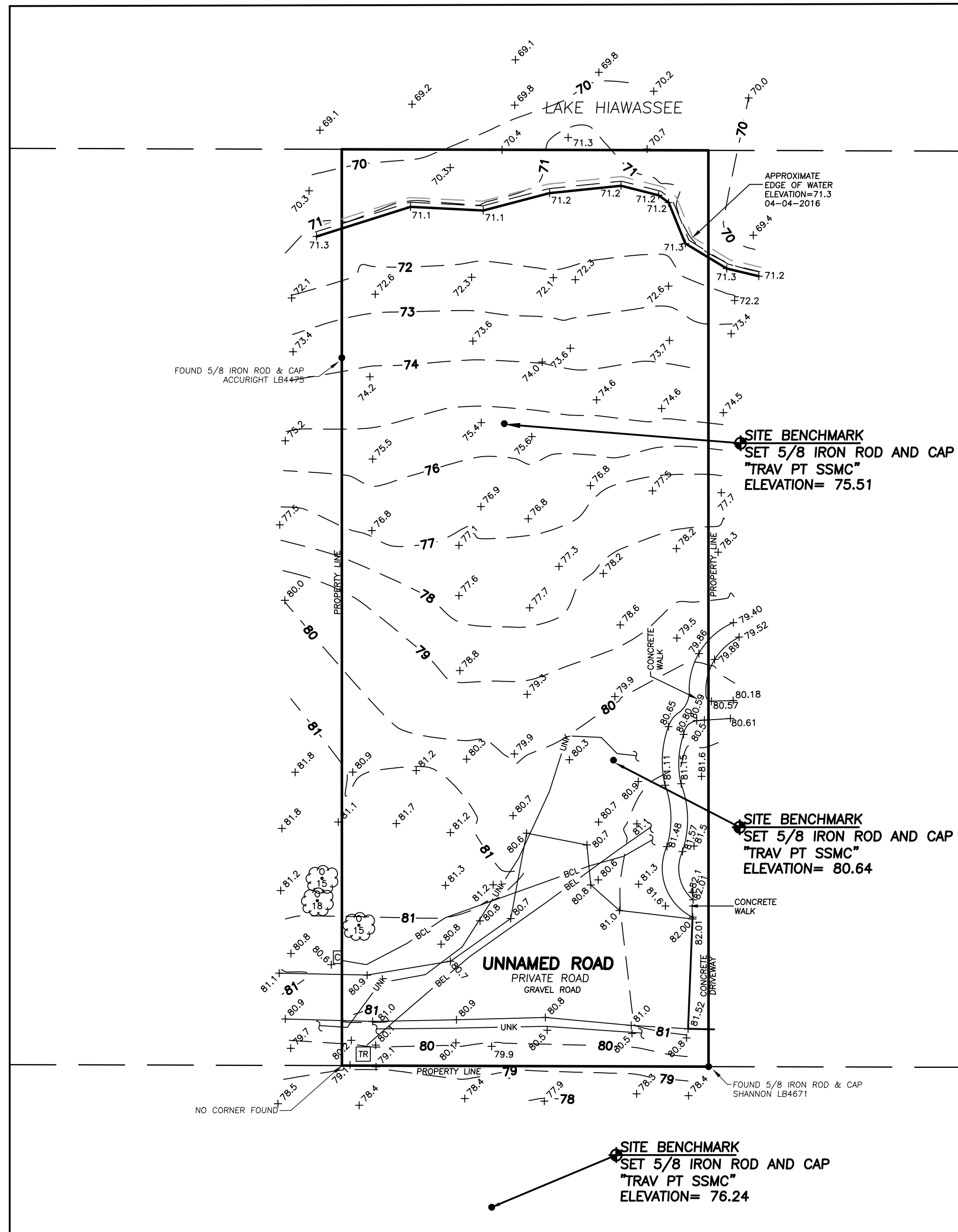
DESIGNED BY: L. WISEMAN  
 DRAWN BY: C. SCOTT  
 SHEET CHK'D BY: J. HEALY  
 CROSS CHK'D BY: J. MILLS  
 APPROVED BY: L. WISEMAN  
 DATE: NOVEMBER 2018



ORANGE COUNTY, FLORIDA  
**HUBBARD ROAD (DW-055)  
 DRAINAGE WELL REHABILITATION**

SUMMARY OF QUANTITIES

DATE:  
 LEE WISEMAN  
 PE NO. 43448  
 PROJECT NO. 6059-110780  
 FILE NAME: G002NFNT.DWG  
 SHEET NO.  
**G-2**



(NOT APPLICABLE)  
AREA "B"  
SCALE: 1" = 20'

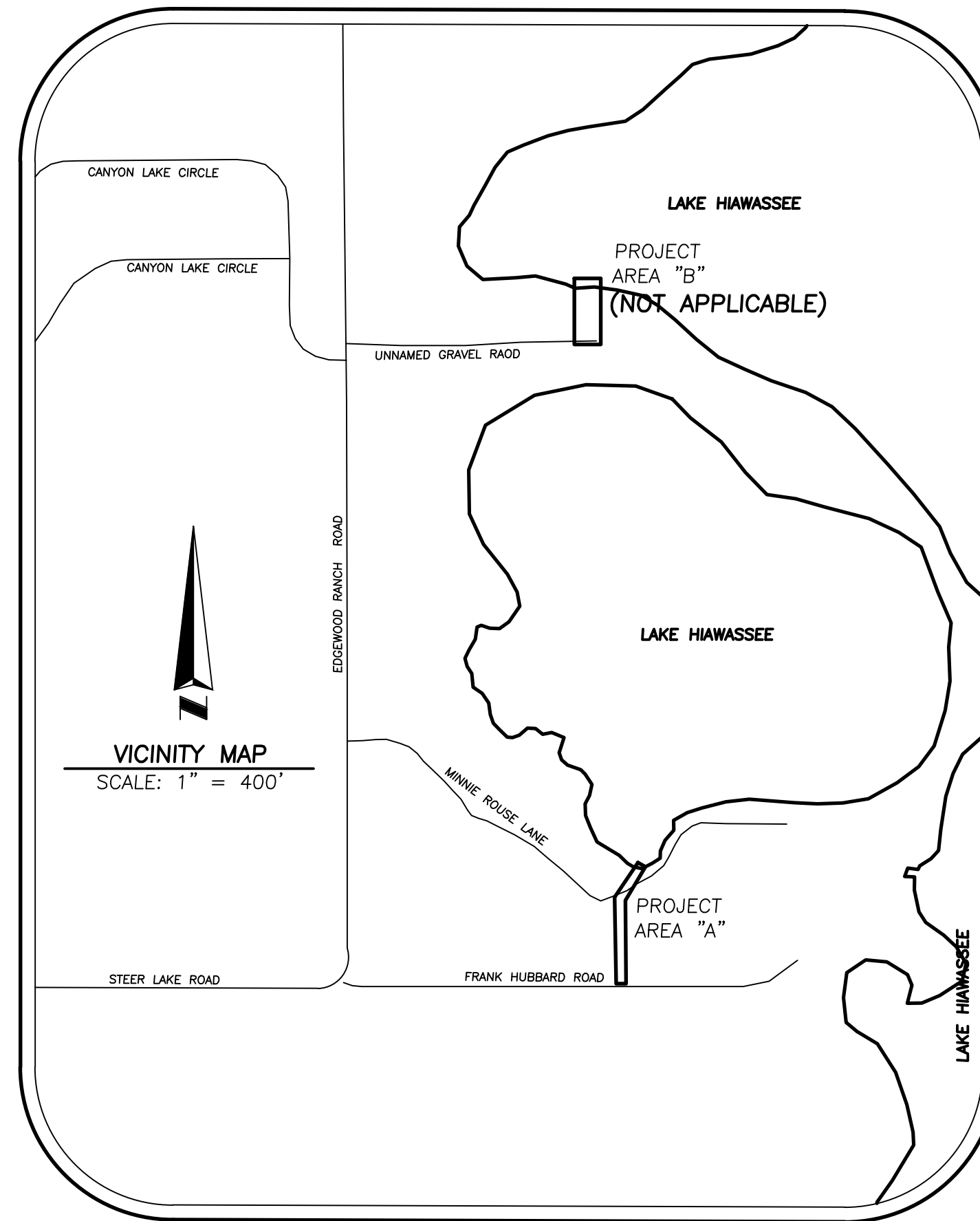
**DESCRIPTION:**  
A portion of Section 35, Township 22 South, Range 28 East, lying in Orange County, Florida.

**SURVEYOR'S REPORT:**

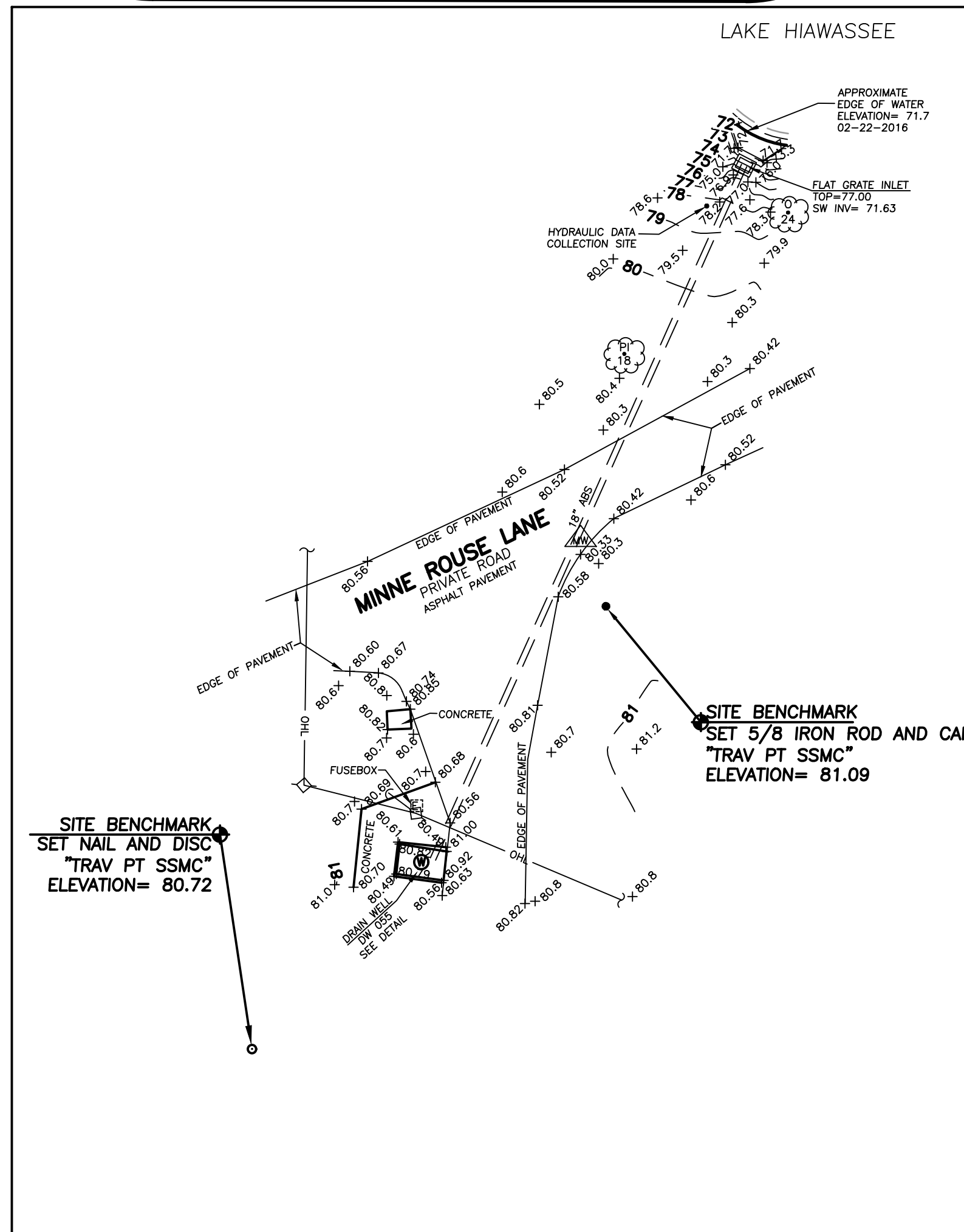
- Utility locations shown hereon are based on field locations of markings by Southeastern Surveying & Mapping Corp. Field markings are based on signals received from Ground Penetrating Radar (GPR) and electronic equipment. Locations are approximate and Test Holes should be performed for verification.
- Easements or rights of way that appear on recorded plans or that have been furnished to the surveyor by others have been incorporated into this drawing with appropriate notation. Other easements may be discovered by a search of the Public Records.
- Minimum Horizontal Accuracy for this survey is in accordance with the STANDARDS OF PRACTICE set forth by the Board of Professional Surveyors and Mappers in Chapter 5J-17 requirements of Florida Administration Code. The map and measurement methods used for this survey meet or exceed this requirement. The dimensions shown hereon are in United States standard survey feet and decimals thereof.
- This survey does not determine ownership of the lands shown hereon.
- Underground foundations have not been located.
- Survey map and report or the copies thereof are not valid without the signature and the original raised seal of a Florida Licensed Surveyor and Mapper.
- Features shown by symbol as indicated in the legend are not to scale.
- Additions or deletions to survey maps or reports by other than the signing party or parties is prohibited without written consent of the signing party or parties.
- Vertical information shown hereon refers to a National Geodetic Survey (NGS) point with designation "GIS 0131 KAREN MCKEE", PID number AK7129 and has a published elevation of 79.26 feet North American Vertical Datum of 1988 (NAVD88).
- Horizontal features shown on the map refer to a National Geodetic Survey point with designation "GIS 0131 KAREN MCKEE", PID number AK7129 and is relative to North American Datum of 1983 (NAD83), 2011 adjustment, State Plane Coordinate System, Florida East Zone. Distances shown are GRID distances.
- Improvements & Topographic features shown hereon are limited to areas per specific instructions of the client.
- The boundary shown hereon is informational purposes only.

**NOTICE OF LIABILITY:**

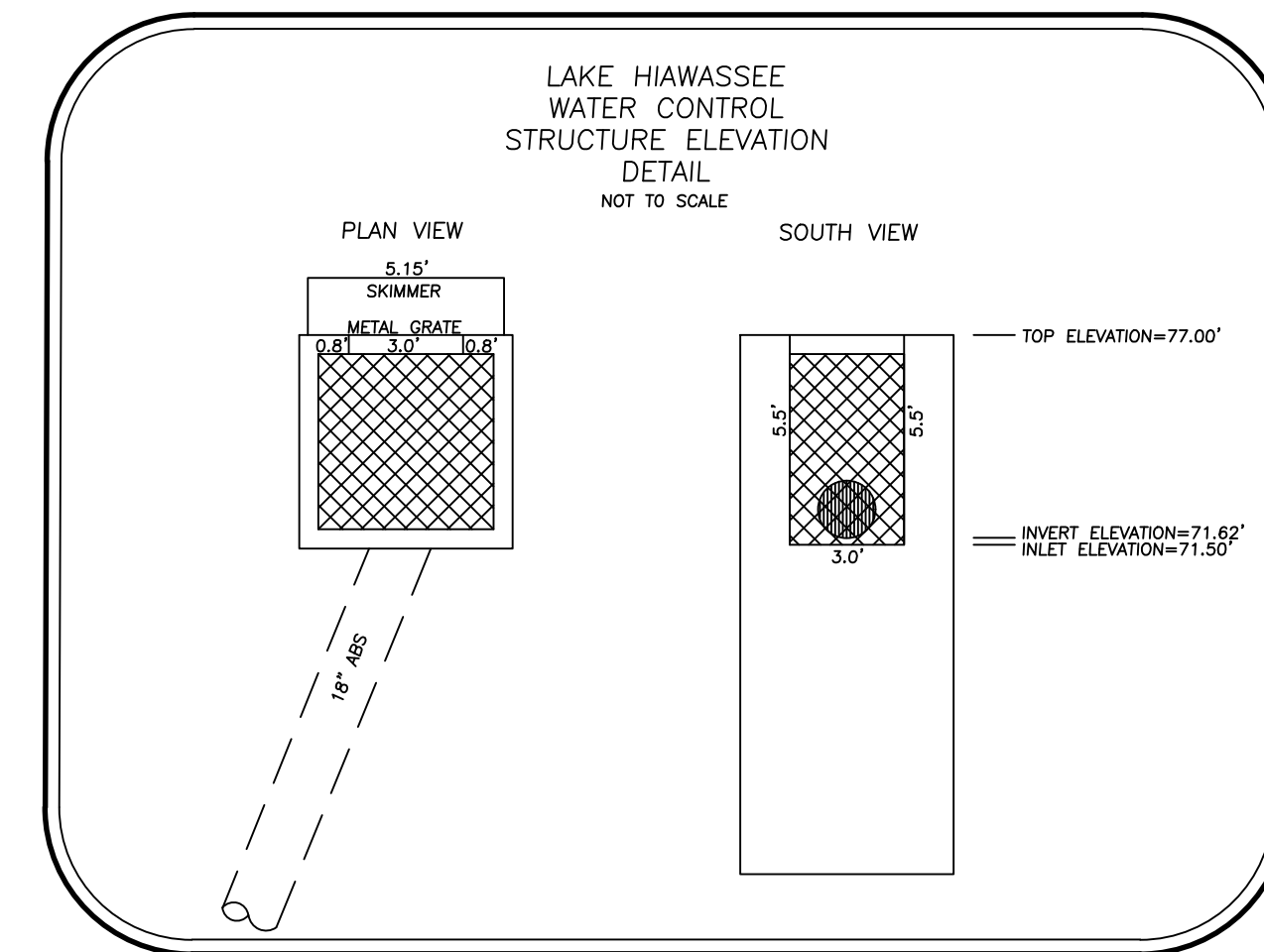
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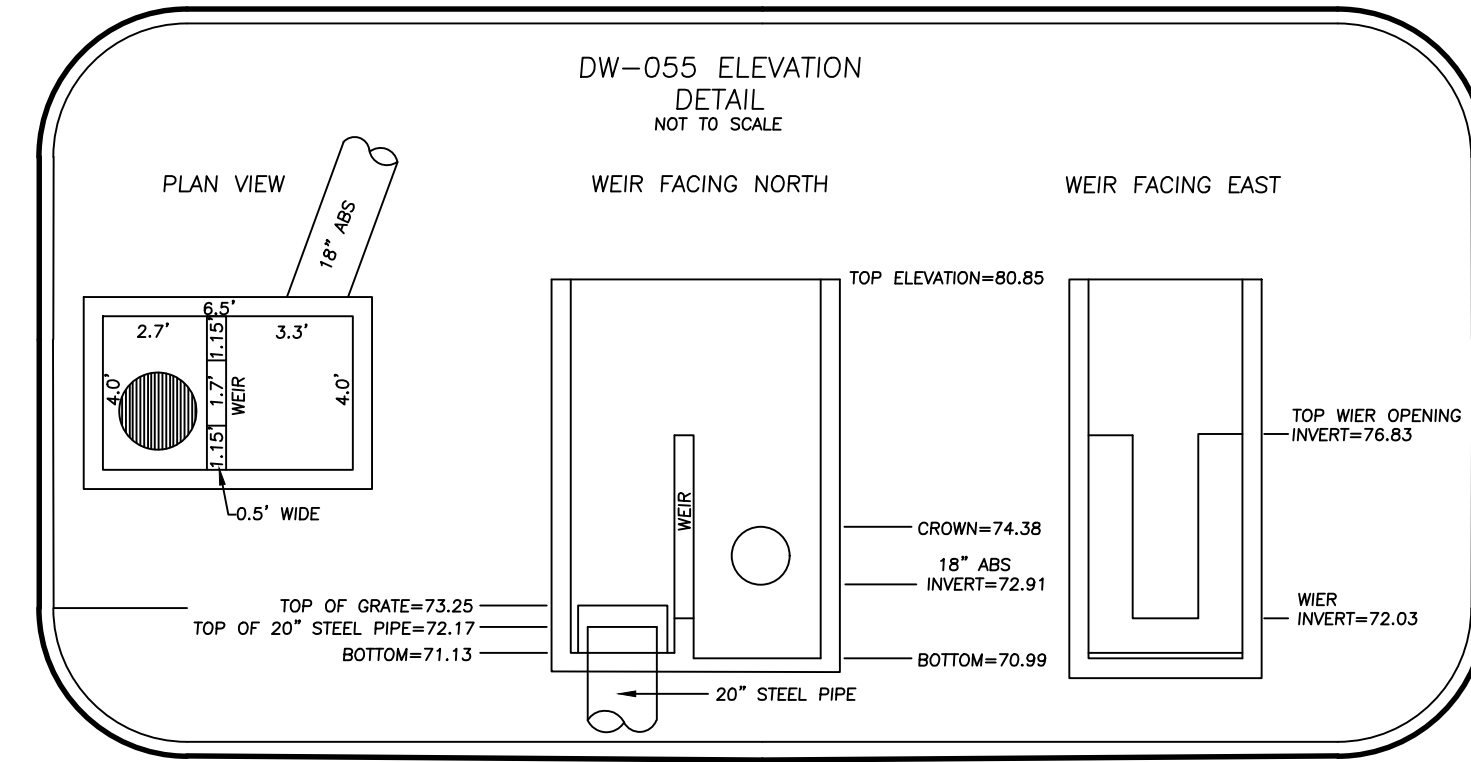
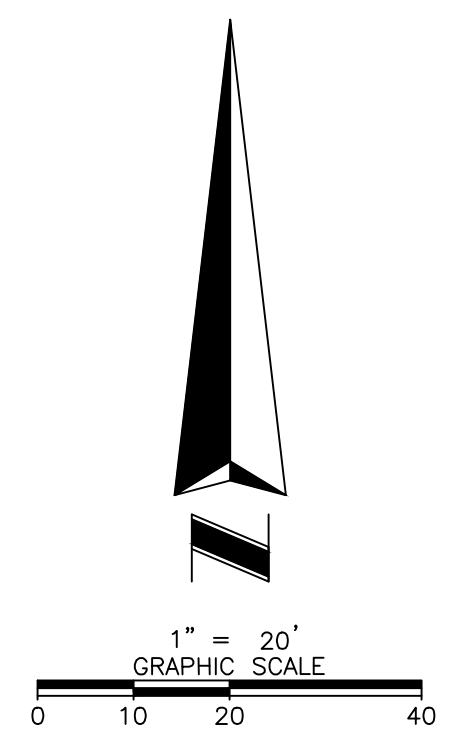
VICINITY MAP  
SCALE: 1" = 400'



AREA "A"  
SCALE: 1" = 20'




LAKE HIWASSEE  
WATER CONTROL  
STRUCTURE ELEVATION  
DETAIL  
NOT TO SCALE

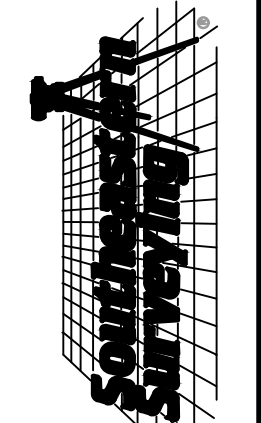


DW-055 ELEVATION  
DETAIL  
NOT TO SCALE

**LEGEND & ABBREVIATIONS:**

- |       |                        |          |  |
|-------|------------------------|----------|--|
| □     | = FLAT GRATE INLET     | ABS      | = ACRYLONITRILE BUTADIENE STYRENE PIPE         |
| ∩     | = DOWN GUY             | DIP      | = DUCTILE IRON PIPE                            |
| •     | = IRON ROD             | INV      | = INVERT                                       |
| △     | = MONITORING WELL      | LB       | = LICENSED BUSINESS                            |
| ○     | = NAIL W/DISC          | LS       | = LICENSED SURVEYOR                            |
| ◇     | = UTILITY POLE         | RLS      | = REGISTERED LAND SURVEYOR                     |
| •     | = POST/BOLLARD         | PSM      | = PROFESSIONAL SURVEYOR AND MAPPER             |
| ⊠     | = TRANSFORMER ON SLAB  | EOI      | = END OF INFORMATION                           |
| ⊙     | = WELL                 | NAD      | = NORTH AMERICAN DATUM                         |
| ⊞     | = CABLE PEDESTAL       | NAVD     | = NORTH AMERICAN VERTICAL DATUM                |
| -BCL- | = BURIED CABLE LINE    | TRAV.PT. | = TRAVERSE POINT                               |
| -BEL- | = BURIED ELECTRIC LINE | SSMC     | = SOUTHEASTERN SURVEYING & MAPPING CORPORATION |
| -UNK- | = UNKNOWN UTILITY LINE |          |  |
- SIZE SHOWN IS TRUNK DIAMETER IN INCHES MEASURED AT CHEST HEIGHT
- ☁ = TREE  
O = OAK  
PI = PINE

  
 JAMES L. PETERSEN  
 Professional Surveyor  
 License Number 4791

  
**SOUTHEASTERN SURVEYING AND MAPPING CORPORATION**  
 10000 Lake Nona Parkway, Suite 2800-4850  
 Orlando, Florida 32810-4850  
 (407) 282-8680 Fax (407) 282-0141  
 e-mail: info@southesternsurveying.com  
 Certification Number: 122108

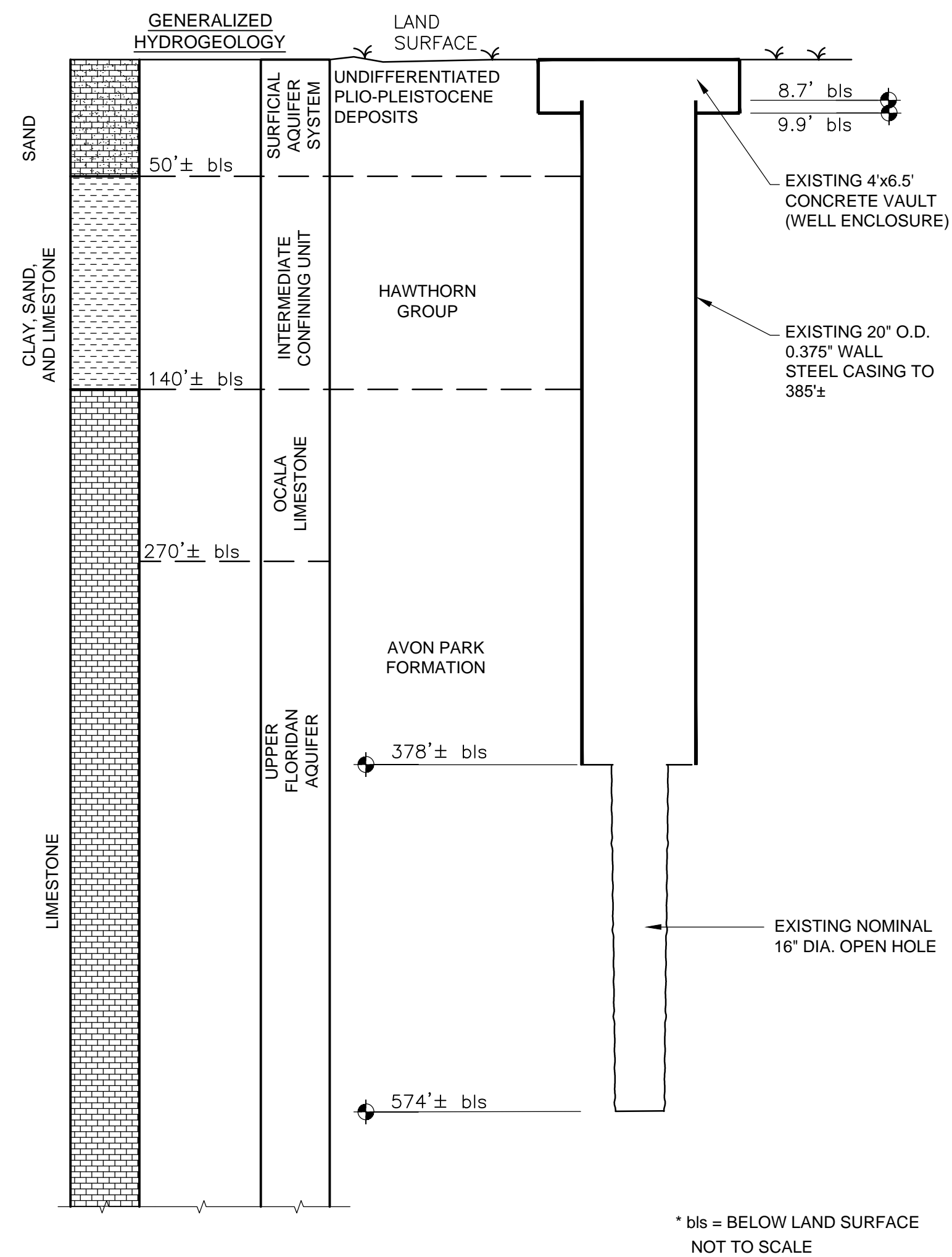
BY: _____	REVISION
DATE: 03/04/2016	Additional Top
SHEET NUMBER 1 OF 1	

Topographic Survey  
 Orange County - Hubbard Road  
 Drainage Well (DW-055)

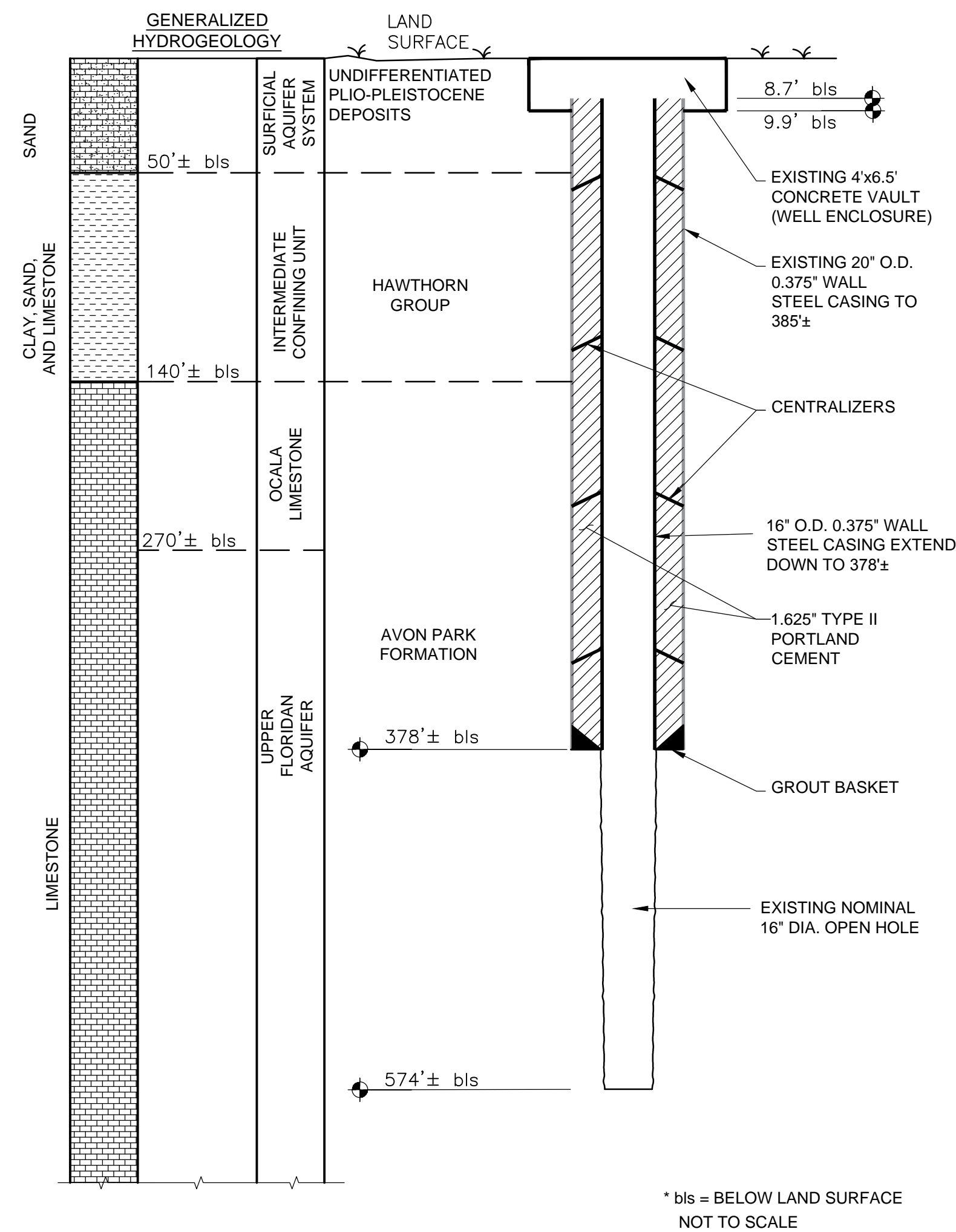
Certified to:  
 CDM Smith, Inc.  
 Orange County Board  
 of County Commissioners

Drawing Number: 60013001C  
 Sheet Number: 1 OF 1

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EXISTING DRAINAGE WELL  
 DETAIL **A**  
 NOT TO SCALE



REHABILITATED DRAINAGE WELL  
 DETAIL **B**  
 NOT TO SCALE

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: L. WISEMAN  
 DRAWN BY: C. SCOTT  
 SHEET CHK'D BY: J. HEALY  
 CROSS CHK'D BY: J. MILLS  
 APPROVED BY: L. WISEMAN  
 DATE: NOVEMBER 2018



ORANGE COUNTY, FLORIDA  
 HUBBARD ROAD (DW-055)  
 DRAINAGE WELL REHABILITATION

EXISTING DRAINAGE WELL AND  
 REHABILITATED DRAINAGE WELL DETAILS

DATE: LEE WISEMAN PE NO. 43448
PROJECT NO. 6059-110780 FILE NAME: CD01DTLS.DWG
SHEET NO. <b>CD-1</b>