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NOT FOR CONSTRUCTION

GENERAL STRUCTURAL INFORMATION

SHEET: FSS0

ABBREVIATIONS

AB	ANCHOR BOLT
ACI	AMERICAN CONCRETE INSTITUTE
AFF	ABOVE FINISHED FLOOR
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION
AISI	AMERICAN IRON AND STEEL INSTITUTE
ARCH	ARCHITECTURAL
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
AWG	AMERICAN WELDING SOCIETY
BFF	BELOW FINISHED FLOOR
BL	BLOCK LINTEL
BM	BEAM
BO	BOTTOM OF
BOM	BOTTOM OF MASONRY
BOS	BOTTOM OF STEEL
BOT	BOTTOM
BRG	BEARING
BTWN	BETWEEN
CJ	CONTRACTION JOINT
CL	CENTER LINE
CLR	CLEAR
CMU	CONCRETE MASONRY UNIT
COL	COLUMN
CONC	CONCRETE
COND	CONDENSER UNIT
CONN	CONNECTION
CONST	CONSTRUCTION
CONT	CONTINUOUS
DA	DIAMETER
EA	EACH
EDC	ELECTRICAL DISTRIBUTION CENTER
EF	EACH FACE OF EXHAUST FAN
EIFS	EXTERIOR INSULATION AND FINISH SYSTEM
EJ	EXPANSION JOINT
EL	ELEVATION
ELEC	ELECTRICAL
EQ	EQUAL
EW	EACH WAY
FON	FOUNDATION
FF	FINISHED FLOOR
FS	FAR SIDE
FTG	FOOTING
FV	FIELD VERIFY
GA	GAUGE
GC	GENERAL CONTRACTOR
GYP	GYPSUM BOARD
H	HEIGHT
HORIZ	HORIZONTAL
H2A	HEADED STUD ANCHOR
HSS	HOLLOW STRUCTURAL SECTION
INFO	INFORMATION
ISO	ISOLATION
JBE	JOIST BEARING ELEVATION
JT	JOIST
KT	JOINT
KSI	KIPS PER SQUARE INCH
L	LENGTH
LB	POUNDS
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL

ABBREVIATIONS

LONG	LONGITUDINAL
LSH	LONG SIDE HORIZONTAL
LSV	LONG SIDE VERTICAL
MAX	MAXIMUM
MECH	MECHANICAL
MFR	MANUFACTURER
MIN	MINIMUM
MISC	MISCELLANEOUS
MO	MASONRY OPENING
MTL	METAL
NBPS	NOT BY PRECAST SUPPLIER
NIC	NOT IN CONTRACT
NS	NEAR SIDE
NTS	NOT TO SCALE
OC	ON CENTER
OD	OUTSIDE DIAMETER
OH	OPPOSITE HAND
OPG	OPENING
PAF	POWER ACTUATED FASTENER
PC	PRECAST
PCF	POUNDS PER CUBIC FOOT
PL	PLATE
PLF	POUNDS PER LINEAR FOOT
PLUMB	PLUMB
PMEJ	PREMOULDED EXPANSION JOINT
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
QTY	QUANTITY
RCU	REINFORCING CURB
REF	REFER TO
REIN	REINFORCING
REC	RECORD
REV	REVERSE
RO	ROUGH OPENING
RTU	ROOF TOP UNIT
SCHED	SCHEDULE
SDI	STEEL DECK INSTITUTE
SIM	SIMILAR
SII	STEEL JOIST INSTITUTE
SPCS	SPACES
SPECS	SPECIFICATIONS
STL	STEEL
STRUC	STRUCTURAL
T8A	TOP AND BOTTOM
THK	THICKNESS
TO	TOP OF
TOC	TOP OF CONCRETE
TOF	TOP OF FOOTING
TOGB	TOP OF GRADE BEAM
TOM	TOP OF MASONRY
TOP	TOP OF PAVING
TOS	TOP OF STEEL
TOW	TOP OF WALL
TRANS	TRANSVERSE
UNT	UNLESS NOTED OTHERWISE
VERT	VERTICAL
WH	WATER
WH	WATER HEATER
WP	WORK POINT

Other Plans @

INSPECTIONS REQUIRED

INSPECTIONS ARE REQUIRED TO BE PERFORMED BY THE OWNER'S CONSTRUCTION TESTING LABORATORY (CTL). REFER TO APPENDIX B OF THE PROJECT SPECIFICATIONS FOR THE FOLLOWING INFORMATION REGARDING THE REQUIREMENTS OF INSPECTIONS.

1. THE MATERIALS, SYSTEMS, COMPONENTS AND WORK REQUIRED TO HAVE SPECIAL INSPECTIONS.
2. THE TYPE AND EXTENT OF EACH SPECIAL INSPECTION.
3. THE TYPE AND EXTENT OF EACH TEST.
4. ADDITIONAL SPECIAL INSPECTION REQUIREMENTS FOR WIND OR SEISMIC RESISTANCE INSPECTIONS.
5. THE FREQUENCY OF SPECIAL INSPECTIONS AND TESTING.

THE INSPECTION REQUIREMENTS ARE LISTED IN CHAPTER 17 OF THE IBC. THE EXCEPTIONS ALLOWED FOR CONCRETE CONSTRUCTION HAVE BEEN LISTED WHERE APPLICABLE.

FOUNDATION SUBSURFACE PREPARATION

AS SPECIFICALLY INDICATED OTHERWISE IN THE DRAWINGS AND/OR SPECIFICATIONS, THE LIMITS OF SUBSURFACE PREPARATION ARE CONSIDERED TO BE THAT PORTION OF THE SITE DIRECTLY BENEATH AND 5 FEET BEYOND THE FUEL STATION CANOPY SLAB, SERVICE BUILDING, AND SERVICE BUILDING PLATFORM AREAS. THE BASE DOES NOT EXTEND BEYOND THE LIMITS OF THE ACTUAL FUEL STATION CANOPY SLAB, SERVICE BUILDING, AND SERVICE BUILDING PLATFORM AREAS.

ESTABLISH THE FINAL SUBGRADE ELEVATION TO ALLOW FOR THE CONCRETE SLAB AND BASE REFERENCE ARCHITECTURAL AND STRUCTURAL DRAWINGS FOR REQUIRED SLAB THICKNESS. THE 4-INCH THICK BASE MATERIAL SHALL CONFORM TO NCDOT SECTION 1005, STANDARD SIZE NO. 57. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ACCURATE MEASUREMENTS FOR ALL CUT AND FILL DEPTHS REQUIRED. ANY PROPOSED EQUIVALENT ALTERNATIVE BASE MATERIAL MUST BE SUBMITTED FOR APPROVAL WITHIN 30 DAYS AFTER AWARD OF CONTRACT. ANY EQUIVALENT ALTERNATIVE SHALL ONLY BE USED IF APPROVED IN WRITING BY THE DEC AND AOR.

REMOVE EXISTING ASPHALT PAVEMENT, CONCRETE CURBS, GUTTERS AND SIDEWALKS, VEGETATION AND TOPSOIL, AND ANY OTHER UNSUITABLE MATERIALS FROM THE PROPOSED FUEL STATION AND PAVEMENT AREAS. IN ADDITION, REMOVE EXISTING FILL MATERIALS DIRECTLY BENEATH AND 5 FEET BEYOND THE FUEL STATION CANOPY SLAB, SERVICE BUILDING, AND SERVICE BUILDING PLATFORM AREAS AND REPLACE WITH PROPERLY COMPACTED ENGINEERED FILL. AFTER THE STRIPPING OPERATIONS AND REMOVAL AND REPLACEMENT OF EXISTING FILL, PROOFROLL EXPOSED SUBGRADE WITH A LOADED ANDRY DUMP TRUCK. UNSTABLE AREAS OBSERVED DURING THE SUBGRADE PROOFROLLING SHALL BE SCARIFIED, MOISTURE CONDITIONED, AND COMPACTED TO THE PROJECT SPECIFICATIONS, OR UNDERCUT AND REPLACED WITH PROPERLY COMPACTED ENGINEERED FILL.

GRANULAR SOILS FALLING WITHIN THE UNIFIED SOIL CLASSIFICATION SYSTEM GW, GM, GC, SW, SC, SM SOIL GROUPS SHALL BE USED FOR ENGINEERED FILL WITHIN 5 FEET OF FINISHED SUBGRADE ELEVATIONS WITHIN THE PROPOSED FUEL STATION AND PAVEMENT AREAS. BELOW A DEPTH OF 2 FEET OF THE FINISHED SUBGRADE ELEVATIONS, SILT AND LEAN CLAY SOILS HAVING A LIQUID LIMIT (LL) LESS THAN 50 AND A PLASTICITY INDEX (PI) OF LESS THAN 20 MAY ALSO BE USED FOR ENGINEERED FILL.

NEW FILL AND BACKFILL MATERIAL SHALL BE PLACED IN LOOSE LIFTS NOT EXCEEDING 9 INCHES IN THICKNESS AND COMPACTED TO AT LEAST 98 PERCENT OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY (ASTM D998) AT A MOISTURE CONTENT WITHIN 2 PERCENT BELOW TO 3 PERCENT ABOVE THE OPTIMUM.

THE FOUNDATION SYSTEM SHALL BE ISOLATED SPREAD FOOTINGS AT COLUMNS AND CONTINUOUS SPREAD FOOTINGS AT WALLS.

THIS FOUNDATION SUBSURFACE PREPARATION DOES NOT CONSTITUTE A COMPLETE SITE WORK SPECIFICATION. IN CASE OF CONFLICT, INFORMATION COVERED IN THIS PREPARATION SHALL TAKE PRECEDENCE OVER THE USUAL MARKET SPECIFICATIONS. REFER TO THE SPECIFICATIONS FOR SPECIFIC INFORMATION NOT COVERED IN THIS PREPARATION. THIS INFORMATION WAS TAKEN FROM A GEOTECHNICAL REPORT PREPARED BY TERRACON, DATED MARCH 24, 2014 (GEOTECHNICAL REPORT IS FOR INFORMATION ONLY AND IS NOT A CONSTRUCTION SPECIFICATION).

(05/13/14)

DESIGN LOADS

1. BUILDING CODE	
A. BUILDING CODE	2015 NORTH CAROLINA BUILDING CODE
2. SERVICE BUILDING GRAVITY LOADS	
A. DEAD LOADS	PER SERVICE BLDG MFR
B. LIVE LOADS	20 PSF MIN OR SNOW LOAD
C. SNOW LOADS	
1. GROUND SNOW LOAD (Pg)	10 PSF
2. IMPORTANCE FACTOR (I)	PER SERVICE BLDG MFR
3. SNOW EXPOSURE FACTOR (Ce)	PER SERVICE BLDG MFR
4. ROOF THERMAL FACTOR (Cr)	PER SERVICE BLDG MFR
5. FLAT ROOF SNOW LOAD (Ps)	PER SERVICE BLDG MFR
3. SERVICE BUILDING LATERAL LOADS	
A. WIND LOADS	
1. WIND SPEED (3-SECOND GUST)	115 MPH
• ULTIMATE DESIGN WIND SPEED	90 MPH
• BASIC DESIGN WIND SPEED (SERVICE)	90 MPH
2. WIND EXPOSURE CATEGORY	C
3. RISK CATEGORY	PER SERVICE BLDG MFR
4. INTERNAL PRESSURE COEFFICIENT (GCp)	PER SERVICE BLDG MFR
B. SEISMIC LOADS	
1. 5% DAMPED MAPPED ACCELERATION PARAMETER (SS)	0.230
2. 1-SEC PERIOD MAPPED ACCELERATION PARAMETER (S1)	0.100
3. 5% DAMPED SPECTRAL RESPONSE COEFF. (SDS)	0.245
4. 1-SEC PERIOD SPECTRAL RESPONSE COEFF. (SD1)	0.160
5. SITE CLASS	D
6. RISK CATEGORY	PER SERVICE BLDG MFR
7. SEISMIC IMPORTANCE FACTOR (Ie)	PER SERVICE BLDG MFR
8. BASIC SEISMIC FORCE RESISTING SYSTEM	PER SERVICE BLDG MFR
9. ANALYSIS PROCEDURE	PER SERVICE BLDG MFR
10. SEISMIC RESPONSE COEFFICIENT (Cs)	PER SERVICE BLDG MFR
11. RESPONSE MODIFICATION COEFFICIENT (R)	PER SERVICE BLDG MFR
12. DESIGN BASE SHEAR (V)	PER SERVICE BLDG MFR
4. CANOPY GRAVITY LOADS	
A. DEAD LOADS	PER CANOPY MFR
B. LIVE LOADS	
1. CANOPY ROOF LIVE LOAD	20 PSF MIN OR SNOW LOAD
C. SNOW LOADS	
1. GROUND SNOW LOAD (Pg)	10 PSF
2. IMPORTANCE FACTOR (I)	PER CANOPY MFR
3. SNOW EXPOSURE FACTOR (Ce)	PER CANOPY MFR
4. ROOF THERMAL FACTOR (Cr)	PER CANOPY MFR
5. FLAT ROOF SNOW LOAD (Ps)	PER CANOPY MFR
6. LOAD COMBINATIONS WITH SNOW LOAD SHALL ALSO INCLUDE LOADS FROM HIGH/LOW ROOF DRIFTING FROM MAIN BUILDING ROOF. PER CODE.	
5. CANOPY LATERAL LOADS	
A. WIND LOADS	
1. WIND SPEED (3-SECOND GUST)	115 MPH
• ULTIMATE DESIGN WIND SPEED	90 MPH
• BASIC DESIGN WIND SPEED (SERVICE)	90 MPH
2. WIND EXPOSURE CATEGORY	C
3. RISK CATEGORY	PER CANOPY MFR
B. SEISMIC LOADS	
1. 5% DAMPED MAPPED ACCELERATION PARAMETER (SS)	0.230
2. 1-SEC PERIOD MAPPED ACCELERATION PARAMETER (S1)	0.100
3. 5% DAMPED SPECTRAL RESPONSE COEFF. (SDS)	0.245
4. 1-SEC PERIOD SPECTRAL RESPONSE COEFF. (SD1)	0.160
5. SITE CLASS	D
6. RISK CATEGORY	PER CANOPY MFR
7. SEISMIC IMPORTANCE FACTOR (Ie)	PER CANOPY MFR
8. BASIC SEISMIC FORCE RESISTING SYSTEM	PER CANOPY MFR
9. ANALYSIS PROCEDURE	PER CANOPY MFR
10. SEISMIC RESPONSE COEFFICIENT (Cs)	PER CANOPY MFR
11. RESPONSE MODIFICATION COEFFICIENT (R)	PER CANOPY MFR
12. DESIGN BASE SHEAR (V)	PER CANOPY MFR

GENERAL NOTES

- 1.0 GENERAL
 - 1.1 STEEL FRAMING IS NON-Self SUPPORTING AND REQUIRES INTERACTION WITH OTHER ELEMENTS NOT CLASSIFIED AS STRUCTURAL STEEL TO PROVIDE THE REQUIRED STABILITY AND RESISTANCE TO LATERAL FORCES.
 - 1.2 THE STEEL FRAMING AND ALL WALLS SHALL BE TEMPORARILY BRACED UNTIL ALL STEEL BRACING, ROOF DECKS AND WALLS HAVE BEEN INSTALLED AND ALL CONNECTIONS BETWEEN THESE ELEMENTS HAVE BEEN MADE.
 - 1.3 THE CONTRACTOR SHALL COORDINATE THE SIZE AND LOCATION OF EQUIPMENT PADS AND PENETRATIONS THROUGH THE STRUCTURE FOR MECHANICAL, ELECTRICAL AND PLUMBING WORK. SUBSURFACE PREPARATION SHALL GOVERN OVER DISCREPANCIES OR OPTIONS NOTED IN THE SOILS REPORT.
 - 1.4 REFER TO CANOPY FOUNDATION PLAN FOR LIMITS OF EXCAVATION AT UNDERGROUND STORAGE TANKS. PERMANENT SHEET PILE SHORING MAY BE REQUIRED AT UNDERGROUND STORAGE TANK EXCAVATION DUE TO PROXIMITY TO STRUCTURAL FOUNDATIONS. DESIGN OF SHORING SHALL BE PERFORMED BY AN ENGINEER LICENSED IN THE PROJECT STATE.
- 2.0 FOUNDATIONS AND SLABS-ON-GRADE
 - 2.1 FOOTING DESIGNS ARE BASED ON A NET ALLOWABLE SOIL BEARING PRESSURE OF 2,500 PSF.
 - 2.2 THE CONTRACTOR MUST READ THE SOILS REPORT AND BE THOROUGHLY FAMILIAR WITH SITE AND SUBGRADE INFORMATION GIVEN THEREIN.
 - 2.3 THE FUEL STATION PAD WALL INCLUDE, BUT NOT BE LIMITED TO THAT WHICH IS PRESENTED IN THE "FOUNDATION SUBSURFACE PREPARATION" DESCRIPTION. THE "FOUNDATION SUBSURFACE PREPARATION" SHALL GOVERN OVER DISCREPANCIES OR OPTIONS NOTED IN THE SOILS REPORT.
 - 2.4 ALL FOOTINGS SHALL BEAR AT OR BELOW MINIMUM BEARING DEPTH. MINIMUM BEARING DEPTH IS 18 INCHES BELOW ADJACENT FINISHED GRADE. THICKENED SLAB EDGES FOR STOOPS, CANOPIES, ETC. SHALL BE 18 INCHES (MIN).
 - 2.5 FROST DEPTH IS 15 INCHES BELOW ADJACENT FINISHED GRADE. STANDARD PROCEDURES OF FROST PROTECTION FOR FOUNDATIONS AND EXCAVATIONS SHALL BE EMPLOYED FOR WINTER CONSTRUCTION. BACKFILLING OF EXCAVATIONS SHALL BE DONE AS SOON AS POSSIBLE TO PROTECT FOUNDATIONS FROM FROST.
 - 2.6 SLABS-ON-GRADE ARE UNREINFORCED CONCRETE UNLESS NOTED OTHERWISE.
 - 2.7 PROVIDE (2) #4 x 2'-0" BARS PLACED 1'-0" BELOW TOP OF SLAB AND LOCATED DIAGONALLY AT REINTEGRATION CORNERS.
 - 2.8 "CJ" INDICATES SAW CUT CONTRACTION JOINT IN SLAB-ON-GRADE. "CONST. JT" INDICATES DOWNEDED CONSTRUCTION JOINT IN SLAB-ON-GRADE. REFER SPECIFICATIONS.
 - 2.9 FOUNDATION PENETRATIONS SHALL BE SUBJECT TO APPROVAL BY THE ARCHITECT/ENGINEER. PENETRATIONS SHALL BE 6" CLEAR BELOW FOOTING UNO.
- 3.0 CONCRETE AND REINFORCING STEEL
 - 3.1 MINIMUM COMPRESSIVE STRENGTH (F_c) AT THE END OF 28 DAYS SHALL BE AS FOLLOWS:

A. STRUCTURAL CAST-IN-PLACE CONCRETE FOOTINGS	3,000 PSI	SPECIFICATION SECTION 03310
B. EXTERIOR CAST-IN-PLACE CONCRETE SLABS	REF SPECS	SPECIFICATION SECTION 03310
 - 3.2 CONCRETE FREEZING AND THAWING EXPOSURE CLASS SHALL BE F2 AND SULFATE EXPOSURE CLASS SHALL BE S3.
 - 3.3 REINFORCING STEEL SHALL MEET ASTM SPECIFICATION A 615, DEFORMED BAR, GRADE 60 OR ASTM SPECIFICATION A 706, DEFORMED BAR, GRADE 60.
 - 3.4 REF ACI 301 FOR CONCRETE COVER AND STANDARD PRACTICE FOR MIXING AND PLACING CONCRETE AND ACI 315 FOR DETAILING PRACTICES AND FABRICATION.
 - 3.5 LEAN CONCRETE - MIN 2 1/2 BAGS PORTLAND CEMENT PER CUBIC YARD.
- 4.0 STRUCTURAL STEEL
 - 4.1 STRUCTURAL STEEL SHALL MEET THE FOLLOWING MINIMUM YIELD STRENGTH AND SPECIFICATIONS

STRUCTURAL STEEL	YIELD	ASTM SPECIFICATION
A. BARS, PLATES, CHANNELS, ANGLES, AND ANCHOR BOLTS	36 KSI	A 36 (UNO)
B. HEADED STUD ANCHORS	50 KSI	A 193 (GRADE DESIGNATIONS 1010 TO 1020 INCLUSIVE)
 - 4.2 WELDING SHALL MEET ANSII/A5.1 STRUCTURAL WELDING CODE. ELECTRODES SHALL BE 70 KSI LOW HYDROGEN.
 - 4.3 PROVIDE NON-SHRINK GROUT UNDER CANOPY COLUMN BASE PLATES AS REQUIRED BY CANOPY MANUFACTURER.
- 5.0 POST-INSTALLED ANCHORS
 - 5.1 POST-INSTALLED ANCHORS SHALL ONLY BE USED WHERE SPECIFIED ON THE DRAWINGS. CONTRACTOR SHALL OBTAIN APPROVAL FROM ENGINEER OF RECORD PRIOR TO USING POST-INSTALLED ANCHORS FOR MISSING OR MISPLACED CAST-IN-PLACE ANCHORS. REFER TO SPECIFICATION 05560 FOR ADDITIONAL INFORMATION.
- 6.0 SUBGRADE
 - 6.1 THE TESTING AGENCY SHALL VERIFY THE SUBGRADE IS COMPACTED TO THE OPTIMUM MAXIMUM DRY DENSITY AS SPECIFIED IN THE FOUNDATION SUBSURFACE PREPARATION. A QUALIFIED REPRESENTATIVE OF THE TESTING AGENCY SHALL WITNESS PROOF ROLLING OF THE SUBGRADE TO IDENTIFY UNACCEPTABLE AREAS OF THE FUEL STATION PAD. THE CONTRACTOR SHALL LESS THAN 5% AND A PLASTICITY INDEX (PI) OF LESS THAN 20 MAY ALSO BE USED FOR ENGINEERED FILL.
 - 6.2 THE TESTING AGENCY SHALL VERIFY THE AGGREGATE BASE IS COMPACTED TO THE OPTIMUM MAXIMUM DRY DENSITY AS SPECIFIED IN THE FOUNDATION SUBSURFACE PREPARATION JUST PRIOR TO PLACING THE SLAB. A QUALIFIED REPRESENTATIVE OF THE TESTING AGENCY SHALL WITNESS PROOF ROLLING OF THE BASE TO IDENTIFY UNACCEPTABLE AREAS OF THE FUEL STATION PAD. THE CONTRACTOR SHALL REPAIR SOFT AREAS AS DIRECTED BY THE TESTING AGENCY. PUTTING DUE TO PROOF ROLLING DEEPER THAN 12 INCH IN THE BASE SHALL BE UNACCEPTABLE. THE TESTING AGENCY SHALL PROVIDE A REPORT TO THE OWNER AND THE ENGINEER STATING THE BASE IS ACCEPTABLE.
 - 6.3 NOTIFY IMMEDIATELY THE OWNER'S REPRESENTATIVE AND ENGINEER IF UNUSUAL SOIL CONDITIONS ARE FOUND.
 - 6.4 PROTECT EXISTING STRUCTURES, UTILITIES, PROPERTY, ETC. RESTORE ALL ITEMS DAMAGED, AS REQUIRED BY OWNER'S REPRESENTATIVE. AT NO COST TO OWNER OR WITHOUT EXTENSION OF CONTRACT TIME.
 - 6.5 DO NOT ALLOW STORIED EXCAVATION MATERIAL TO DISRUPT PROPER DRAINAGE OF AREA.
 - 6.6 DISPOSE OF EXCAVATED MATERIAL AS REQUIRED BY OWNER'S REPRESENTATIVE.
- 7.0 GROUNDWATER
 - 7.1 GROUNDWATER MAY BE ENCOUNTERED DURING FOUNDATION, SLAB, AND UNDERGROUND STORAGE TANK EXCAVATION.
 - 7.2 IF REQUIRED, CONTRACTOR SHALL DESIGN AND INSTALL SHEET PILE SHORING FOR EXCAVATION SUPPORT AT UNDERGROUND STORAGE TANKS.
 - 7.3 DEWATER WITH TEMPORARY SUMP PITS AND PUMPS OR OTHER MEANS WHERE REQUIRED. REF SOILS REPORT FOR MORE INFORMATION.
 - 7.4 THE DESIGN AND INSTALLATION OF THE UNDERGROUND STORAGE TANKS AND ANCHORING SYSTEM SHALL ACCOUNT FOR BUOYANT CONDITIONS. INSTALL TANKS AND ANCHORING SYSTEM IN STRICT ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS AND ALL CONTRACT DOCUMENTS TO RESIST BUOYANT FORCES.