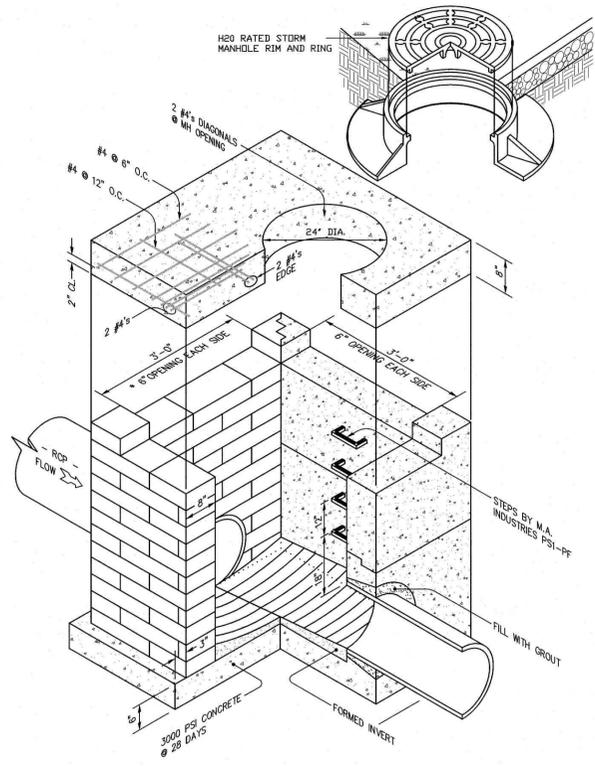
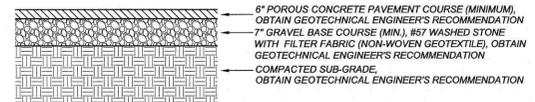


EMERGENCY OUTLET STRUCTURE - EOS (2)



SLAB TOP INLET DETAIL (N.I.S.)



- NOTES:**
- CONTRACTOR SHALL OBTAIN SOILS REPORT AND ADJUST PAVEMENT SECTIONS ACCORDINGLY AND / OR SEE SPECIFIC GEOTECHNICAL ENGINEER'S RECOMMENDATION.
 - CONTRACTOR SHALL COORDINATE DEPTHS, TESTING, PLACEMENT AND INSPECTION OF ALL MATERIALS WITH GEOTECHNICAL ENGINEER.
 - CONTRACTOR SHALL COORDINATE NECESSITY OF ANY RESERVOIR COURSE AND/OR UNDERDRAIN SYSTEM WITH GEOTECHNICAL ENGINEER PRIOR TO ANY CONSTRUCTION.

PERVIOUS CONCRETE PAVEMENT

INFILTRATION BASIN CONSTRUCTION SPECIFICATIONS

GENERAL NOTES

- PRIOR TO CONSTRUCTION, THE ONSITE GEOTECHNICAL ENGINEER SHALL VERIFY THE SUITABILITY OF THE PROPOSED FILL FOR USE IN THE BERM EMBANKMENT (AREAS SURROUNDING BASIN).
- THE CONTRACTOR SHALL FOLLOW THE GENERAL BASIN CONSTRUCTION SEQUENCE BELOW:
 - THE CONTRACTOR SHALL CONSTRUCT THE ENTIRE FACILITY WITH THE EXCEPTION OF THE INTERIOR GRADING. THE INTERIOR GRADING SHALL BE CONSTRUCTED ONCE THE EROSION CONTROL PHASE IS COMPLETE.
 - ONCE THE UPRSTREAM DRAINAGE AREA IS STABILIZED AND THE EROSION CONTROL INSPECTOR APPROVES THE REMOVAL OF THE SEDIMENT CONTROL DEVICES, THE CONTRACTOR SHALL CLEAN OUT THE BASIN AREA. ALL SEDIMENT, TRASH, ETC. SHALL BE DISPOSED OR PROPERLY RE-PLACED IN A LANDFILL AND NOT STOCKPILED IN AN AREA WHERE WATER QUALITY COULD BE ADVERSELY AFFECTED.
 - ONCE THE BASIN IS CLEANED OUT, AND ALL EROSION CONTROL DEVICES REMOVED, THE CONTRACTOR SHALL CONSTRUCT THE INTERIOR GRADING AS SHOWN ON THE GRADING PLAN.
 - ONCE THE GRADING IS COMPLETE, THE CONTRACTOR SHALL REQUEST AN ONSITE INSPECTION AND AN AS-BUILT SURVEY.
- ANY REMOVED TOPSOIL SHALL BE STOCKPILED FOR USE IN PLANTING (SEEDING) ON THE BERM EMBANKMENT ONCE FINAL GRADES (AS SHOWN ON THE GRADING PLAN) HAVE BEEN ESTABLISHED WITH COMPACTED FILL. PRIOR TO TOPSOIL INSTALLATION, THE CONTRACTOR SHALL SCARIFY THE TOP 1\"/>

BERM AND SOIL COMPACTION SPECIFICATIONS

- ALL FILL MATERIALS TO BE USED FOR THE BERM EMBANKMENT (AREAS SURROUNDING BASIN) SHALL BE TAKEN FROM BORROW AREAS APPROVED BY THE ONSITE GEOTECHNICAL ENGINEER. THE FILL MATERIAL SHALL BE FREE FROM ROOTS, STUMPS, WOOD, STONES GREATER THAN 6\"/>

BASIN CONSTRUCTION SEQUENCE

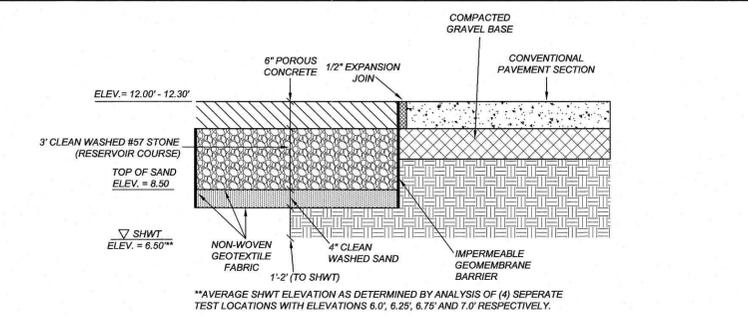
- PRIOR TO CONSTRUCTION, THE OWNER SHALL OBTAIN A LAND DISTURBING GRADING PERMIT FROM NCDOT AND AN APPROVAL TO CONSTRUCT FROM THE TOWN OF MOREHEAD CITY AND ALL OTHER APPLICABLE AGENCIES.
- INSTALL ALL SEDIMENT AND EROSION CONTROL MEASURES PER THE APPROVED SEDIMENT & EROSION CONTROL PLAN. THE CONTRACTOR SHALL MAINTAIN ALL APPROVED SEDIMENT AND EROSION CONTROL MEASURES THROUGHOUT THE ENTIRE PROJECT. AS REQUIRED, THE CONTRACTOR SHALL RECEIVE APPROVAL FROM THE EROSION CONTROL INSPECTOR, AS REQUIRED BY GOVERNING AGENCIES, PRIOR TO ANY CLEARING.
- CLEAR AND GRUB AREA WITHIN THE LIMITS OF THE PROPOSED BERM CONSTRUCTION. ALL TREES AND THEIR ENTIRE ROOT SYSTEMS MUST BE REMOVED FROM THE BERM FOOTPRINT AREA AND SCARIFIED WITH SUITABLE SOIL MATERIAL. THE SCARIFIED AREAS SHALL BE COMPACTED TO THE SAME STANDARDS AS THE BERM EMBANKMENT. THE REMAINING AREA OF THE EMBANKMENT SHALL BE STRIPPED TO A SUITABLE DEPTH AS DIRECTED BY THE ONSITE GEOTECHNICAL ENGINEER. ANY RESIDUAL SOILS TO BE LEFT IN PLACE MUST BE WELL SCARIFIED TO PROMOTE BONDING OF THE NEW EMBANKMENT FILL. NO EMBANKMENT MATERIAL SHALL BE PLACED FOR THE BERM UNTIL APPROVAL OF THE BERM SUBGRADE/TRENCH IS OBTAINED FROM THE ONSITE GEOTECHNICAL ENGINEER.
- BEGIN PLACEMENT OF BACKFILL OF THE PROPOSED BERM. THE BERM EMBANKMENTS SHALL BE COMPACTED TO THE SPECIFICATIONS LISTED IN ITEM 3 OF THE SECTION TITLED "BERM AND SOIL COMPACTION SPECIFICATIONS."
- BEGIN CONSTRUCTION OF THE NEW EMBANKMENT. FILL MATERIALS SHALL BE PLACED IN MAXIMUM 6\"/>

OUTLET STRUCTURE MATERIAL SPECIFICATIONS

- THE STRUCTURAL DESIGN FOR THE RISER BOX WITH EXTENDED BASE SHALL BE BY OTHERS.
- THE RISER BOX JOINT DESIGN SHALL CONFORM TO ASTM C-476. THE JOINTS SHALL BE SEALED USING BUTYL RUBBER SEALANT CONFORMING TO ASTM-98. THE CONTRACTOR SHALL PARGE JOINTS ON BOTH THE INSIDE AND OUTSIDE WITH NON-SHINK GROUT.
- PRIOR TO ORDERING, THE CONTRACTOR SHALL SUBMIT DROP INLET GRATE SHOP DRAWINGS TO THE ENGINEER FOR REVIEW.
- ALL POURS OF CONCRETE SHALL BE MINIMUM 3000 PSI (28 DAY) UNLESS OTHERWISE NOTED.
- GEOTEXTILE FABRIC FOR ALL JOINTS SHALL BE MFR#1 180N OR ENGINEER APPROVED EQUAL (NON-WOVEN FABRIC).

STATEMENT OF RESPONSIBILITY

- ALL REQUIRED MAINTENANCE AND INSPECTIONS OF THIS FACILITY SHALL BE THE RESPONSIBILITY OF THE PROPERTY OWNER PER THE EXECUTED OPERATION AND MAINTENANCE AGREEMENT FOR THIS FACILITY.



- NOTES:**
- COORDINATE PAVEMENT SECTION AND PLACEMENT / COMPACTION METHODS WITH GEOTECHNICAL ENGINEER PRIOR TO ANY CONSTRUCTION.
 - BASE ELEVATION OF BASIN SECTION IS 8.50', WHICH SHALL BE MAINTAINED THROUGHOUT THE BASIN AREA.
 - RESERVOIR COURSE #57 STONE IS A MINIMUM OF 3\"/>

INFILTRATION BASIN SECTION (N.I.S.)

PERVIOUS PAVEMENT CONSTRUCTION SPECIFICATIONS:

- ENSURE ACCEPTABLE CONDITIONS FOR CONSTRUCTION. DO NOT BEGIN CONSTRUCTION ON PERMEABLE PAVEMENT UNTIL ACCEPTABLE CONDITIONS ARE PRESENT. THIS INCLUDES THE FOLLOWING ITEMS:
 - PERVIOUS SURFACES ARE GRADED SO THAT THEY DO NOT DISCHARGE TO THE PERMEABLE PAVEMENT, EXCEPT FOR INSTANCES WHEN THIS IS UNAVOIDABLE, SUCH AS REDEVELOPMENT PROJECTS.
 - IMPERVIOUS AREAS THAT WILL DRAIN TO THE PERMEABLE PAVEMENT ARE COMPLETED.
 - AREAS OF THE SITE ADJACENT TO THE PERMEABLE PAVEMENT ARE STABILIZED WITH VEGETATION, MULCH, STRAW, SEED, SOIL, FIBER BLANKETS OR OTHER APPROPRIATE COVER IN ORDER TO PREVENT EROSION AND POSSIBLE CONTAMINATION WITH SEDIMENTS.
 - CONSTRUCTION ACCESS TO OTHER PORTIONS OF THE SITE IS ESTABLISHED SO THAT NO CONSTRUCTION TRAFFIC PASSES THROUGH THE PERMEABLE PAVEMENT SITE DURING INSTALLATION. INSTALL BARRIERS OR FENCES AS NEEDED.
 - THE FORECAST CALLS FOR A WINDOW OF DRY WEATHER TO PREVENT EXCESS COMPACTION OR SMEARING OF THE SOIL SUBGRADE WHILE IT IS EXPOSED.
 - ALL PERMEABLE PAVEMENT AREAS ARE CLEARLY MARKED ON THE SITE.
- EXCAVATE THE PAVEMENT AREA AND PREPARE SUBGRADE SURFACE. CLEAR AND EXCAVATE THE AREA FOR PAVEMENT AND BASE COURSES WHILE PROTECTING AND MAINTAINING SUBGRADE INFILTRATION RATES USING FOLLOWING THESE STEPS:
 - EXCAVATE IN DRY SUBGRADE CONDITIONS AND AVOID EXCAVATING IMMEDIATELY AFTER STORMS WITHOUT A SUFFICIENT DRYING PERIOD.
 - DO NOT ALLOW EQUIPMENT TO CROSS THE PAVEMENT AREA AFTER EXCAVATION HAS BEGUN.
 - OPERATE EXCAVATION EQUIPMENT FROM OUTSIDE THE PAVEMENT AREA OR FROM UNEXCAVATED PORTIONS OF THE AREA USING AN EXCAVATION STAGING PLAN.
 - EQUIPMENT WITH TRACKS RATHER THAN TIRES TO MINIMIZE SOIL COMPACTION WHEN EQUIPMENT ON THE SUBGRADE SURFACE IS UNAVOIDABLE.
 - DIG THE FINAL 9 TO 12 IN. BY USING THE TEETH OF THE EXCAVATOR BUCKET TO LOOSEN SOIL AND DO NOT SMEAR THE SUBGRADE SOIL SURFACE. FINAL GRADING OR SMOOTHING OF THE SUBGRADE SHOULD BE DONE BY HAND IF POSSIBLE.
 - MINIMIZE THE TIME BETWEEN EXCAVATION AND PLACEMENT OF THE AGGREGATE.
- TEST THE SUBGRADE SOIL INFILTRATION RATE. CONDUCT A DIRECT MEASUREMENT OF THE SOIL'S INFILTRATION RATE IMMEDIATELY AFTER EXCAVATION AND BEFORE THE AGGREGATE IS PLACED. INFILTRATION TESTING SHALL BE CONDUCTED BY AN APPROPRIATELY QUALIFIED PROFESSIONAL. THE RESULTS OF THE TESTING SHALL BE GIVEN TO THE DESIGNER OF RECORD FOR REVIEW.
- PLACE GEOTEXTILES AND GEOMEMBRANE (IF APPLICABLE). IF USING GEOTEXTILES OR GEOMEMBRANES, THEN FOLLOW THE MANUFACTURER'S RECOMMENDATIONS SO FOR THE APPROPRIATE OVERLAP BETWEEN ROLLS OF MATERIAL. SECURE GEOTEXTILE OR GEOMEMBRANE SO THAT IT WILL NOT MOVE OR WRINKLE WHEN PLACING AGGREGATE.
 - ELEVATIONS OF THE UNDERDRAINS AND UPTURNED ELBOWS ARE CORRECT.
 - DEAD ENDS OF PIPE UNDERDRAINS ARE CLOSED WITH A SUITABLE CAP PLACED OVER THE END AND HELD FIRMLY IN PLACE.
 - PORTIONS OF THE UNDERDRAIN SYSTEM WITHIN ONE FOOT OF THE OUTLET STRUCTURE ARE SOLID AND NOT PERFORATED.
- PLACE AND COMPACT AGGREGATE BASE. INSPECT ALL AGGREGATES TO INSURE THEY ARE CLEAN, FREE OF FINES AND CONFORM TO THE PLANS AND SPECIFICATIONS. IF AGGREGATES DELIVERED TO THE SITE CANNOT BE IMMEDIATELY PLACED INTO THE EXCAVATION, THEY SHOULD BE STOCKPILED ON AN IMPERVIOUS SURFACE, GEOTEXTILE, OR ON AN IMPERVIOUS MATERIAL TO KEEP THE AGGREGATE FREE OF SEDIMENT. IF AGGREGATE BECOMES CONTAMINATED WITH SEDIMENT, THEN IT SHALL BE REPLACED WITH CLEAN MATERIALS.
 - BEFORE PLACING THE AGGREGATE BASE, REMOVE ANY ACCUMULATION OF SEDIMENTS ON THE FINISHED SOIL SUBGRADE. USE LIGHT, TRACKED EQUIPMENT. IF THE EXCAVATED SUBGRADE SURFACE IS SUBJECT TO RAINFALL BEFORE PLACEMENT OF THE AGGREGATE BASE, THE RESULTING SURFACE CRUST MUST BE EXCAVATED TO AT LEAST AN ADDITIONAL 2 IN. DEPTH, RAKED OR SCARIFIED TO BREAK UP THE CRUST. FOR SITES WITH AN IMPERMEABLE LNER OR GEOTEXTILES, REMOVE ANY ACCUMULATED SEDIMENTS AND CHECK PLACEMENT, SLOPES AND ELEVATIONS SHALL BE CHECKED ON THE SOIL SUBGRADE AND THE FINISHED ELEVATION OF BASE (AFTER COMPACTION) OR BEDDING MATERIALS TO ASSURE THEY CONFORM TO THE PLANS AND SPECIFICATIONS.
 - ALL AGGREGATE SHALL BE SPREAD (NOT DUMPED) BY A FRONT-END LOADER OR FROM DUMP TRUCKS DEPOSITING FROM NEAR THE EDGE OF THE EXCAVATED AREA OR RESTING DIRECTLY ON DEPOSITED AGGREGATE PILES. MOISTEN AND SPREAD THE WASHED STONE WITHOUT DRIVING ON THE SOIL SUBGRADE. BE CAREFUL NOT TO DAMAGE UNDERDRAINS AND THEIR FITTINGS, CATCH BASINS, OR OBSERVATION WELLS DURING COMPACTION. FOLLOW COMPACTION RECOMMENDATIONS BY THE PERMEABLE PAVEMENT MANUFACTURER OR THAT FROM INDUSTRY GUIDELINES. BE SURE THAT CORNERS, AREAS AROUND UTILITY STRUCTURES AND OBSERVATION WELLS, AND TRANSITION AREAS TO OTHER PAVEMENTS ARE ADEQUATELY COMPACTED. DO NOT CRUSH AGGREGATES DURING COMPACTION AS THIS GENERATES ADDITIONAL FINES THAT MAY CLOG THE SOIL SUBGRADE.
- INSTALL CURB RESTRAINTS AND PAVEMENT BARRIERS. EDGE RESTRAINTS AND BARRIERS BETWEEN PERMEABLE AND IMPERVIOUS PAVEMENT SHALL BE INSTALLED PER DESIGN. BEFORE MOVING ON TO NEXT STEP, BE CERTAIN THAT THE DESIGN AND INSTALLATION ARE CONSISTENT.
- INSTALL BEDDING AND PAVEMENT COURSES. THE BEDDING AND PAVEMENT COURSE INSTALLATION PROCEDURES DEPEND ON THE PERMEABLE PAVEMENT SURFACE. IT IS IMPORTANT TO FOLLOW THE SPECIFICATIONS AND MANUFACTURER'S INSTALLATION INSTRUCTIONS.
 - FOR PCCP, A 4 IN. THICK CHOKER COURSE OVER THE BASE TRANSITIONS TO A 2 IN. THICK BEDDING LAYER THAT PROVIDES A SMOOTH SURFACE FOR THE PAVERS. THE BEDDING COURSE SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER OR INDUSTRY GUIDE SPECIFICATIONS. IMPROPER BEDDING MATERIALS OR INSTALLATION CAN CAUSE SIGNIFICANT PROBLEMS IN THE PERFORMANCE OF THE PAVERS AND STONE JOINTING MATERIALS BETWEEN THEM. IF CONSTRUCTING A PCCP PAVEMENT, USE A CONTRACTOR THAT HOLDS A PCCP SPECIALIST CERTIFICATE FROM THE INTERLOCKING CONCRETE PAVEMENT INSTITUTE. A LIST OF CONTRACTORS CAN BE OBTAINED FROM THE INTERLOCKING CONCRETE PAVEMENT INSTITUTE.
 - PC PAVEMENTS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE LATEST VERSION OF AC 102.1 SPECIFICATION FOR PERVIOUS CONCRETE. INSTALLATION OF PC MAY BE ACCOMPLISHED USING THE ONE-STEP OR THE TWO-STEP METHOD. THE TWO-STEP METHOD IS MORE COMMONLY USED AND IT SEPARATES THE STEPS OF STRIKE-OFF FROM PERVIOUS CONCRETE COMPACTION. IN THIS METHOD, THE PERVIOUS CONCRETE USUALLY REQUIRES A MORE TRADITIONAL, STIFFER MIX. THE ONE-STEP METHOD USES A COUNTER-ROTATING ROLLER SCREED TO SIMULTANEOUSLY STRIKE-OFF AND COMPACT THE PERVIOUS CONCRETE. THIS METHOD REQUIRES PERVIOUS CONCRETE WITH A MORE FLOWABLE MIX SO THAT THE SCREED CAN MORE ADEQUATELY COMPACT THE MIXTURE. BOTH METHODS REQUIRE DENSEPASTE PERVIOUS CONCRETE MIXTURES. THESE MIXES ARE DEFINED BY CHEMICAL ADMIXTURES THAT REDUCE THE VISCOSITY OF THE CEMENT PASTE SO THAT IT WILL STICK TO AND NOT RUN OFF THE AGGREGATES. THE MIXES PROVIDE GREATER COHESION THAT INCREASES STRENGTH AND DURABILITY.
 - IF CONSTRUCTING A PA PAVEMENT, USE A CONTRACTOR THAT IS QUALIFIED PER CAROLINA ASPHALT PAVING INSTITUTE (CAPA). IN ADDITION, BE CERTAIN THAT THE CONTRACTOR FOLLOWS THE DESIGN, CONSTRUCTION AND MAINTENANCE GUIDE FOR POROUS ASPHALT (BY THE NATIONAL ASPHALT PAVEMENT ASSOCIATION) IN CONJUNCTION WITH CAPA'S POROUS ASPHALT GUIDE SPECIFICATION, WHICH WILL ENSURE THAT THE BINDER MIX IS APPROPRIATE FOR THE NORTH CAROLINA CLIMATE.
- PROTECT THE PAVEMENT THROUGHOUT PROJECT COMPLETION. IF IS PREFERABLE TO HAVE THE PERMEABLE PAVEMENT INSTALLED AT THE END OF THE SITE CONSTRUCTION TIMELINE, IF THAT IS NOT POSSIBLE, PROTECT THE PERMEABLE PAVEMENT UNTIL PROJECT COMPLETION. THIS SHALL BE DONE BY:
 - ROUTE CONSTRUCTION ACCESS THROUGH OTHER PORTIONS OF THE SITE SO THAT NO CONSTRUCTION TRAFFIC ASSES THROUGH THE PERMEABLE PAVEMENT SITE. INSTALL BARRIERS OR FENCES AS NEEDED.
 - IF THIS IS NOT POSSIBLE, PROTECT THE PAVEMENT PER THE CONSTRUCTION DOCUMENTS. PROTECTION TECHNIQUES THAT MAY BE SPECIFIED INCLUDE MATS, PLASTIC SHEETING, BARRIERS TO LIMIT ACCESS, OR MOVING THE STABILIZED CONSTRUCTION ENTRANCE.
 - SCHEDULE STREET SWEEPING DURING AND AFTER CONSTRUCTION TO PREVENT SEDIMENT FROM ACCUMULATING ON THE PAVEMENT.
- AS-BUILT INSPECTION. AFTER INSTALLATION, AN APPROPRIATELY LICENSED NC DESIGN PROFESSIONAL SHALL PERFORM A FINAL AS-BUILT INSPECTION AND CERTIFICATION THAT INCLUDES:
 - ENSURING THAT THE PAVEMENT IS INSTALLED PER THE PLANS AND SPECIFICATIONS.
 - ENSURING THAT THE SURFACE IS NOT DAMAGED, FREE FROM FINES AND SEDIMENT.
 - CHECKING THAT ALL PERVIOUS SURFACES DRAIN AWAY FROM THE PAVEMENT AND THAT SOIL AROUND THE PAVEMENT IS STABILIZED WITH VEGETATION.
 - PREPARING THE AS-BUILT PLANS THAT INCLUDE ANY CHANGES TO THE UNDERDRAINS, OBSERVATION WELL LOCATIONS, TERRACE LAYOUTS, AGGREGATE DEPTH OR STORAGE STRUCTURES. ANY REVISED CALCULATIONS, ETC.
 - TESTING THE PAVEMENT SURFACE PERMEABILITY USING THE NCSU SIMPLE INFILTRATION TEST OR OTHER APPROPRIATE TEST SUCH AS ASTM C1701 STANDARD TEST METHOD FOR INFILTRATION RATE OF IN-PLACE PERVIOUS CONCRETE.
 - ANY DEFICIENCIES FOUND DURING THE AS-BUILT INSPECTION SHALL BE PROMPTLY ADDRESSED AND CORRECTED.



24 HOUR CONTACT
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CONSTRUCTION MANAGER
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NO.	DATE	DESCRIPTION
1	10-26-20	TOWN COMMENTS

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COOKOUT FRESH HAMBURGERS

2005 S CROATAN HIGHWAY
 KILL DEVIL HILLS, NORTH CAROLINA

DETAILS

PROJECT NO.	OUT-2022
FILENAME:	OUT2022-DTL3a
DRAWN BY:	DDH
SCALE:	N.T.S.
DATE:	09-04-2020
SHEET NO.	C-7a