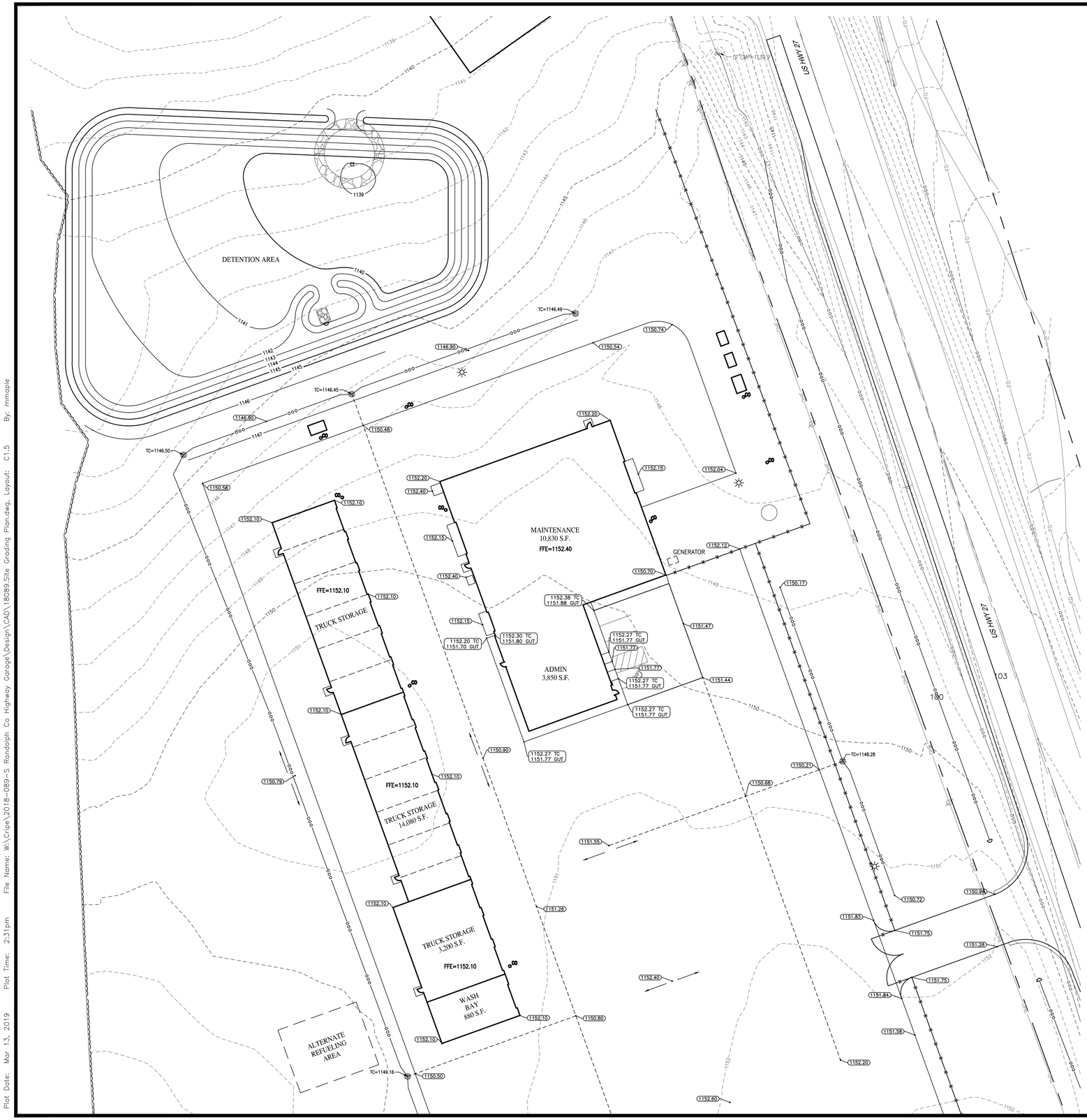

EARTHWORK NOTES:

1. EARTHWORK SHALL BE COMPLETED IN ACCORDANCE WITH THE RANDOLPH COUNTY SPECIFICATIONS AND SUPPLEMENTAL SPECIFICATIONS ON THE CONSTRUCTION PLANS. THE CONTRACTOR SHALL NOTIFY THE ENGINEER'S OFFICE AND THE OWNER AT LEAST 48 HOURS BEFORE BEGINNING EXCAVATION.

2. THE CONTRACTOR SHALL EMPLOY A QUALIFIED GEOTECHNICAL ENGINEER FOR THIS PROJECT. THE GEOTECHNICAL ENGINEER WILL INSPECT SOIL CONDITIONS, PROOF-ROLLING, AND FIELD DENSITY OF COMPACTED FILLS. ALL SUBGRADES AND FILLS SHALL MEET OR EXCEED THE SPECIFIED DENSITIES, AS DISCUSSED BELOW. BASED UPON REPORTS FROM THE GEOTECHNICAL ENGINEER, SUBGRADES OR FILLS WHICH ARE BELOW SPECIFIED DENSITIES WILL REQUIRE ADDITIONAL COMPACTION WORK AND TESTING AT NO ADDITIONAL EXPENSE TO THE OWNER. COMPACTION TESTS SHALL BE TAKEN AT RANDOM INTERVALS AND ELEVATIONS THROUGHOUT THE FILL EMBANKMENTS.

3. TOPSOIL SHALL BE STRIPPED AND STOCKPILED FOR USE DURING FINISH GRADING AND LANDSCAPE WORK. STRIPPED TOPSOILS SHALL BE STOCKPILED AS SHOWN IN STORMWATER POLLUTION PREVENTION PLAN. TOPSOIL IS DEFINED AS FERTILE, FRIABLE NATURAL LOAM SURFACE SOILS, REASONABLY FREE OF SUBSOIL, CLAY LUMPS, BRUSH, AND OTHER LITTER OR STONES LARGER THAN 1/2 INCH. LOOSE DEBRIS, TOPSOILS AND UNSUITABLE SUBSOILS SHALL BE STRIPPED FROM AREAS OF THE SITE THAT ARE TO BE DEVELOPED. THE DEPTH OF STRIPPING OF SURFACE SOILS MAY VARY BY LOCATION WITHIN THE SITE. THE ENGINEER SHALL DESIGNATE ON-SITE LOCATIONS TO STORE OR DEPOSIT STRIPPED SOILS. CONTRACTOR SHALL REMOVE TOPSOILS AND UNSUITABLE SUBSOILS FROM ALL AREAS TO BE OCCUPIED BY BUILDINGS AND PAVEMENTS. IN ADDITION, ANY AREAS TO BE UTILIZED AS BORROW AREAS FOR FILL MATERIAL MUST ALSO BE STRIPPED OF TOPSOILS. A MINIMUM OF 6 INCHES OF TOPSOIL SHALL BE REPLACED IN LAWN AND LANDSCAPED AREAS. IF THE AMOUNT OF STOCKPILED TOPSOIL EXCEEDS QUANTITY REQUIRED, THE EXCESS SHALL BE SPREAD ON THE SITE WHERE DIRECTED BY THE ENGINEER OR DISPOSED OF OFFSITE.

4. ALL COMPACTED FILL MATERIAL SHALL BE SATISFACTORY BORROW SOILS APPROVED BY THE GEOTECHNICAL ENGINEER. ALL FILL MATERIAL SHALL BE FREE OF ORGANIC MATTER, LARGE ROCK GREATER THAN 3 INCHES, RUBBISH, OR OTHER UNSUITABLE MATERIAL. SAMPLES OF THE FILL MATERIALS SHALL BE SUBMITTED TO THE GEOTECHNICAL ENGINEER FOR APPROVAL PRIOR TO PLACEMENT. ALL FILL EMBANKMENTS UNDER PAVED AREAS, SIDEWALKS, AND PADS SHALL BE PLACED IN LIFTS NOT TO EXCEED 8 INCHES IN LOOSE THICKNESS AND COMPACTED TO 95% OF MAXIMUM DRY DENSITY IN ACCORDANCE WITH ASTM DENSITY TEST D698. THE TOP 12 INCHES OF BUILDING SUBGRADE AND EACH 8 INCH LAYER OF BUILDING FILL EMBANKMENTS SHALL BE COMPACTED TO 100% MAXIMUM DRY DENSITY. THE AREA OF COMPACTED FILL FOR THE BUILDING SHALL EXTEND AT LEAST 5 FEET BEYOND THE EXTERIOR WALLS. ALL OTHER FILLS SHALL BE COMPACTED TO 90% MAXIMUM DRY DENSITY. FILL MATERIALS SHALL BE PLACED IN LIFTS NOT TO EXCEED 8 INCHES IN LOOSE THICKNESS AND SHOULD BE SPRINKLED WITH WATER AS REQUIRED TO ENSURE COMPACTION SPECIFICATIONS ARE MET. EXCESSIVELY WET MATERIAL SHALL BE SPREAD AND DRIED SUFFICIENTLY SO THAT THE MOISTURE CONTENT WILL PERMIT PROPER COMPACTION. EACH LAYER SHALL BE UNIFORMLY COMPACTED USING A VIBRATORY COMPACTOR OR OTHER APPROVED EQUIPMENT SUITED TO THE LOCATION AND MATERIAL BEING PLACED. LIFTS SHALL NOT EXCEED 4 INCHES IN LOOSE THICKNESS FOR MATERIAL COMPACTED BY HAND OPERATED TAMPERS.

5. IN-PLACE DENSITY TESTS SHALL BE PERFORMED THROUGHOUT THE BUILDING FILL EMBANKMENTS. AT EACH COMPACTED FILL AND BACKFILL LAYER, AT LEAST ONE DENSITY TEST SHALL BE PERFORMED FOR EVERY 2000 SQ. FT OF BUILDING FILL OR SUBGRADE, BUT IN NO CASE FEWER THAN 3 TESTS. WHERE THE RESULTS OF THE IN-PLACE DENSITY TESTS INDICATE COMPACTION SPECIFICATIONS ARE NOT OBTAINED, OR WHERE APPROVED COMPACTED FILLS ARE DISTURBED BY THE CONTRACTOR'S SUBSEQUENT ACTIVITY OR ADVERSE WEATHER, THOSE AREAS SHALL BE REWORKED UNTIL COMPACTION CRITERIA ARE ACHIEVED. THE GEOTECHNICAL ENGINEER SHALL ISSUE A REPORT DOCUMENTING THE SUFFICIENCY OF THE FINAL COMPACTED FILL TO THE OWNER AND THE PROJECT ENGINEER.

6. AFTER THE PAVEMENT SUBGRADE SOILS HAVE BEEN FILLED AND COMPACTED, AND IN AREAS WHERE THE PAVEMENT SUBGRADE ELEVATIONS ARE ACHIEVED WITHOUT FILL OPERATIONS, THESE AREAS SHALL BE PROOF-ROLLED WITH A FULLY LOADED TRI-AXLE DUMP TRUCK, MEDIUM WEIGHT ROLLER OR OTHER APPROVED EQUIPMENT TO DETERMINE IF ANY POCKETS OF SOFT, UNSUITABLE MATERIALS ARE PRESENT. IF POCKETS OF UNSUITABLE MATERIALS ARE ENCOUNTERED, THEY SHALL BE REMOVED AND REPLACED WITH SPOT SUBGRADE REINFORCEMENT OR COMPACTED GRANULAR FILL. THE GEOTECHNICAL ENGINEER SHALL BE PRESENT DURING PROOF-ROLLING OPERATIONS AND SHALL SUBMIT A REPORT OF ACCEPTANCE TO THE ENGINEER AND OWNER.

7. WHERE THE APPROVED COMPACTED SUBGRADES ARE DISTURBED BY CONTRACTOR'S SUBSEQUENT ACTIVITY OR ADVERSE WEATHER, THE SUBGRADES SHALL BE SCARIFIED AND RECOMPACTED AS SPECIFIED ABOVE PRIOR TO THE CONTINUATION OF CONSTRUCTION.

8. FOLLOWING THE COMPLETION OF SITE GRADING AND SUBSURFACE UTILITY INSTALLATION, TOPSOIL SHALL BE REPLACED IN AREAS DESIGNATED FOR SEEDING, SODDING, OR LANDSCAPING TO A MINIMUM DEPTH OF 6 INCHES. THE FINISHED SURFACE SHALL BE UNIFORMLY AND SMOOTHLY GRADED AND SHALL BE FREE OF DEPRESSED AREAS WHERE WATER WILL POND. LIGHTLY COMPACT TOPSOIL AFTER PLACEMENT. THE FINISHED SURFACE GRADES SHALL NOT BE MORE THAN 0.1 FOOT ABOVE OR BELOW THE GRADES INDICATED ON THE PLANS. PROVIDE A SMOOTH TRANSITION BETWEEN EXISTING GRADES AND ADJACENT FILL EMBANKMENTS.

9. EXCAVATE FOR STRUCTURES TO WITHIN 0.1 FOOT OF THE DESIGN ELEVATIONS AND DIMENSIONS. EXTEND EXCAVATIONS A SUFFICIENT DISTANCE FROM STRUCTURES FOR PLACING AND REMOVING CONCRETE FORMWORK. DO NOT DISTURB THE BOTTOM OF THE EXCAVATION INTENDED FOR BEARING SURFACE. EXCAVATE BY HAND TO FINAL GRADE BEFORE PLACING CONCRETE FORMWORK AND REINFORCEMENT SO FOOTINGS AND FOUNDATIONS BEAR ON UNDISTURBED COMPACTED SOILS.

10. BACKFILL MATERIAL SHALL BE FREE OF ROCKS, SLAG, RUBBLE AND DEBRIS. BACKFILL SHALL BE PLACED IN LAYERS NOT TO EXCEED 6 INCHES LOOSE THICKNESS AND THOROUGHLY COMPACTED BY TAMPING OR ROLLING. WHERE BACKFILLING IS REQUIRED ON BOTH SIDES OF A FOUNDATION WALL, THE BACKFILL MATERIAL SHALL BE PLACED EQUALLY ON BOTH SIDES TO AVOID UNBALANCED SOIL PRESSURE ON ONE SIDE OF THE WALL.

11. TRENCHES UNDER PAVED AREAS SHALL BE BACKFILLED AND COMPACTED WITH "B" BORROW OR APPROVED GRANULAR MATERIAL PER INDOT STANDARD SPECIFICATIONS. GRANULAR MATERIAL SHALL EXTEND 5 FEET BEYOND THE PAVEMENT WITH A 1:1 SLOPE OUTWARD TO THE BOTTOM OF THE TRENCH.

Indiana 811
KNOW WHAT'S BELOW.
CALL BEFORE YOU DIG.
Call 811 or 800-382-5544 Before you Dig!

GRAPHIC SCALE
0' 30' 60' 90'
(IN FEET)

LEGEND:

EXISTING	PROPOSED	
		PROPERTY LINE
		EASEMENT LINE
		SETBACK LINE
		SWALE / FLOWLINE
OHE		OVERHEAD ELECTRIC LINE
800	800	CONTOUR, MAJOR
799	799	CONTOUR, MINOR
		SANITARY MANHOLE
		STORM MANHOLE
		STORM INLET
		FIRE HYDRANT
N/A		FLOW ARROW
	XXX.X	SPOT ELEVATION
N/A	XXX.XX	PAVEMENT ELEVATION
	XXX.XX TC XXX.XX GUT	TOP OF CURB GUTTER
		BENCHMARK
		WATER VALVE
		WATER METER
		GAS VALVE
		CLEAN OUT
		MONUMENT
		LIGHT POLE
		SIGN
		ELECTRIC RISER
		TELEPHONE RISER
		UTILITY POLE
		GUY ANCHOR
	FL	FLOW LINE
	ME	MATCH EXISTING GRADE
	FFE	FINISHED FLOOR ELEVATION
	NP	NORMAL POOL (ELEVATION)
	TB	TOP OF BANK GRADE (ELEVATION)
	TC	TOP OF CASTING GRADE / TOP OF CURB
	R/W	RIGHT-OF-WAY
		EMERGENCY FLOOD ROUTE

BENCHMARK INFORMATION:

ORIGINATING BENCHMARK:
STATE HIGHWAY DEPARTMENT OF INDIANA
BENCHMARK RAN-G-22
A BRONZE PLATE SET IN THE TOP OF THE NORTHEAST WINGWALL OF A 10-FOOT UNDERFILL SLAB TOP CULVERT, 30 FEET EAST OF THE CENTER OF US 27, 3.2 MILES SOUTH OF SR 32.
ELEV = 1154.93 (NAVD 88)
[N: 1778314.38 E: 525323.80] (SPCS IN E, US FT)

TBM #1
MAG NAIL WITH WASHER STAMPED "HWC ENGR RANDOM POINT" 17 FEET WEST OF THE CENTER OF US 27 AND 1300 FEET SOUTH OF CR 200 SOUTH. (CONTROL POINT #103)
ELEV = 1150.33 (NAVD 88)
[N: 1779655.07 E: 524744.48] (SPCS IN E, US FT)

TBM #2
5/8-INCH REBAR WITH RED CAP STAMPED "HWC ENGINEERING RANDOM PT" 25 FEET EAST OF THE CENTER OF US 27 AND 465 FEET SOUTH OF CR 200 SOUTH. (CONTROL POINT #102)
ELEV = 1143.56 (NAVD 88)
[N: 1780465.35 E: 524516.06] (SPCS IN E, US FT)

ELEVATIONS WERE ESTABLISHED UTILIZING NGS OPUS SOLUTION AND ON-SITE RTK GPS.

REVISIONS		
DATE	DESCRIPTION	BY
3/13/19	RAISED SITE GRADING	MWM

HWC ENGINEERING
INDIANAPOLIS - TERRE HAUTE
LAFAYETTE - MUNCIE - NEW ALBANY
www.hwcengineering.com

RANDOLPH COUNTY HIGHWAY GARAGE
RANDOLPH COUNTY, IN
SITE GRADING PLAN

MATTHEW W. MAPLE
REGISTERED
No. PE10809001
STATE OF INDIANA

DRAWN BY	JOB NUMBER 2018-089
TD	
CHECKED BY	
MM	
DATE	
AUGUST 2018	
SCALE	
AS SHOWN	

SHEET
C1.5
SITE GRADING PLAN

© 2018

Plot Date: Mar 13, 2019 Plot Time: 2:31pm File Name: W:\Cripe\2018-089-S Randolph Co Highway Garage\Design\CAD\18089.Site Grading Plan.dwg, Layout: C1.5 By: mmaple