

STANDARD NOTES

GENERAL CONSTRUCTION NOTES

- PROPERTY LINES SHALL BE FIELD VERIFIED PRIOR TO CONSTRUCTION. GRADING, CLEARING AND THE ERECTION OR REMOVAL OF FENCES ALONG PROPERTY LINES SHALL BE FULLY COORDINATED WITH ADJACENT PROPERTY OWNERS BEFORE BEGINNING CONSTRUCTION.
- VERIFY SITE CONDITIONS PRIOR TO CONSTRUCTION. NOTIFY THE CITY CONSTRUCTION INSPECTION OFFICE & ENGINEER OF ANY VARIATIONS PRIOR TO COMMENCEMENT OF WORK.
- CONTRACTOR SHALL MAINTAIN ACCESS TO ALL PROPERTIES.
- ALL CONSTRUCTION MATERIALS & PROCEDURES SHALL BE PER CITY CNST. STANDARDS AND SPECS., UNLESS NOTED.
- THE CONTRACTOR SHALL INSTALL AND MAINTAIN ALL EROSION CONTROL MEASURES PRIOR TO INITIATING CONSTRUCTION. SEE SPECIFIC NOTES, DRAWINGS, & DETAILS FOR MEASURES REQUIRED.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO INSURE THAT ALL REQUIRED BUILDING PERMITS HAVE BEEN OBTAINED PRIOR TO BEGINNING ANY CONSTRUCTION.
- ANY EXISTING ASPHALT PAVEMENT, PRIVACY FENCES AND WALLS, CONCRETE CURBS, OR SIDEWALKS DAMAGED AS A RESULT OF CONSTRUCTION ACTIVITY SHALL BE REPLACED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
- CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN AND CONSTRUCTION OF ANY TRENCH STABILIZATION REQUIRED BY OSHA CONSTRUCTION STANDARD FOR EXCAVATIONS, 29 CFR PART 1926, SUBPART P.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONSTRUCTION RELATED SURVEYING, INCLUDING ALL LAYOUT AND GRADE STAKING. THE CONTRACTOR WILL ALSO BE RESPONSIBLE FOR GEOTECHNICAL TESTING.
- CONTRACTOR SHALL NOTIFY THE CITY CONSTRUCTION INSPECTION OFFICE A MINIMUM OF 24 HOURS PRIOR TO BEGINNING CONSTRUCTION.

EROSION CONTROL NOTES

- IT IS THE CONTRACTOR'S RESPONSIBILITY TO INSURE THAT ALL REQUIRED PERMITS HAVE BEEN OBTAINED PRIOR TO BEGINNING ANY CONSTRUCTION OR OTHER ACTIVITY ON THE SITE.
- ALL NEWLY CUT OR FILL AREAS LACKING ADEQUATE VEGETATION SHALL BE FERTILIZED, MULCHED, SEEDDED, AND/OR SODDED TO EFFECTIVELY CONTROL SOIL EROSION.
- A SPECIFIC INDIVIDUAL SHALL BE DESIGNATED TO BE RESPONSIBLE FOR EROSION AND SEDIMENT CONTROLS ON EACH PROJECT SITE.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING SOIL EROSION CONTROL MEASURES AS NOTED ON THE PLANS, AS REQUESTED BY THE OWNER DURING CONSTRUCTION, AND AS NECESSARY TO PREVENT SEDIMENT FROM LEAVING THE SITE. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR SATISFYING THE REQUIREMENTS OF THE STATE OF TENNESSEE DEPARTMENT OF WATER POLLUTION CONTROL AS SET FORTH IN THE TENNESSEE EROSION & SEDIMENT CONTROL HANDBOOK. ALL SOIL EROSION CONTROL MEASURES SHALL BE MAINTAINED THROUGHOUT THE DURATION OF THE CONTRACT SO AS TO PREVENT ANY SEDIMENTATION FROM WASHING OFF THE SITE ONTO ADJACENT PROPERTY OR PUBLIC RIGHTS-OF-WAY. STRAW BALE DAMS AND/OR SEDIMENT FENCE SHALL BE INSTALLED AS DIRECTED. THE CONTRACTOR SHALL MAINTAIN A LOG OF ALL MAINTENANCE ACTIVITIES FOR THE EROSION CONTROL ELEMENTS AS REQUIRED BY THE STATE OF TENNESSEE DEPARTMENT OF WATER POLLUTION CONTROL.
- THE PERMIT SHALL BE POSTED ON-SITE AND A COPY OF THE EROSION CONTROL PLAN MUST BE AVAILABLE ON SITE FOR THE DWPC INSPECTOR ON REQUEST.
- EROSION AND SEDIMENT CONTROL MEASURE MUST BE IN PLACE AND FUNCTIONAL BEFORE EARTH MOVING OPERATIONS BEGIN, AND MUST BE CONSTRUCTED AND MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD. TEMPORARY MEASURES MAY BE REMOVED AT THE BEGINNING OF THE WORK DAY, BUT MUST BE REPLACED AT THE END OF THE WORK DAY OR PRIOR TO RAINFALL EVENTS.
- ALL CONTROL MEASURES SHALL BE CHECKED PER THE SWPPP AND STATE REQUIREMENTS. MAINTENANCE AND REPAIRS SHALL BE MADE AS NECESSARY. DURING PROLONGED RAINFALL, DAILY CHECKING AND REPAIRING MAY BE NECESSARY. THE PERMITTEE SHALL MAINTAIN RECORDS OF INSPECTION CHECKS, MAINTENANCE AND REPAIRS.

UTILITY NOTES

- CONTRACTOR SHALL PROVIDE TVA A MINIMUM OF 48 HOURS ADVANCE NOTICE PRIOR TO COMMENCING CONSTRUCTION. CONTRACTOR SHALL ADVISE BY ALL STATE LAWS AND OSHA REQUIREMENTS CONCERNING CONSTRUCTION ACTIVITIES NEAR ENERGIZED ELECTRIC FACILITIES SO AS TO PROTECT PERSONNEL AND SAID FACILITIES.
- LOCATION OF EXISTING UNDERGROUND UTILITIES ARE APPROXIMATE AND NOT NECESSARILY ALL OF SAME. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING THE APPROPRIATE UTILITY COMPANY TO DETERMINE THE EXACT LOCATION OF ALL UTILITIES AND UNDERGROUND STRUCTURES PRIOR TO THE INITIATION OF ANY CONSTRUCTION. CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR DAMAGE TO ANY UTILITIES ENCOUNTERED WITHIN CONSTRUCTION LIMITS, WHETHER SHOWN OR NOT. CONTRACTOR SHALL ALSO ASSUME FULL RESPONSIBILITY FOR DAMAGE TO ANY UTILITIES ENCOUNTERED WITHIN CONSTRUCTION LIMITS. FOR SITE LOCATION OF EXISTING UTILITIES, PLEASE CALL 1-800-351-1111. FOR SEWER LOCATIONS, CALL CITY OF MILLINGTON PUBLIC WORKS DEPT.

TRAFFIC CONTROL NOTES

- THE CONTRACTOR IS DIRECTED TO AND SHALL CONFORM TO PART 6 OF THE "MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS" FOR THE DESIGNATION OF CONSTRUCTION WARNING SIGNS AND CHANNELIZATION DEVICES. CONTRACTOR SHALL PROVIDE, ERECT AND MAINTAIN ALL WARNING SIGNS AND SAFETY DEVICES AS REQUIRED FOR THE DURATION OF CONSTRUCTION.
- CONTRACTOR SHALL COVER ANY EXISTING SIGNS THAT MAY CONFLICT WITH THE TRAFFIC CONTROL PLAN SIGNING.
- SEE PAGE 6B-3 M.U.T.C.D. FOR HEIGHT AND LATERAL LOCATION OF SIGNS.
- CONTRACTOR SHALL CONTACT ALL APPROPRIATE AGENCIES BEFORE CLOSING ANY ROADWAY.
- ADDITIONAL TRAFFIC CONTROL DEVICES MAY BE REQUIRED DURING VARIOUS PHASES OF CONSTRUCTION.
- NOTHING IN THIS PLAN IS INTENDED TO SUPERSEDE OR RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY OF INSTALLING APPROPRIATE TRAFFIC CONTROL DEVICES IN ACCORDANCE WITH THE CURRENT "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" FOR STREETS AND HIGHWAYS".
- SIDE STREET AND DRIVEWAY ACCESS SHALL BE MAINTAINED AT ALL TIMES. VEHICULAR AND PEDESTRIAN ACCESS TO ALL STRUCTURES AND ADJACENT PROPERTY OWNERS SHALL BE MAINTAINED DURING ALL PHASES OF CONSTRUCTION.
- THE CONTRACTOR SHALL NOT LEAVE ANY TRENCH EXPOSED DURING NON WORKING HOURS. TRENCHES LEFT EXPOSED DURING WORKING HOURS SHALL BE BOUNDED BY AN INTERCONNECTED PORTABLE BARRIER RAIL WITH VERTICAL PANELS.
- ALL TRAFFIC CONTROL SIGNAGE WITH THE EXCEPTION OF THOSE MOUNTED ON TYPE III BARRICADES SHALL BE INSTALLED OUTSIDE THE LIMITS OF THE ROADWAY, BUT WITHIN THE RIGHT OF WAY.
- TWO WAY TRAFFIC SHALL BE MAINTAINED AFTER NORMAL WORKING HOURS (8:00 A.M. -- 4:00 P.M. NORMAL WORKING HOURS).
- ALL BARRELS IN DIRECT CONFLICT OF TWO WAY TRAFFIC SHALL BE MOVED TO THE EDGE OF THE EXISTING ROAD DURING NON-WORKING HOURS AND MOVED BACK BEFORE WORK CONTINUES THE NEXT DAY.
- ALL SIGNS INDICATING ONE LANE OR FLAGMAN SHALL BE COVERED DURING NON-WORKING HOURS AND MUST BE UNCOVERED BEFORE WORK CONTINUES THE NEXT DAY.
- CHANNELIZING DEVICES ARE TO BE EXTENDED TO A POINT WHERE THEY ARE VISIBLE TO APPROACHING TRAFFIC.

GRADING AND DRAINAGE NOTES

- MINIMUM COMPACTION REQUIREMENTS FOR FILL IN AREAS MAY BE ACHIEVED BY PLACING THE FILL IN 8" THICK LOOSE LIFTS AND COMPACTING TO MINIMUM OF 95 PERCENT OF STANDARD PROCTOR DENSITY WITH MOISTURE CONTENT OF COHESIVE FILL MATERIAL MAINTAINED WITHIN TWO TO THREE (2 - 3) PERCENTAGE POINTS OF OPTIMUM AS DEFINED BY THE STANDARD PROCTOR TEST. COMPACTION REQUIREMENTS FOR LAWN AREAS SHALL BE 85 PERCENT OF STANDARD PROCTOR.
- GEOTECHNICAL TESTING AND FREQUENCY: TEST PROPOSED MATERIALS TO VERIFY SUITABILITY FOR USE. GRADUATION OF MATERIAL, MOISTURE-DENSITY RELATION BY D698 STANDARD PROCTOR METHOD, ATTERBERG LIMITS, BEARING VALUE, AND PERCENT OF ORGANIC MATERIALS. TEST FREQUENCY WILL BE AT LEAST 1 (ONE) TEST FOR EACH 2500 S.F. OF FILLED AREA. EACH LIFT WILL BE TESTED TO VERIFY COMPACTION MEETS REQUIREMENTS. REPORTS OF TESTING RESULTS WILL BE SENT TO CIVIL ENGINEERING SOLUTIONS, LLC.
- WHEN FIELD TESTS INDICATE THAT INSTALLED COMPACTED MATERIAL DO NOT MEET REQUIREMENTS, THE CONTRACTOR WILL PROVIDE ADDITIONAL COMPACTION UNTIL SPECIFIED DENSITY IS ACHIEVED, OR REMOVE AND REPLACE DEFECTIVE MATERIAL AS DIRECTED BY SOILS ENGINEER AT NO ADDITIONAL COST TO THE OWNER.
- SITE PREPARATION: ALL TOPSOIL, VEGETATION, ROOTS, AND ANY SOFT SOILS IN THE BUILDING OR PAVEMENT AREAS WILL BE STRIPPED FROM THE GROUND SURFACE AND EITHER HAULED OFF, OR STOCKPILED AS DIRECTED BY THE ENGINEER FOR LATER USE.
- PROPOSED CONTOURS AND SPOT ELEVATIONS INDICATE TOP OF FINISHED GRADE UNLESS OTHERWISE NOTED. PROPOSED GRADES SHOWN IN PROFILE ARE TOP OF CURB ELEVATIONS UNLESS NOTED.
- FINISH GRADE SHALL BE SLOPED AWAY FROM THE FOUNDATION FOR DRAINAGE. THE FINISH GRADE MUST BEGIN AT LEAST 12 INCHES BELOW THE TOP OF THE FOUNDATION WALL OR THE GRADE OF THE CONCRETE SLAB AT THE INTERIOR IN THE CASE OF AN INTEGRAL SLAB AND FOUNDATION. THE MINIMUM GRADE AWAY FROM THE FOUNDATION SHALL BE AT LEAST TWO PERCENT IN ALL DIRECTIONS AWAY FROM THE FOUNDATION WALL. THE DRIVEWAY SHALL BE SLOPED DOWN AT TWO PERCENT FOR AT LEAST EIGHT FEET FROM THE STRUCTURE.
- ALL PROPOSED DRAINAGE PIPES TO BE REINFORCED CONCRETE CLASS III UNLESS OTHERWISE NOTED.
- PIPE FOUNDATIONS: PIPE FOUNDATIONS ON TRENCH BOTTOM SHALL BE LINED WITH APPROVED FILL. THICKNESS OF THE FILL MAT SHALL BE AT LEAST 4".
- BACKFILL REQUIREMENTS: ALL TRENCHES EXCAVATED FOR THE INSTALLATION OF DRAINAGE, PRIVATE SANITARY SEWER, WATER OR ANY UTILITY IN PROPOSED PAVED AREAS SHALL BE COMPACTED AS OUTLINED BELOW:
 - WATER SETTLING, PUDDLING AND/OR JETTING OF BACKFILL MATERIALS AS A COMPACTION METHOD ARE NOT ACCEPTABLE.
 - BACKFILL UNDER, AROUND AND OVER PIPE: IMMEDIATELY AFTER LAYING PIPE, BACKFILL THE TRENCH WITH APPROVED FILL TO AN ELEVATION OF 12" ABOVE THE TOP OF PIPE, MAKING CERTAIN THAT THE FILL IS COMPACTED AROUND THE HAUNCHES OF THE PIPE. GRADE AT 12" ABOVE PIPE TO BE COMPACTED TO 70% RELATIVE DENSITY (ASTM D4254) FROM 12" ABOVE TOP OF PIPE TO FINISHED GRADE OR PAVEMENT SUBGRADE, BACKFILL WITH A CLEAN SUITABLE FILL MATERIAL IN LOOSE LIFTS OF NOT MORE THAN 8" IN THICKNESS. BACKFILL TO BE COMPACTED TO 95% OF MATERIAL'S MAXIMUM DRY DENSITY AS DETERMINED BY THE STANDARD PROCTOR COMPACTION TEST (ASTM D698). THE MATERIAL'S MOISTURE CONTENT WILL BE MAINTAINED TO WITHIN 2% OF ITS OPTIMUM MOISTURE.
 - TESTING: IN-PLACE DENSITY TESTS SHOULD BE PERFORMED AT FILL GRADE (12" ABOVE TOP OF PIPE) AND AT EVERY 8" LIFT OF FILL TO FINISHED GRADE FOR EVERY 50 LINEAL FEET OF PIPE.
 - PRIOR TO PLACEMENT OF BASE MATERIAL, THE AREA TO BE PAVED SHALL BE PROOF-ROLLED. ANY SUBGRADE FAILING THE PROOF-ROLL SHALL BE TESTED, AND IF TEST RESULTS FALL BELOW THE SPECIFIED LEVEL IN AN AREA DISTURBED BY THE CONTRACTOR, THE SUBGRADE IN THAT AREA SHALL BE REWORKED TO ACHIEVE THE DENSITY SPECIFIED. ALL SUCH REWORK SHALL BE CONSIDERED INCIDENTAL TO THE SCOPE OF THE PROJECT AND/OR CONTRACT AND SHALL BE AT THE EXPENSE OF THE CONTRACTOR.

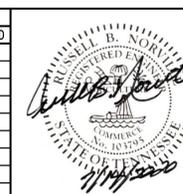
SEWER NOTES

- THE CONTRACTOR SHALL ENSURE UNINTERRUPTED SEWER SERVICES ON EXISTING SEWER AND SERVICE CONNECTIONS BY PROVIDING AMPLE TEMPORARY WASTEWATER PUMPING AND/OR BYPASSING.
- SANITARY SEWER SERVICE CONNECTIONS TO BE INSTALLED AS PER CITY STANDARD. ALL SEWER TRENCHES SHALL BE BACKFILLED AS PER CITY STANDARD.
- THE CITY SHALL HAVE INGRESS/EGRESS RIGHTS TO USE PRIVATE DRIVES AND YARDS FOR THE PURPOSE OF MAINTAINING ALL PUBLIC SEWER LINES AND SHALL BEAR NO RESPONSIBILITY FOR THE MAINTENANCE OF SAID PRIVATE DRIVES AND YARDS.
- NO LARGE TREES, SHRUBS, PERMANENT STRUCTURES OR OTHER UTILITIES (EXCEPT FOR CROSSINGS) WILL BE ALLOWED WITHIN THE PUBLIC SANITARY SEWER EASEMENT.
- SERVICE CONNECTIONS SHALL BE FIELD LOCATED, AND CONTRACTOR SHALL ASSURE THAT ALL EXISTING SERVICE CONNECTIONS EXTENDING TO RIGHT-OF-WAY SHALL BE RECONNECTED TO NEW SEWER LINES.
- A "S" SHALL BE IMPRESSED INTO THE WET CONCRETE CURB TO MARK THE LOCATION OF THE SEWER SERVICE LINE.

WATER SPECIFICATIONS

- CONTRACTOR SHALL PROVIDE WATER SERVICE PER CITY STANDARD SPECIFICATIONS. METERS WILL BE PROVIDED BY CITY. CONTRACTOR SHALL SET METER AND RUN SERVICE TO HOUSE.
- ALL MATERIALS AND INSTALLATION SHALL CONFORM WITH THE STANDARD SPECIFICATIONS OF THE CITY.
- ALL WATER MAINS SHALL BE CLASS 200 PVC OR APPROVED EQUAL AS PER CITY SPECIFICATIONS.
- ALL FITTINGS SHALL BE MECHANICAL JOINT FITTINGS AS PER CITY SPECIFICATIONS.
- BLOCKING OF FIRE HYDRANTS, TEES AND BENDS REQUIRED AS PER CITY AND STATE SPECIFICATIONS.
- ALL WATER SADDLES SHALL BE BRASS ONLY.
- WATER LINES, VALVES, FITTINGS AND HYDRANTS SHALL BE INSTALLED, DISINFECTED, PRESSURE TESTED AND LEAKAGE TESTED IN ACCORDANCE WITH ALL STATE AND CITY REQUIREMENTS.
- A "W" SHALL BE IMPRESSED INTO THE WET CONCRETE CURB TO MARK THE LOCATION OF THE WATER SERVICE LINE.
- ALL INSTALLATION SHALL BE ACCORDING TO CITY'S STANDARD SPECIFICATIONS. THE CONTRATOR UNDERSTANDS THAT IT IS HIS RESPONSIBILITY TO FAMILIARIZE HIMSELF WITH THE STANDARD SPECIFICATIONS. KING ENGINEERING MUST INSPECT AND APPROVE ALL MATERIAL BEFORE INSTALLATION AND ALL INSTALLATIONS.

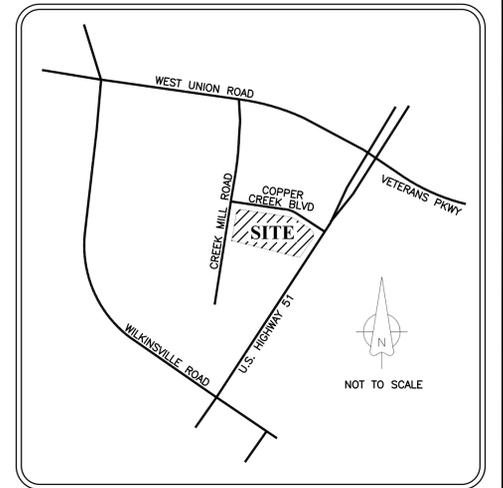
REVISIONS		
DATE	DESCRIPTIONS	APPROVED



SHELBY MALL SUBDIVISION - LOT 1
MARGARITAS RESTAURANT
 DEVELOPER: JOSE FLORES
 ENGINEER: CIVIL ENGINEERING SOLUTIONS, LLC.

Sheet 1 of 1

CIVIL NOTES
 LOCATION: COPPER CREEK DRIVE AT CREEK MILL ROAD
MILLINGTON, TENNESSEE
 SURVEY JB MORRIS DATE 6/2020 BOOK _____
 DRAFTED C.E.S. DATE 7/14/20 SCALE NTS
 DESIGN C.E.S. DATE 7/14/20 CHECKED _____ DATE _____
 APPROVED _____
 CITY ENGINEER _____ DATE _____



VICINITY MAP

SITE DATA:

PROJECT INFORMATION
 NAME: MARGARITAS RESTAURANT
 LOCATION: COPPER CREEK & CREEK MILL ROAD
 SHELBY MALL SUBDIVISION - LOT 1

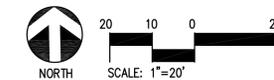
OWNER:
 JOSE FLORES
 1625 OLD MEMPHIS ROAD
 COVINGTON, TN 38019

SITE AREA: 1.26 ACRES
 ZONING DISTRICT: B-2 (GENERAL COMMERCIAL)
 PROPOSED USE: RESTAURANT
 BUILDING AREA: 5,200 SQUARE FEET
 FLOOR AREA RATIO: 9.47%
 BUILDING HEIGHT: 24'-6" FEET
 PERVIOUS AREA: 24%
 IMPERVIOUS AREA: 76%
 BUILDING SETBACKS: FRONT - 50'
 SIDE - 10'
 REAR - 20'

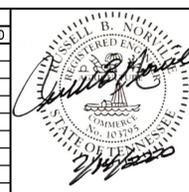
PARKING: PARKING REQUIRED 26
 PARKING PROVIDED 65
 HANDICAP PROVIDED 4
 TOTAL PARKING PROVIDED 69

NOTES:

- Referenced Bench Mark: A disk, named Y 261, set in top of the northeast end of the concrete headwall of a triple channel culvert and on the east side of U. S. Highway 51 and on the south side of Shipp Road. Bench Mark elevation is 284.45 (NAVD 1988).
- Site Bench Mark: A chiseled square on top of and at the southwest end of the concrete headwall of a 36" concrete pipe west of U.S. Highway 51 and 97' south of center of Copper Creek Blvd. Mark elevation is 283.28 (NAVD 88).
- BOUNDARY & TOPOGRAPHIC SURVEY PROVIDED BY J. BRANTLEY MORRIS DATED 06/2020.
- THIS PROPERTY IS NOT LOCATED IN A SPECIAL FLOOD HAZARD AREA PER F.E.M.A. FLOOD INSURANCE RATE MAP, MAP NUMBER 47157C0160G, DATED FEBRUARY 08, 2013.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING THE CITY BUILDING DEPARTMENT A MINIMUM 24 HOURS PRIOR TO INITIATION OF ANY CONSTRUCTION.
- CONTRACTOR SHALL CONFIRM ALL EXISTING CONDITIONS, INCLUDING LOCATION, SIZE AND INVERT ELEVATIONS FOR ALL PIPES.
- ALL CONSTRUCTION TO BE IN ACCORDANCE WITH THE 2010 AMERICANS WITH DISABILITIES ACT (ADA) STANDARDS FOR ACCESSIBLE DESIGN.
- SEE ARCHITECTURAL PLANS FOR ADDITIONAL INFORMATION AND DETAILS FOR BUILDING ENTRANCES, SIDEWALKS, AND HANDICAP ACCESS, MECHANICAL AND PLUMBING INFORMATION.
- SEE DETAIL SHEET AND GENERAL NOTES SHEET FOR ADDITIONAL INFORMATION PERTAINING TO THIS SHEET.
- DETENTION NOTE
 THE AREA DENOTED BY "RESERVED FOR STORMWATER DETENTION" SHALL NOT BE FILLED OR USED FOR ANY OTHER PURPOSE WITHOUT FIRST OBTAINING WRITTEN PERMISSION FROM THE CITY ENGINEER. THE STORMWATER DETENTION SYSTEMS LOCATED IN THESE AREA(S) SHALL BE OWNED AND MAINTAINED BY THE OWNERS OF THIS LOT. SUCH MAINTENANCE SHALL BE PERFORMED SO AS TO INSURE THE SYSTEM OPERATES IN ACCORDANCE WITH THE APPROVED PLANS LOCATED WITH THE CITY OF PIPERTON. SUCH MAINTENANCE SHALL INCLUDE, BUT NOT BE LIMITED TO, THE REMOVAL OF SEDIMENTATION, FALLEN OBJECTS, DEBRIS AND TRASH, MOWING, OUTLET CLEANING AND THE REPAIR OF DRAINAGE STRUCTURES.



REVISIONS		
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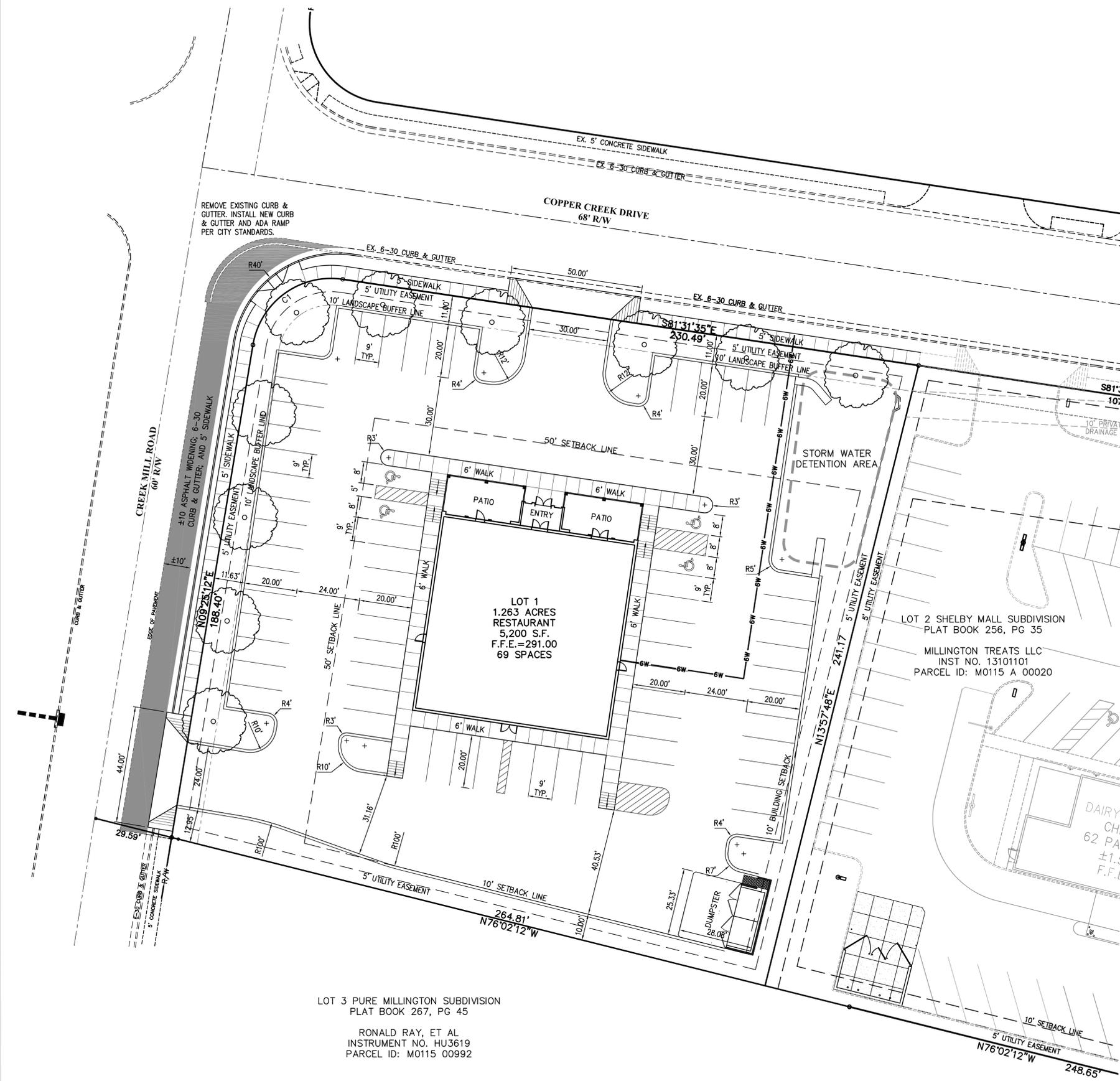


SHELBY MALL SUBDIVISION - LOT 1
MARGARITAS RESTAURANT
 DEVELOPER: JOSE FLORES
 ENGINEER: CIVIL ENGINEERING SOLUTIONS, LLC.

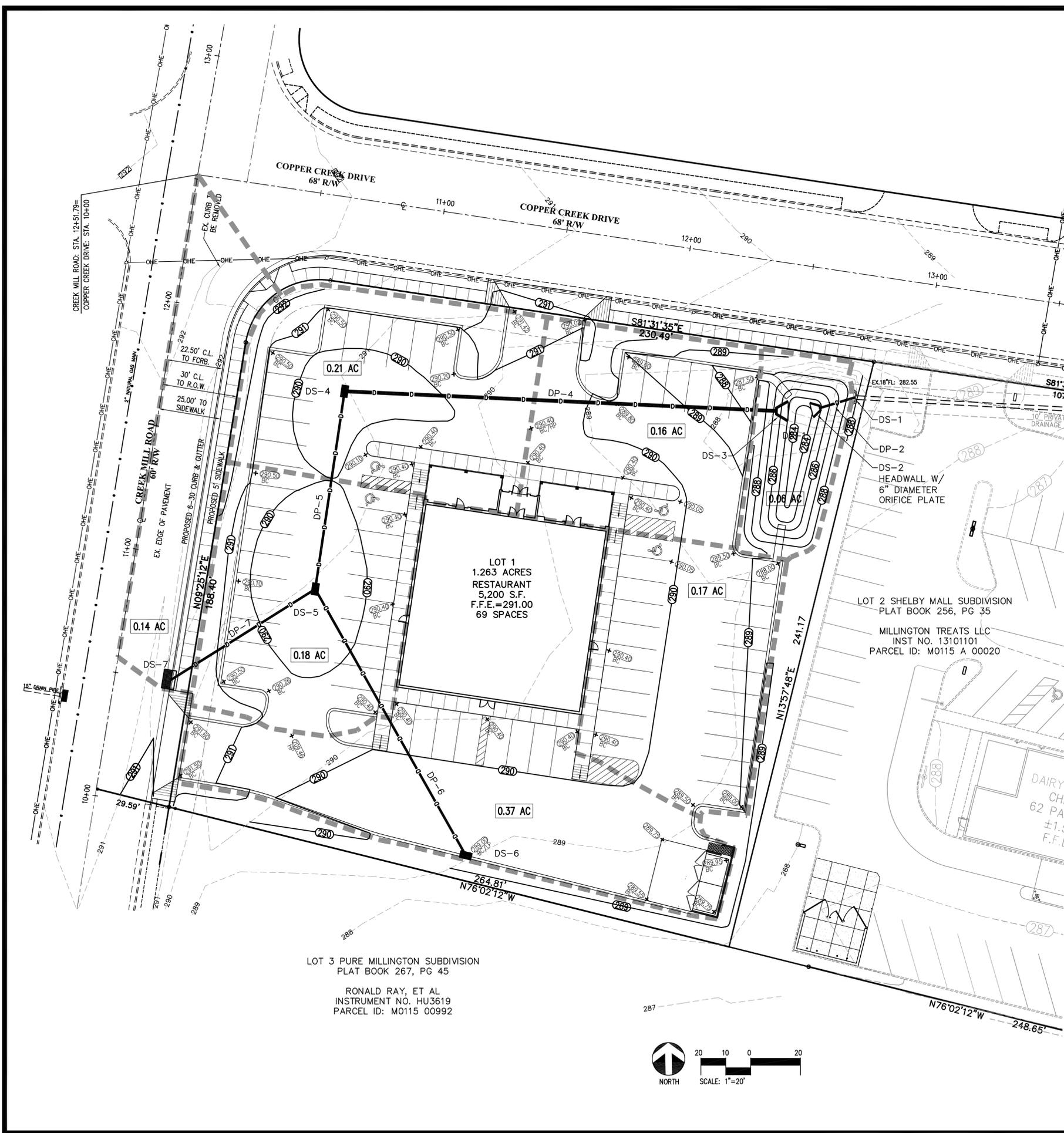
Sheet 1 of 1

SITE PLAN
 LOCATION: COPPER CREEK DRIVE AT CREEK MILL ROAD
 MILLINGTON, TENNESSEE

SURVEY J.B. MORRIS DATE 6/2020 BOOK
 DRAFTED C.E.S. DATE 7/14/20 SCALE 1"=20'
 DESIGN C.E.S. DATE 7/14/20 CHECKED DATE
 APPROVED
 CITY ENGINEER DATE

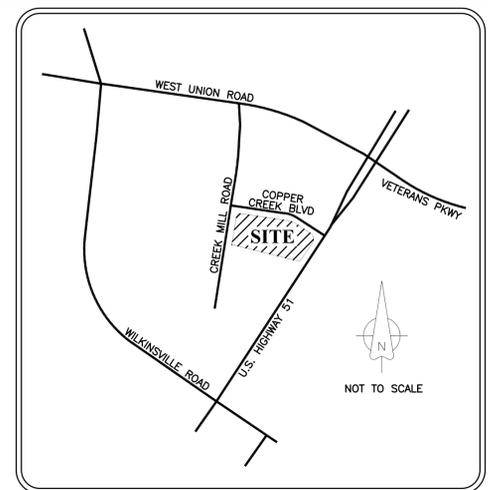


LOT 3 PURE MILLINGTON SUBDIVISION
 PLAT BOOK 267, PG 45
 RONALD RAY, ET AL
 INSTRUMENT NO. HU3619
 PARCEL ID: M0115 00992



LEGEND:

- PROPOSED CONTOUR
- EXISTING CONTOUR
- PROPOSED SPOT ELEVATION (SURFACE UNLESS NOTED)
- PROPOSED SPOT ELEVATION TOP OF CURB
- PROPOSED SPOT ELEVATION BOTTOM OF CURB
- PROPOSED SPOT ELEVATION HIGH POINT
- PROPOSED PRIVATE DRAINAGE
- EXISTING DRAINAGE
- DRAINAGE DIVIDE
- RIDGE LINE
- DRAINAGE AREA



NORTH DETENTION BASIN DESIGN INFORMATION

PRE-DEVELOPMENT CONDITIONS	
DRAINAGE AREA TO BASIN: AREA = 1.15 ACRES	
C=0.3; Tc = 6 mins.; A = 1.15 AC	
Q10 = 1.62 CFS Q100 = 2.04 CFS	
POST-DEVELOPMENT CONDITIONS	
AREA TO DETENTION BASIN: DRAINAGE AREA = 1.15 ACRES	
COMPOSITE C = 0.85 TIME OF CONCENTRATION; Tc = 6 mins.	
Q10 = 6.86 CFS Q100 = 8.48 CFS	
MODELED DISCHARGE FROM BASIN: Q25 = 1.68 CFS Q100 = 1.80 CFS	
BASIN OUTLET STRUCTURE: 12 L.F. OF 12" RCP PIPE AT 1.33% INVERT ELEVATION AT OUTLET = 283.00 4 WIDE FT EARTHEN WEIR AT ELEV=287.00	
NOTE: ALL CALCULATIONS BY THE RATIONAL METHOD	

Drainage Pipe Data

Drainage Pipe Code	Downstream Structure Code	Invert Elevation	Upstream Structure Code	Invert Elevation	Grade (%)	Size	Type	Length	Area (Ac)	Q Design (cfs)	Q Capacity (cfs)	Velocity (ft/sec)
DP-2	DS-1	282.80	DS-2	283.00	1.33	12"	HP	15'	1.29	1.68	4.14	5.27
DP-4	DS-3	283.80	DS-4	284.68	0.50	18"	HP	174'	0.90	6.31	8.04	4.55
DP-5	DS-4	284.73	DS-5	285.13	0.50	18"	HP	80'	0.69	4.85	8.04	4.55
DP-6	DS-4	285.63	DS-6	286.25	0.50	12"	HP	123'	0.37	2.67	4.95	4.03
DP-7	DS-5	285.63	DS-6	287.00	2.00	12"	HP	68'	0.14	1.00	5.03	6.41

Drainage Structure Data

Drainage Structure Code	Structure Type	RIM/Throat Opening	Area (Ac)
DS-1	DMH	288.00	-
DS-2	D' HW	-	1.15
DS-3	E' HW	-	-
DS-4	#11	289.40	0.21
DS-5	#11	289.40	0.18
DS-6	#11	289.00	0.37
DS-7	6-72	291.36	0.14

NOTE: STORM DRAINAGE SYSTEM IS DESIGN FOR 10 YEAR STORM EVENT USING RATIONAL METHOD.

#11 - CITY OF MEMPHIS #11 SURFACE GRATE INLETS (RIM ELEV IS TOP OF CURB)
DMH - DRAIN MANHOLE
D' HW - STANDARD WING HEADWALL
E' HW - ENERGY DISSIPATOR HEADWALL

ALL DRAIN PIPES & FITTINGS SHALL BE EITHER:
- REINFORCED CONCRETE PIPE (RCP) OR
- HP (ADS HP PIPE WITH WATER TIGHT JOINTS)

DRAIN STRUCTURES SHALL BE PRE-CAST CONCRETE.

DP: DRAINAGE PIPE DESIGNATOR
DS: DRAINAGE STRUCTURE DESIGNATOR
NOTE: ALL PIPES ARE NUMBER FROM UPSTREAM STRUCTURE (E.G., DP-10 IS THE DOWNSTREAM PIPE OF DS-10)

POND DESIGN ROUTING INFORMATION

TOTAL AREA THRU BASIN:

ON-SITE TO BASIN = 1.15 AC

10 YR. MAX. WATER SERVICE ELEVATION IN POND = 286.46
10 YR. MAX. DISCHARGE FROM POND = 1.68 CFS

100 YR. MAX. WATER SERVICE ELEVATION IN POND = 286.93
100 YR. MAX. DISCHARGE FROM POND = 1.80 CFS

STAGE-STORAGE DISCHARGE TABLE

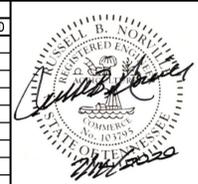
STAGE (FT)	ELEVATION (FT)	STORAGE (CU-FT)	DISCHARGE (CFS)
0.00	283.00	0	0
1.00	284.00	88.5	0.82
2.00	285.00	430	1.25
3.00	286.00	1,129	1.59
4.00	287.00	2,257	1.83
5.00	288.00	3,893	29.78

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- SEE ARCHITECTURAL PLANS FOR BUILDING LAYOUT AND ADDITIONAL SITE DETAILS. (I.E., BUILDING DIMENSIONS, ENTRANCES, CANOPY, SIDEWALKS, DUMPSTER ENCLOSURE, SLAB AND FOUNDATION INFO, ETC.).
- SEE DETAIL SHEET AND GENERAL NOTES SHEET FOR ADDITIONAL INFORMATION PERTAINING TO THIS SHEET.

REVISIONS

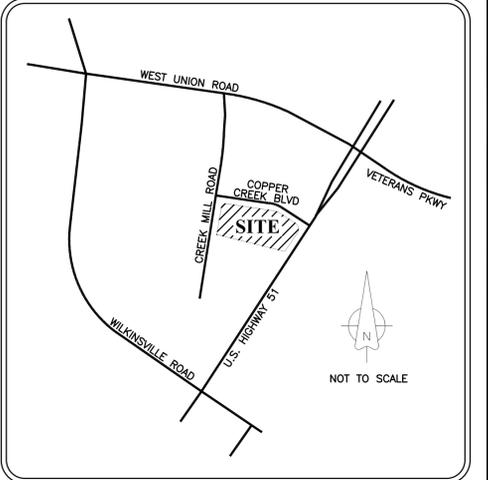
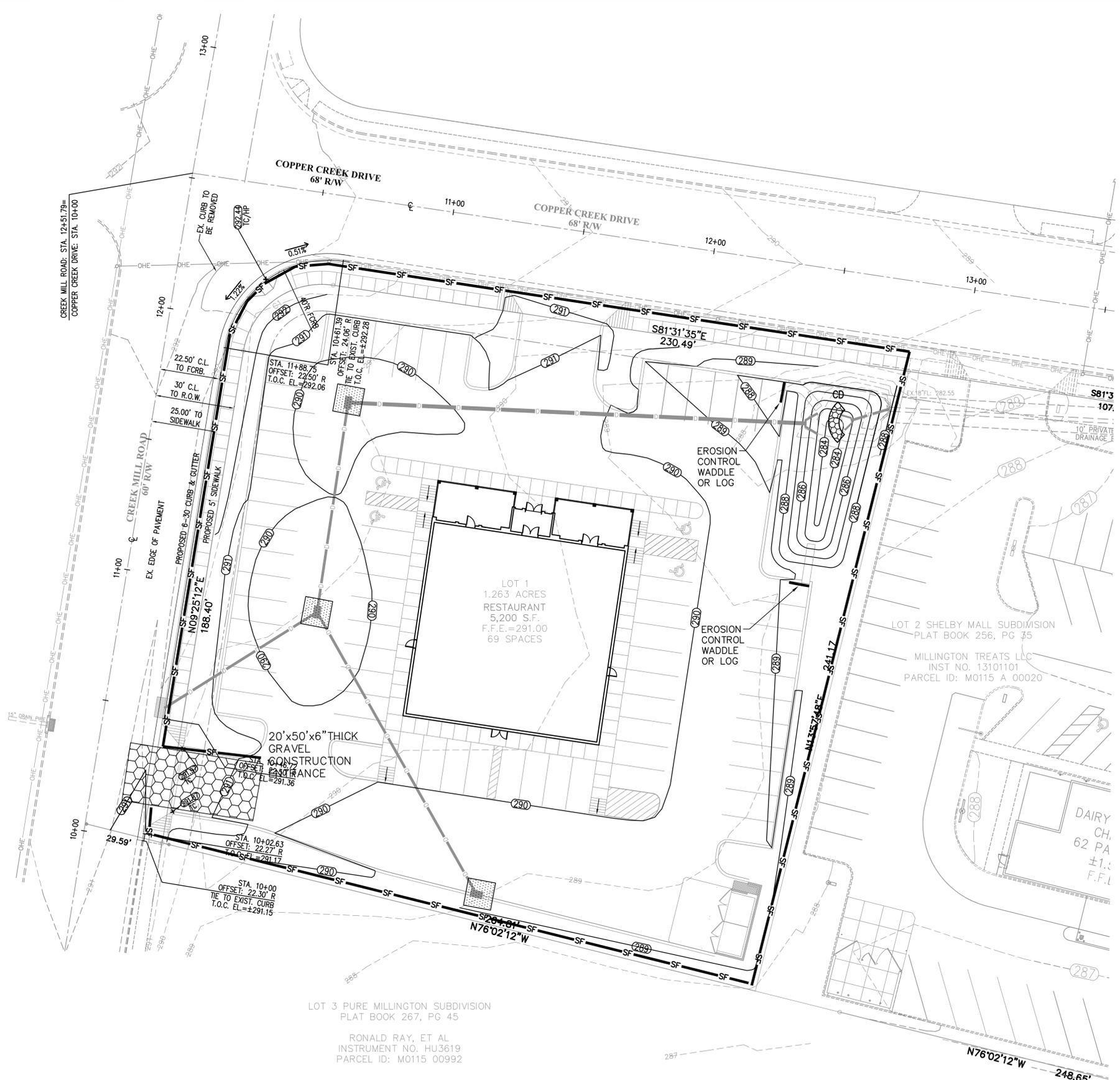
DATE	DESCRIPTIONS	APPROVED



SHELBY MALL SUBDIVISION - LOT 1
MARGARITAS RESTAURANT
DEVELOPER: JOSE FLORES
ENGINEER: CIVIL ENGINEERING SOLUTIONS, LLC.

GRADING & DRAINAGE PLAN
LOCATION: COPPER CREEK DRIVE AT CREEK MILL ROAD
MILLINGTON, TENNESSEE

SURVEY: J.B. MORRIS DATE: 6/2020 BOOK: _____
DRAFTED: C.E.S. DATE: 7/14/20 SCALE: 1"=20'
DESIGN: C.E.S. DATE: 7/14/20 CHECKED: _____ DATE: _____
APPROVED: _____
GITY ENGINEER: _____ DATE: _____



EROSION CONTROL NOTES

- IT IS THE CONTRACTOR'S RESPONSIBILITY TO INSURE THAT ALL REQUIRED PERMITS HAVE BEEN OBTAINED PRIOR TO BEGINNING ANY CONSTRUCTION OR OTHER ACTIVITY ON THE SITE.
- ALL NEWLY CUT OR FILL AREAS LACKING ADEQUATE VEGETATION SHALL BE FERTILIZED, MULCHED, SEEDED, AND/OR SODDED TO EFFECTIVELY CONTROL SOIL EROSION.
- A SPECIFIC INDIVIDUAL SHALL BE DESIGNATED TO BE RESPONSIBLE FOR EROSION AND SEDIMENT CONTROLS ON EACH PROJECT SITE. INSPECTOR SHALL BE LEVEL I CERTIFIED IN ACCORDANCE WITH TDEC REQUIREMENTS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING SOIL EROSION CONTROL MEASURES AS NOTED ON THE PLANS, AS REQUESTED BY THE OWNER DURING CONSTRUCTION, AND AS NECESSARY TO PREVENT SEDIMENT FROM LEAVING THE SITE. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR SATISFYING THE REQUIREMENTS OF THE STATE OF TENNESSEE DEPARTMENT OF WATER POLLUTION CONTROL AS SET FORTH IN THE TENNESSEE EROSION & SEDIMENT CONTROL HANDBOOK. ALL SOIL EROSION CONTROL MEASURES SHALL BE MAINTAINED THROUGHOUT THE DURATION OF THE CONTRACT SO AS TO PREVENT ANY SEDIMENTATION FROM WASHING OFF THE SITE ONTO ADJACENT PROPERTY OR PUBLIC RIGHTS-OF-WAY. SEDIMENT FENCE SHALL BE INSTALLED AS DIRECTED. THE CONTRACTOR SHALL MAINTAIN A LOG OF ALL MAINTENANCE ACTIVITIES FOR THE EROSION CONTROL ELEMENTS AS REQUIRED BY THE STATE OF TENNESSEE DEPARTMENT OF WATER POLLUTION CONTROL.
- THE PERMIT SHALL BE POSTED ON-SITE AND A COPY OF THE EROSION CONTROL PLAN MUST BE AVAILABLE ON SITE FOR THE DWPC INSPECTOR ON REQUEST.
- EROSION AND SEDIMENT CONTROL MEASURE MUST BE IN PLACE AND FUNCTIONAL BEFORE EARTH MOVING OPERATIONS BEGIN, AND MUST BE CONSTRUCTED AND MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD. TEMPORARY MEASURES MAY BE REMOVED AT THE BEGINNING OF THE WORK DAY, BUT MUST BE REPLACED AT THE END OF THE WORK DAY OR PRIOR TO RAINFALL EVENTS.
- ALL CONTROL MEASURES SHALL BE CHECKED PER THE SWPPP AND STATE REQUIREMENTS. MAINTENANCE AND REPAIRS SHALL BE MADE AS NECESSARY. DURING PROLONGED RAINFALL, DAILY CHECKING AND REPAIRING MAY BE NECESSARY. THE PERMITTEE SHALL MAINTAIN RECORDS OF INSPECTION CHECKS, MAINTENANCE AND REPAIRS.

ANTICIPATED CONSTRUCTION SEQUENCE

- MINOR DEMOLICATION.
- INSTALL CONSTRUCTION ENTRANCE.
- INSTALL EROSION CONTROL LOGS/WADDLE; SILT FENCE & INLET PROTECTION.
- STRIP AND REMOVE TOP SOIL.
- EARTHWORK OPERATION (GRADING).
- INSTALL CURBS AND PARKING LOT.
- INSTALLATION OF LANDSCAPING.
- PROVIDE NECESSARY EROSION CONTROL SODDING AND SEEDING IN REMAINING AREAS.
- REMOVE TEMPORARY SEDIMENT CONTROL MEASURES AFTER SITE IS STABILIZED.

TENNESSEE N.P.D.E.S. PERMIT FOR STORM WATER DISCHARGE
 EFFECTIVE DATE: _____
 TRACKING NO.: TNR _____

LEGEND:

- 302— PROPOSED CONTOUR
- 299— EXISTING CONTOUR
- SF-SF- SEDIMENTATION FENCING
- IP INLET PROTECTION
- ROCK CONSTRUCTION ENTRANCE
- CD ROCK CHECK DAM

INITIAL PHASE – MEANS EROSION CONTROL MEASURES TO BE INSTALLED INITIALLY AND PRIOR TO BEGINNING OF TOP SOIL REMOVAL AND/OR ANY START OF EARTHWORK OPERATION.

CONSTRUCTION STAGE – MEANS EROSION CONTROL MEASURES THAT SHALL BE INSTALLED DURING OR FOLLOWING MAJOR EARTHWORK GRADING OPERATION AND FINAL STABILIZATION.

REVISIONS		
DATE	DESCRIPTIONS	APPROVED

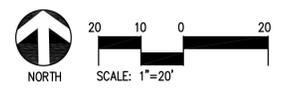


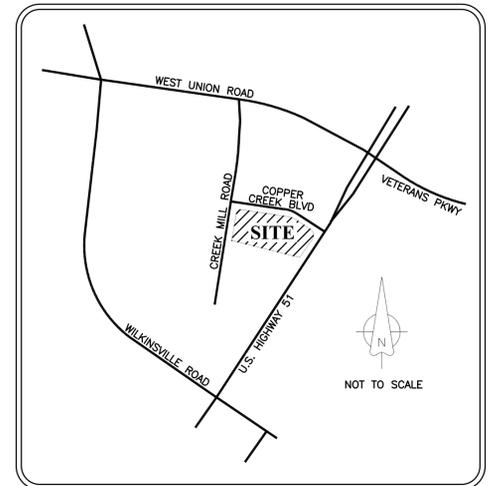
SHELBY MALL SUBDIVISION – LOT 1
MARGARITAS RESTAURANT
 DEVELOPER: JOSE FLORES
 ENGINEER: CIVIL ENGINEERING SOLUTIONS, LLC.

Sheet **1** of **2**

EROSION CONTROL PLAN
 LOCATION: COPPER CREEK DRIVE AT CREEK MILL ROAD
MILLINGTON, TENNESSEE

SURVEY JB MORRIS DATE 6/2020 BOOK _____
 DRAFTED C.E.S. DATE 7/14/20 SCALE 1"=20'
 DESIGN C.E.S. DATE 7/14/20 CHECKED _____ DATE _____
 APPROVED _____
 CITY ENGINEER _____ DATE _____





HATCHED AREA TO BE LANDSCAPED AND/OR SODDED. SEE LANDSCAPE PLAN

HATCHED AREA TO BE LANDSCAPED AND/OR SODDED. SEE LANDSCAPE PLAN

HATCHED AREA TO BE LANDSCAPED AND/OR SODDED. SEE LANDSCAPE PLAN

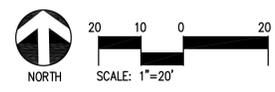
LOT 1
1.263 ACRES
RESTAURANT
5,200 S.F.
F.F.E. = 291.00
69 SPACES

LOT 2 SHELBY MALL SUBDIVISION
PLAT BOOK 256, PG 35
MILLINGTON TREATS LLC
INST NO. 1310101
PARCEL ID: M0115 A 00020

DAIRY
CH.
62 PA
±1.1
F.F.I.

LOT 3 PURE MILLINGTON SUBDIVISION
PLAT BOOK 267, PG 45

RONALD RAY, ET AL
INSTRUMENT NO. HU3619
PARCEL ID: M0115 00992



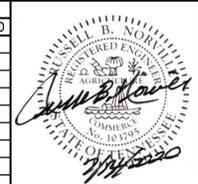
FINAL STABILIZATION NOTES

- ALL DISTURBED AREAS SHALL BE STABILIZED BY SEEDING OR WITH SOD, STABILIZING MATERIALS SHALL BE APPLIED AS SOON AS POSSIBLE OR COMPLETION OF FINAL GRADING AND IN NO CASE GREATER THAN 14 DAYS. PRIORITY SHALL BE GIVEN TO FINISHING OPERATIONS AND PERMANENT STABILIZATION OVER TEMPORARY EROSION PREVENTION AND SEDIMENT CONTROL MEASURES.
- AFTER FULL STABILIZATION OF ALL DISTURBED AREAS THE CONTRACTOR SHALL REMOVE ALL TEMPORARY EROSION CONTROL ITEMS. FULL STABILIZATION SHALL MEAN COVERAGE OF THE SITE WITH PERMANENT GRASS (A SIGNIFICANT PERCENTAGE OF BERMUDA OR FESCUE DEPENDING UPON THE MIX SPECIFIED AND THE TIME OF YEAR OF APPLICATION) WHICH IS SUSTAINABLE AND GROWING. TEMPORARY SEDIMENT CONTROLS SHALL BE REMOVED.
- CONTRACTOR SHALL PROVIDE THE FOLLOWING DOCUMENTS TO THE ENGINEER:
 - SIGNED COPY OF THE NOTICE OF INTENT PRIOR TO DISTURBANCE
 - EVIDENCE OF CERTIFICATION OF INSPECTOR
 - LOCATION OF NOTICE OF COVERAGE ON SITE
 - COPY OF TDEC ACCEPTANCE OF NOTICE OF TERMINATION TO BE INCLUDED WITH CLOSE OUT DOCUMENTS

TENNESSEE N.P.D.E.S. PERMIT
FOR
STORM WATER DISCHARGE
EFFECTIVE DATE: _____
TRACKING NO.: TNR

FINAL STABILIZATION PHASE – THE EROSION CONTROL MEASURES FOR FINAL STABILIZATION OF ALL DENUTED AREAS OF THE PROJECT; SUCH AS PAVING OR CONCRETE AND AREAS TO BE SEEDED & MULCHED OR HYDRO-SEEDED.

REVISIONS		
DATE	DESCRIPTIONS	APPROVED

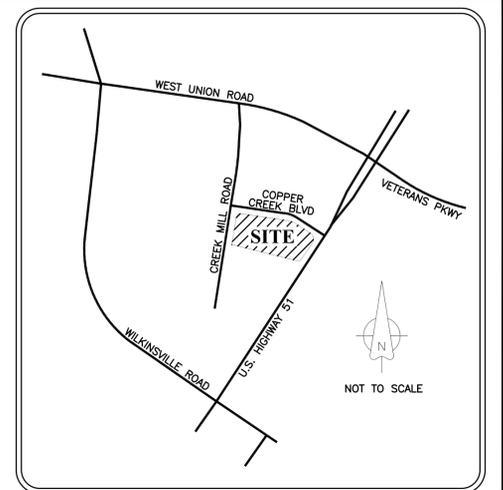
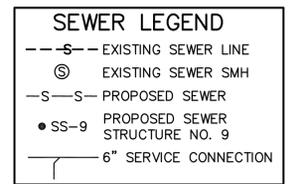
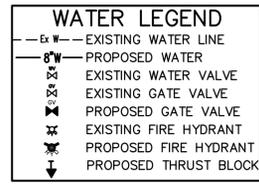
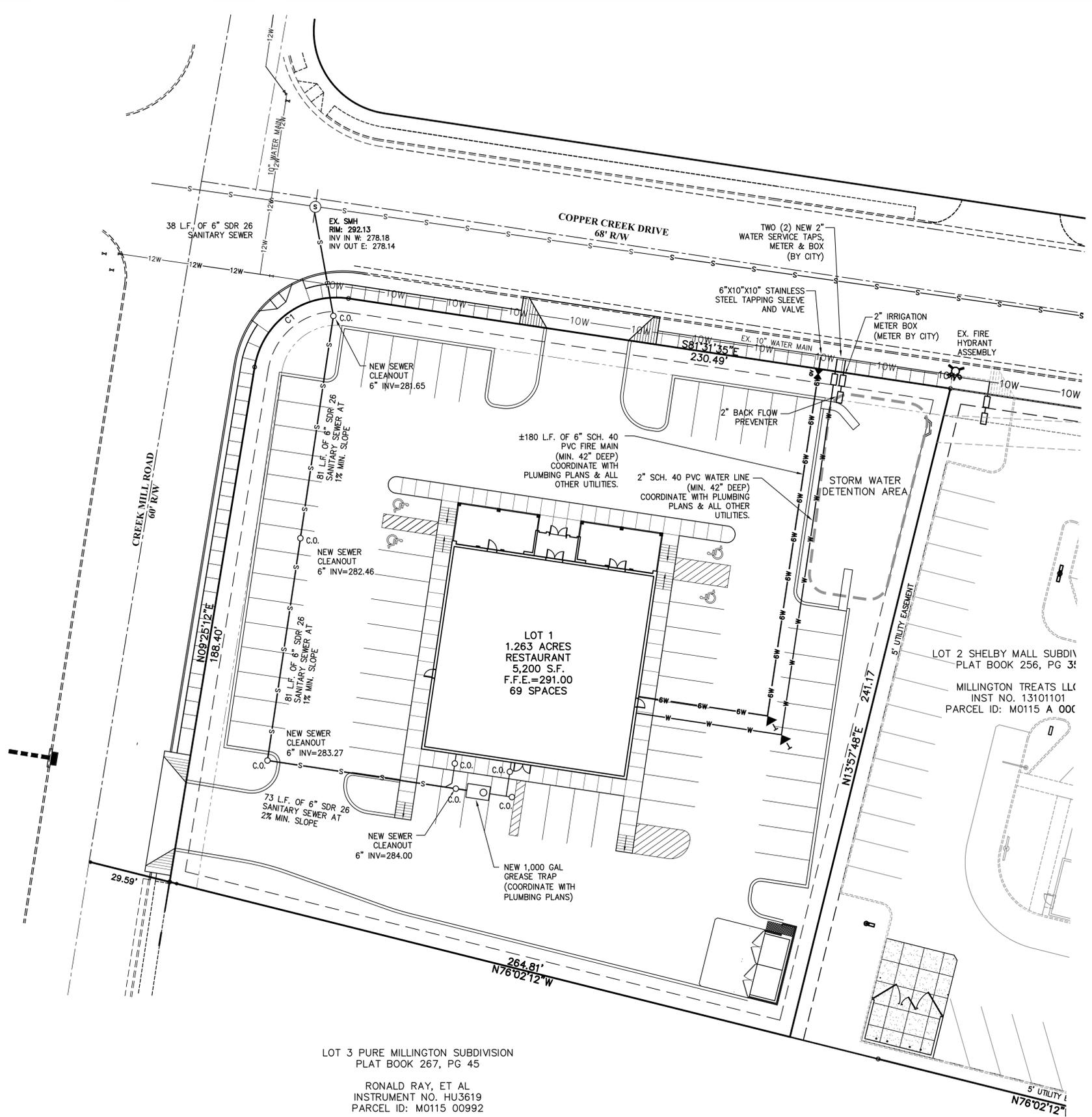


SHELBY MALL SUBDIVISION – LOT 1
MARGARITAS RESTAURANT
DEVELOPER: JOSE FLORES
ENGINEER: CIVIL ENGINEERING SOLUTIONS, LLC.

Sheet 2 of 2

EROSION CONTROL PLAN
LOCATION: COPPER CREEK DRIVE AT CREEK MILL ROAD
MILLINGTON, TENNESSEE

SURVEY J.B. MORRIS DATE 6/2020 BOOK _____
DRAFTED C.E.S. DATE 7/14/20 SCALE 1"=20'
DESIGN C.E.S. DATE 7/14/20 CHECKED _____ DATE _____
APPROVED _____
CITY ENGINEER _____ DATE _____



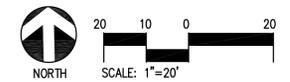
VICINITY MAP

UTILITY NOTES

- CONTRACTOR SHALL PROVIDE TWA A MINIMUM OF 48 HOURS ADVANCE NOTICE PRIOR TO COMMENCING CONSTRUCTION. CONTRACTOR SHALL ABIDE BY ALL STATE LAWS AND OSHA REQUIREMENTS CONCERNING CONSTRUCTION ACTIVITIES NEAR ENERGIZED ELECTRIC FACILITIES SO AS TO PROTECT PERSONNEL AND SAID FACILITIES.
- LOCATION OF EXISTING UNDERGROUND UTILITIES ARE APPROXIMATE AND NOT NECESSARILY ALL OF SAME. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING THE APPROPRIATE UTILITY COMPANY TO DETERMINE THE EXACT LOCATION OF ALL UTILITIES AND UNDERGROUND STRUCTURES PRIOR TO THE INITIATION OF ANY CONSTRUCTION. CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR DAMAGE TO ANY UTILITIES ENCOUNTERED WITHIN CONSTRUCTION LIMITS, WHETHER SHOWN OR NOT. CONTRACTOR SHALL ALSO ASSUME FULL RESPONSIBILITY FOR DAMAGE TO ANY UTILITIES ENCOUNTERED WITHIN CONSTRUCTION LIMITS. FOR SITE LOCATION OF EXISTING UTILITIES, PLEASE CALL 1-800-351-1111. FOR SEWER LOCATIONS, CALL CITY OF MILLINGTON PUBLIC WORKS DEPT.
- CONTRACTOR TO CONTACT TENNESSEE ONE CALL 72 HOURS PRIOR TO DIG. CONTRACTOR IS RESPONSIBLE FOR LOCATING ALL UNDERGROUND UTILITIES. CONTRACTOR SHALL ALSO ASSUME THE RESPONSIBILITY FOR DAMAGE TO UTILITY LINES, WHERE SHOWN ON THE CONSTRUCTION PLANS OR NOT, DURING THE WORK OF THE PROJECT.
- INSTALL #14 TRACER WIRE W/SEWER PIPE INSTALLATION.
- ALL SEWER PIPE TO BE SDR26 PVC.
- INSTALL SEWER PIPING AT A DEPTH OF 4 FT. MINIMUM.
- ALL SEWER SYSTEM IN ACCORDANCE WITH CITY AND STATE STANDARDS.
- MAINTAIN 10" SEPARATION BETWEEN THE SEWER & WATER MAIN MAINTAIN 18" VERTICAL SEPARATION @ WATER/SEWER CROSSING
- SEE DETAIL AND NOTES SHEET FOR ADDITIONAL INFORMATION. LINES, VALVES, FITTINGS AND HYDRANTS SHALL BE INSTALLED, PRESSURE TESTED AND LEAKAGE TESTED IN ACCORDANCE WITH ALL STATE AND LOCAL REQUIREMENTS.

TYPICAL CONSTRUCTION NOTES

- LOCATION OF EXISTING UNDERGROUND UTILITIES ARE APPROXIMATE AND ARE NOT NECESSARILY ALL OF SAME. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING THE APPROPRIATE UTILITY COMPANY TO DETERMINE THE EXACT LOCATION OF ANY CONSTRUCTION. CONTRACTOR SHALL ALSO ASSUME FULL RESPONSIBILITY FOR DAMAGE TO ANY UTILITIES ENCOUNTERED WITHIN CONSTRUCTION PERIMETERS. FOR SITE LOCATION OF EXISTING UTILITIES INVOLVING CITY UTILITIES, SOUTH CENTRAL BELL, AND/OR TEXAS GAS COMPANY, PLEASE CALL 811.
- CONTRACTOR SHALL ENSURE UNINTERRUPTED SEWER SERVICE ON EXISTING SEWER AND SERVICE CONNECTIONS BY PROVIDING AMPLE TEMPORARY WASTEWATER PUMPING AND/OR BYPASSING.
- CONTRACTOR SHALL MAINTAIN ACCESS TO ALL PROPERTIES.
- CONTRACTOR SHALL NOTIFY THE CITY CONSTRUCTION INSPECTION A MINIMUM OF 24 HOURS PRIOR TO BEGINNING ANY CONSTRUCTION.
- ALL AREAS IN CUT OR FILL WHERE VEGETATION HAS BEEN REMOVED SHALL BE SEEDED, MULCHED, FERTILIZED, AND/OR SODDED AS REQUIRED TO PREVENT EROSION.
- THE CONTRACTOR SHALL VERIFY EXISTING DATA AND REPORT ANY SIGNIFICANT DISCREPANCIES TO THE ENGINEER.
- ALL SANITARY SEWER TO BE CONSTRUCTED AS PER CITY STANDARD CONSTRUCTION SPECIFICATIONS. SANITARY SEWER SERVICE CONNECTIONS TO BE INSTALLED AS PER CITY STANDARD.
- ALL SEWER MANHOLE LIDS IN OPEN AREAS ARE TO BE CONSTRUCTED 1.5' ABOVE PROPOSED GRADE. IN BACKYARDS, MANHOLE LIDS TO BE 1.5' ABOVE INITIAL GRADE, 0.5' ABOVE FINAL GRADE.
- ALL SANITARY SEWER, INCLUDING SERVICE CONNECTIONS, WHICH HAS BEEN LESS THAN 1.5' CLEARANCE (OUTSIDE OF PIPES) WITH DRAINAGE OR IN FILLED AREAS SHALL BE CLASS 50 D.I.P. OR CONCRETE ENCASED, 10' BOTH SIDES OF CROSSING. ALL DUCTILE IRON PIPE (D.I.P.) SHALL BE POLYETHYLENE LINED OR SHALL BE TREATED WITH PROTECTO 401 OR APPROVED EQUIVALENT.
- THE CITY SHALL HAVE INGRESS/EGRESS RIGHTS TO USE PRIVATE DRIVES AND YARDS FOR THE PURPOSE OF MAINTAINING ALL PUBLIC SEWER LINES AND SHALL BEAR NO RESPONSIBILITY FOR THE MAINTENANCE OF SAID PRIVATE DRIVES AND YARDS.
- NO TREES, SHRUBS, PERMANENT STRUCTURES OR OTHER UTILITIES (EXCEPT FOR CROSSINGS) WILL BE ALLOWED WITHIN SANITARY SEWER EASEMENT. NO OTHER UTILITIES OR SERVICES MAY OCCUPY SANITARY SEWER EASEMENTS IN PRIVATE DRIVES AND YARDS EXCEPT FOR CROSSINGS.
- ALL SANITARY SEWER MANHOLES IN REVERSE CROWN STREETS, ALLEYS, OR DRIVES (PUBLIC OR PRIVATE) SHALL BE PROVIDED WITH GASKETS AND PLUGS FOR PICK HOLES TO PREVENT DRAINAGE INFLOW INTO SEWER SYSTEMS.
- THE CONTRACTOR SHALL PROVIDE ADEQUATE AND EFFECTIVE EROSION CONTROL AS NECESSARY TO PREVENT ANY SILTATION INTO EXISTING DRAINAGE SYSTEM AND/OR ADJACENT PROPERTIES.



LOT 3 PURE MILLINGTON SUBDIVISION
PLAT BOOK 267, PG 45

RONALD RAY, ET AL
INSTRUMENT NO. HU3619
PARCEL ID: M0115 00992

REVISIONS		
DATE	DESCRIPTIONS	APPROVED

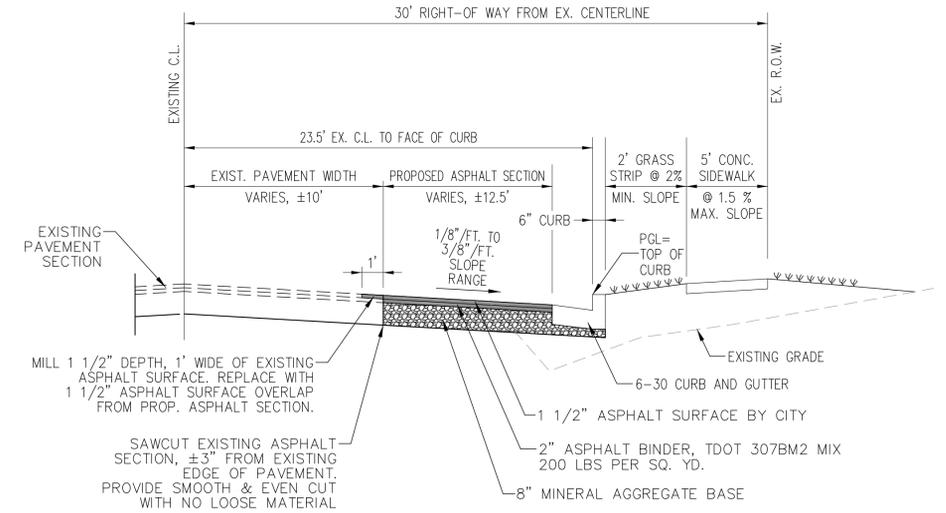
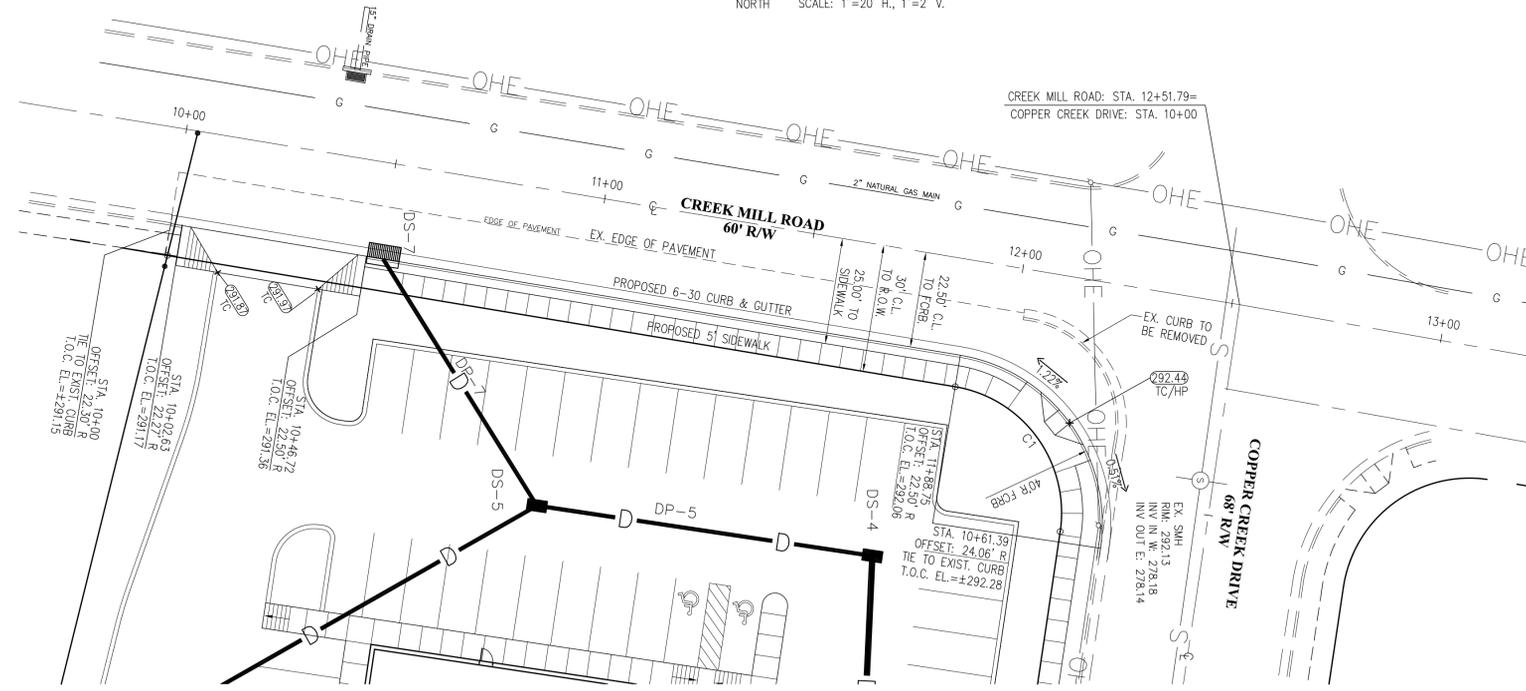
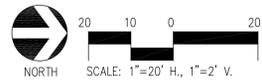


SHELBY MALL SUBDIVISION - LOT 1
MARGARITAS RESTAURANT
DEVELOPER: JOSE FLORES
ENGINEER: CIVIL ENGINEERING SOLUTIONS, LLC.

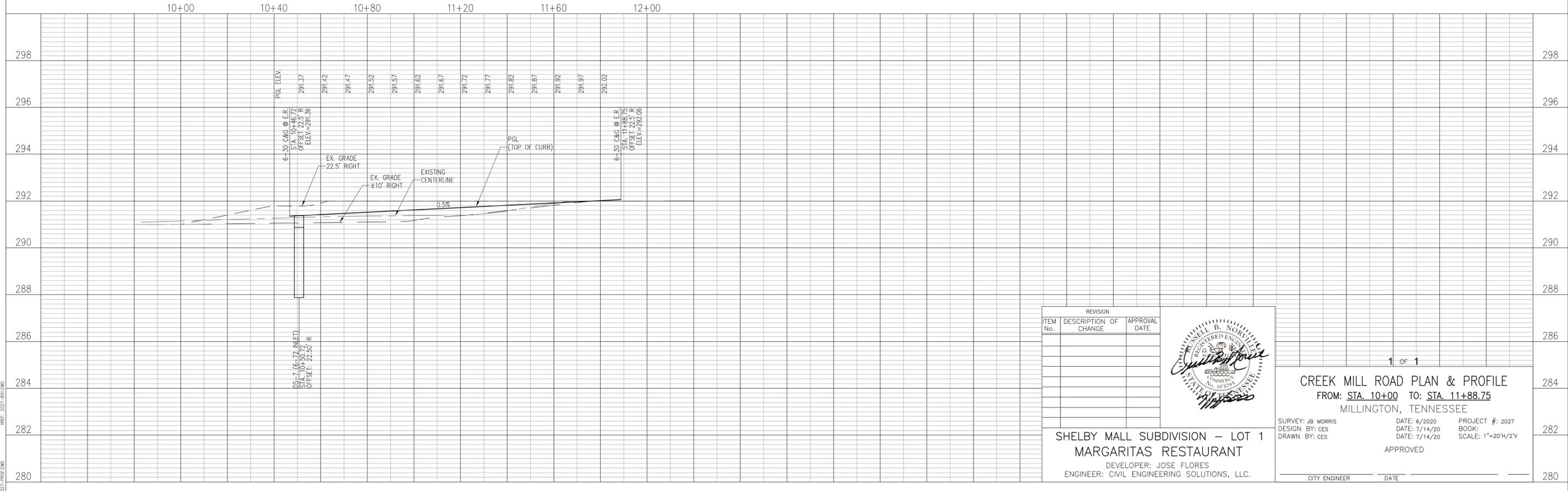
Sheet 1 of 1

SEWER & WATER PLAN
LOCATION: COPPER CREEK DRIVE AT CREEK MILL ROAD
MILLINGTON, TENNESSEE

SURVEY JB MORRIS DATE 6/2020 BOOK
DRAFTED C.E.S. DATE 7/14/20 SCALE 1"=20'
DESIGN C.E.S. DATE 7/14/20 CHECKED DATE
APPROVED
CITY ENGINEER DATE



TYPICAL SECTION (HALF SECTION)
CREEK MILL ROAD IMPROVEMENTS
N.T.S.



REVISION	DESCRIPTION OF CHANGE	APPROVAL DATE
TEM No.		



SHELBY MALL SUBDIVISION - LOT 1
MARGARITAS RESTAURANT
DEVELOPER: JOSE FLORES
ENGINEER: CIVIL ENGINEERING SOLUTIONS, LLC.

1 OF 1

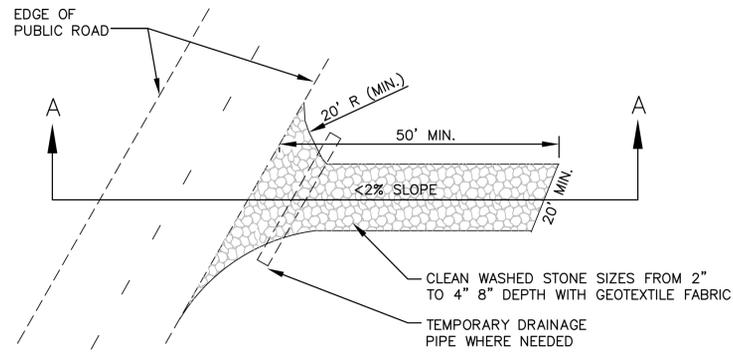
CREEK MILL ROAD PLAN & PROFILE
FROM: STA. 10+00 TO: STA. 11+88.75
MILLINGTON, TENNESSEE

SURVEY: JB MORRIS DATE: 6/2020 PROJECT #: 2027
DESIGN: BY: CES DATE: 7/14/20 BOOK:
DRAWN: BY: CES DATE: 7/14/20 SCALE: 1"=20'H/2'V

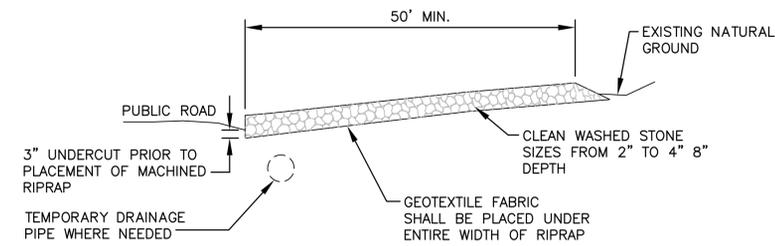
APPROVED

CITY ENGINEER DATE

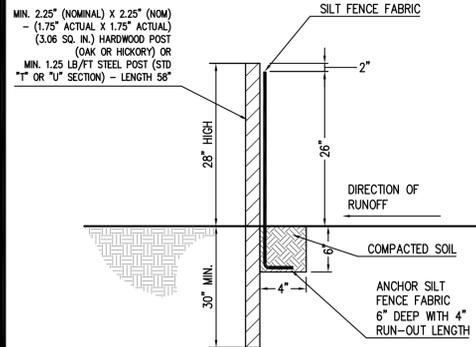
2027-PROJ.DWG



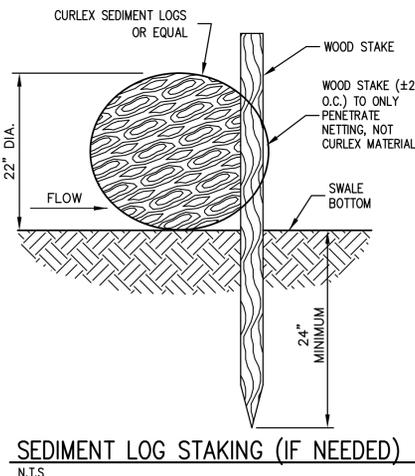
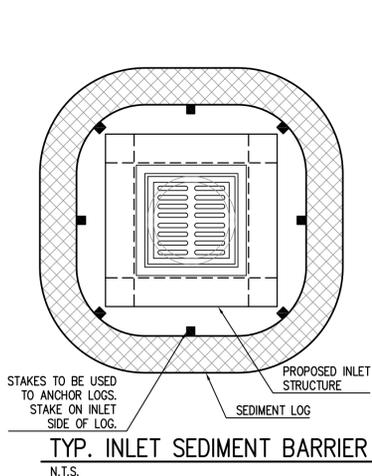
PLAN VIEW OF TEMPORARY CONSTRUCTION ROAD



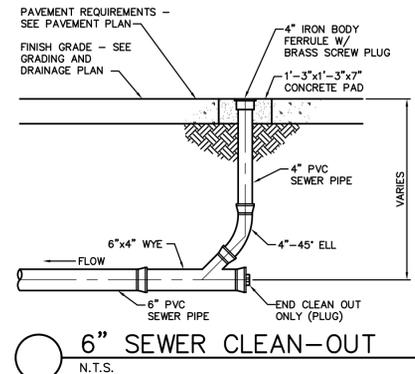
SECTION A-A



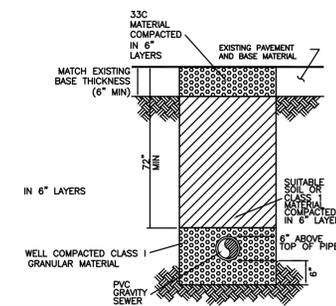
SILT FENCE DETAIL
N.T.S.



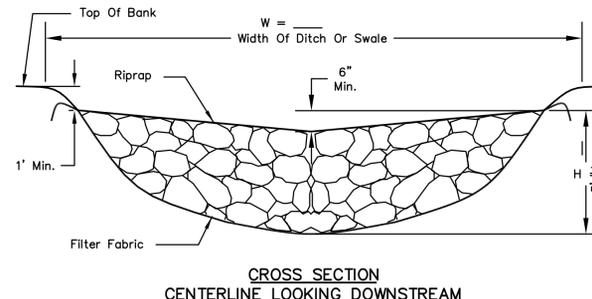
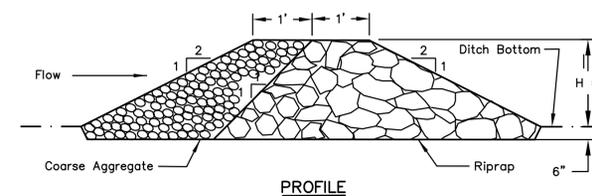
SEDIMENT LOG STAKING (IF NEEDED)
N.T.S.



6" SEWER CLEAN-OUT
N.T.S.

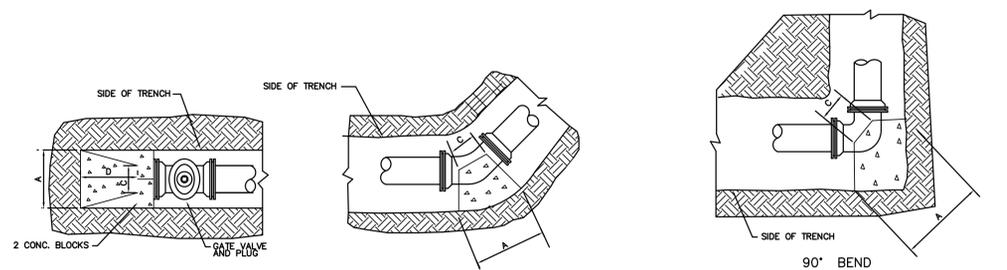


PIPE BEDDING DETAIL FOR SEWER PIPE
N.T.S.



RIP-RAP CHECK DAM
N.T.S.

- NOTES:
1. Filter fabric shall meet the requirements of TDOT
 2. Coarse aggregate shall meet the TDOT gradations.
 3. Riprap shall meet TDOT gradation CLASS 'C'.
 4. For added stability, the base of the dam may be keyed 6 inches into the soil.
 5. See plans for spacing of dams and H dimensions.



SCHEDULE FOR THRUST BLOCK AREAS

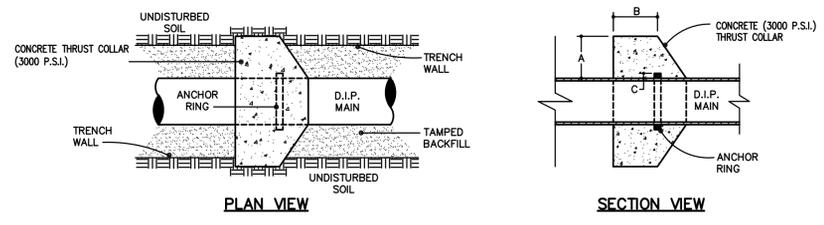
PIPE SIZE (INCHES)	90° BEND (SQ. FT.)	45° BEND (SQ. FT.)	22 1/2° BEND (SQ. FT.)	11 1/4° BEND (SQ. FT.)	TEE & PLUG (SQ. FT.)	DESIGN PRESS (PSI)
4" AND SMALLER	0.5	0.5	0.5	0.5	0.5	100
6"	0.8	0.5	0.5	0.5	1.1	100
8"	1.4	0.8	0.5	0.5	2.0	100
10"	2.2	1.2	0.5	0.5	3.1	100
12"	3.2	1.8	0.9	0.5	4.5	100

NOTE: THRUST BLOCK AREAS COMPUTED ON BASIS OF 2500 POUNDS PER SQ. FT. SOIL RESISTANCE BEARING.

- THRUST BLOCK NOTES
1. THRUST BLOCK BEARING AREAS SHALL BE POURED AGAINST UNDISTURBED MATERIAL. WHERE TRENCH WALL HAS BEEN DISTURBED, EXCAVATE ALL LOOSE MATERIAL AND EXTEND TO UNDISTURBED MATERIAL.
 2. EXTEND THRUST BLOCK FULL LENGTH OF FITTINGS. PUT BOARD IN FRONT OF PLUG BEFORE POURING CONCRETE. JOINTS SHALL NOT BE COVERED BY THRUST BLOCK.
 3. ROUGH BLOCKING FORMS SHALL BE USED ALONG SIDES OF THRUST BLOCKS.
 4. THRUST BLOCKS SHALL BE USED IN COMBINATION, AS REQUIRED, TO SUIT THE SPECIFIC FITTING ARRANGEMENT.

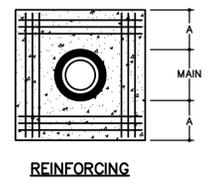
THRUST BLOCKING DETAILS
N.T.S.

90° BEND						11 1/4° BEND											
SIZE	2"	4"	6"	8"	10"	12"	16"	18"	SIZE	2"	4"	6"	8"	10"	12"	16"	18"
A	16	18	26	33	40	50	63	70	A	9	11	13	16	18	26	30	
B	18	24	33	40	50	63	70		B	9	9	11	13	16	18	26	30
C	9	9	12	12	15	16	20	22	C	8	8	10	12	14	16	24	30
D	8	8	12	12	15	16	20	25	D	4	4	5	6	8	9	14	16



SCHEDULE

PIPE DIAMETER	CONCRETE THRUST COLLAR	ANCHOR RING	RINGS REQUIRED
6", 8", 12"	A	B	C
	1'-0"	1'-0"	2"
			ONE



NOTE:
6" TO 16" MAINS = 12-NO. 7 BARS 20" TO 36" MAINS = 12-NO. 8 BARS BARS PLACED AS SHOWN

THRUST COLLAR
N.T.S.

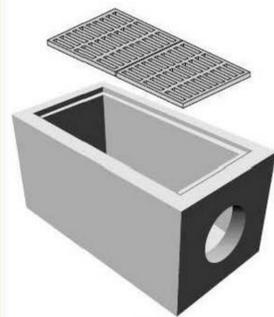
REVISIONS		
DATE	DESCRIPTIONS	APPROVED

SHELBY MALL SUBDIVISION - LOT 1
 MARGARITAS RESTAURANT
 DEVELOPER: JOSE FLORES
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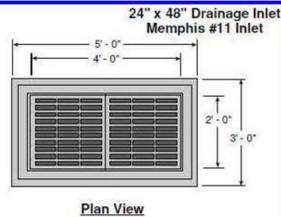
SHELLY B. NORMAN
 REGISTERED ENGINEER
 CIVIL ENGINEERING
 STATE OF TENNESSEE

Sheet 1 of 3
 DETAILS
 LOCATION: COPPER CREEK DRIVE AT CREEK MILL ROAD
 MILLINGTON, TENNESSEE
 SURVEY JB MORRIS DATE 6/2020 BOOK
 DRAFTED C.E.S. DATE 7/14/20 SCALE NTS
 DESIGN C.E.S. DATE 7/14/20 CHECKED DATE
 APPROVED
 CITY ENGINEER DATE

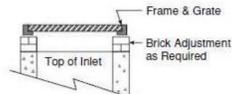
Precast Drainage Structures



Isometric View



Plan View

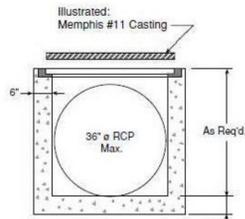


Alternate View

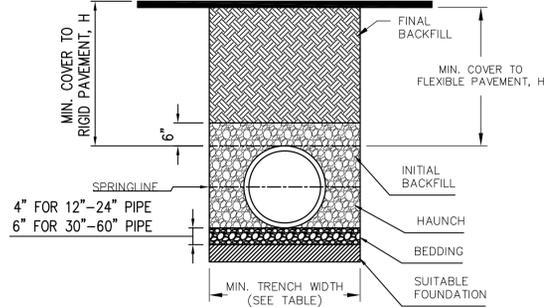
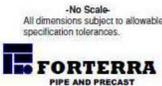
Inlet Size (ft.)	Wall Thick (in.)	Wt./Vert. Ft. (lbs.)	Bottom Thick (in.)	Base Slab (in.)
2 x 4	6	1,071	6	1,150

Materials & Features

CONCRETE: 4,000 PSI in 28 days.
 REINFORCING STEEL: per ASTM A-615, Grade 60.
 REINFORCING to meet AASHTO HS 20 Loading.
 JOINT SEALANT: Ram-Nek gasket material.
 FRAME AND GRATE/COVER as required.



Section View



NOTES:

- ALL PIPE SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH ASTM D2321, "STANDARD PRACTICE FOR UNDERGROUND INSTALLATION OF THERMOPLASTIC PIPE FOR SEWERS AND OTHER GRAVITY FLOW APPLICATIONS", LATEST EDITION.
- MEASURES SHOULD BE TAKEN TO PREVENT MIGRATION OF NATIVE FINES INTO BACKFILL MATERIAL, WHEN REQUIRED.
- FOUNDATION: WHERE THE TRENCH BOTTOM IS UNSTABLE, THE CONTRACTOR SHALL EXCAVATE TO A DEPTH REQUIRED BY THE ENGINEER AND REPLACE WITH SUITABLE MATERIAL AS SPECIFIED BY THE ENGINEER, AS AN ALTERNATIVE AND AT THE DISCRETION OF THE DESIGN ENGINEER, THE TRENCH BOTTOM MAY BE STABILIZED USING A GEOTEXTILE MATERIAL.
- BEDDING: SUITABLE MATERIAL SHALL BE CLASS I, II OR III. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER, UNLESS OTHERWISE NOTED BY THE ENGINEER, MINIMUM BEDDING THICKNESS SHALL BE 4" (100mm) FOR 4"-24" (100mm-600mm); 6" (150mm) FOR 30"-60" (750mm-900mm).
- INITIAL BACKFILL: SUITABLE MATERIAL SHALL BE CLASS I, II OR III IN THE PIPE ZONE EXTENDING NOT LESS THAN 6" ABOVE CROWN OF PIPE. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER. MATERIAL SHALL BE INSTALLED AS REQUIRED IN ASTM D2321, LATEST EDITION.
- MINIMUM COVER: MINIMUM COVER, H, IN NON-TRAFFIC APPLICATIONS (GRASS OR LANDSCAPE AREAS) IS 12" FROM THE TOP OF PIPE TO GROUND SURFACE. ADDITIONAL COVER MAY BE REQUIRED TO PREVENT FLOATION. FOR TRAFFIC APPLICATIONS, MINIMUM COVER, H, IS 12" UP TO 48" DIAMETER PIPE AND 24" OF COVER FOR 54"-60" DIAMETER PIPE, MEASURED FROM TOP OF PIPE TO BOTTOM OF FLEXIBLE PAVEMENT OR TO TOP OF RIGID PAVEMENT.

RECOMMENDED TRENCH WIDTHS

PIPE DIAM.	MIN. TRENCH WIDTH
4"	21"
6"	23"
8"	26"
10"	28"
12"	30"
15"	34"
18"	39"
24"	48"
30"	56"
36"	64"
42"	72"
48"	80"
54"	88"
60"	96"

MINIMUM RECOMMENDED COVER BASED ON VEHICLE LOADING CONDITIONS

PIPE DIAM.	SURFACE LIVE LOADING CONDITION	
	H-25	HEAVY CONSTRUCTION (75T AXLE LOAD) **
12" - 48"	12"	48"
54" - 60"	24"	60"

* VEHICLES IN EXCESS OF 75T MAY REQUIRE ADDITIONAL COVER

MINIMUM RECOMMENDED COVER BASED ON RAILWAY LOADING CONDITIONS

PIPE DIAM.	COOPER E-80**
UP TO 24"	24"
30"-36"	36"
42"-60"	48"

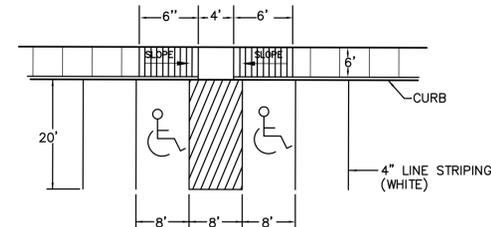
** COVER IS MEASURED FROM TOP OF PIPE TO BOTTOM OF RAILWAY TIE.
 *** E-80 COVER REQUIREMENTS, ARE ONLY APPLICABLE TO ASTM F 2306 PIPE.

REV.	DESCRIPTION	BY	DATE	CHK'D
2	ADDED E-80 INFORMATION	TJR	08/20/07	

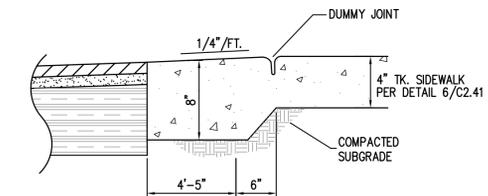
TYPICAL TRENCH DETAIL



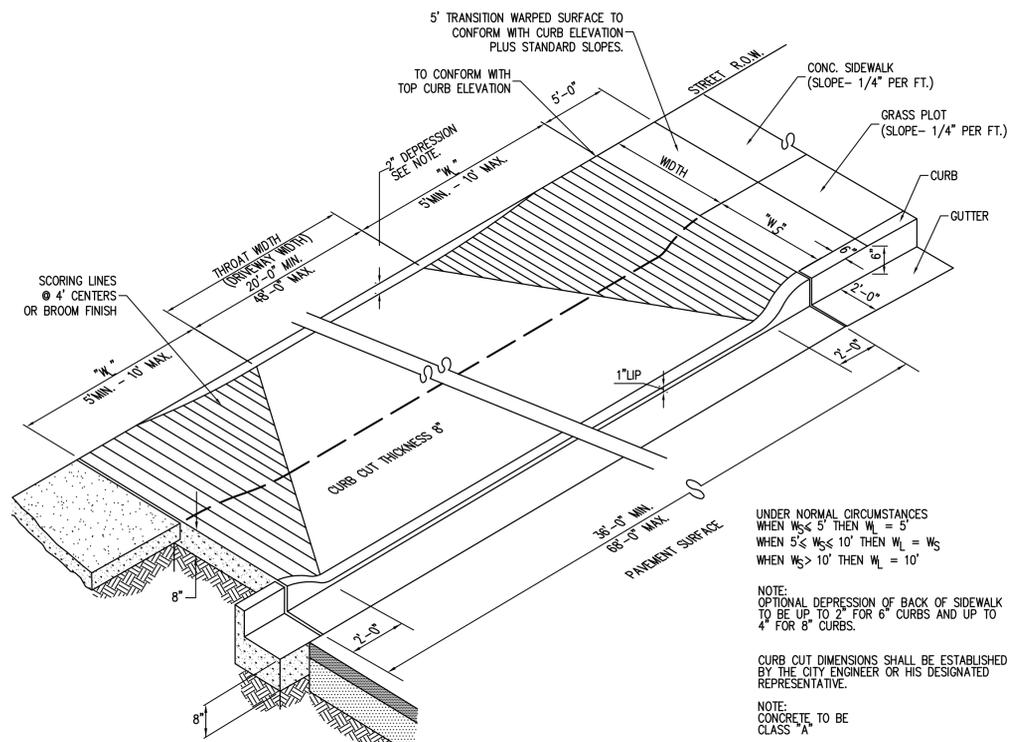
DRAWING NUMBER: STD-101



HANDICAP ACCESS @ CURB OPENINGS AND LINE STRIPING



FLUSH S/W @ HANDICAP PARKING SPACES



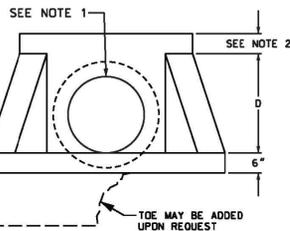
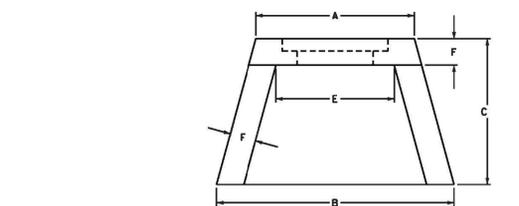
COMMERCIAL/INDUSTRIAL/MULTI FAMILY CURB CUT

UNDER NORMAL CIRCUMSTANCES WHEN $W_S \leq 5'$ THEN $W_L = 5'$
 WHEN $5' < W_S \leq 10'$ THEN $W_L = W_S$
 WHEN $W_S > 10'$ THEN $W_L = 10'$

NOTE: OPTIONAL DEPRESSION OF BACK OF SIDEWALK TO BE UP TO 2" FOR 6" CURBS AND UP TO 4" FOR 8" CURBS.

CURB CUT DIMENSIONS SHALL BE ESTABLISHED BY THE CITY ENGINEER OR HIS DESIGNATED REPRESENTATIVE.

NOTE: CONCRETE TO BE CLASS "A"



PIPE SIZE	DIMENSION			
	A	B	C	D
12"-15"-18"	32"	48"	80"	97.25"
24"	48"	72"	102"	120"
30"	44"	54"	56"	
26"	36"	54"	60"	
24"	36"	64"	83"	
6"	8"	8"	8"	
MAX. OPENING	26"	32"	55"	78"
WT/LB	1,380	3,100	8,100	11,400

GENERAL NOTES:

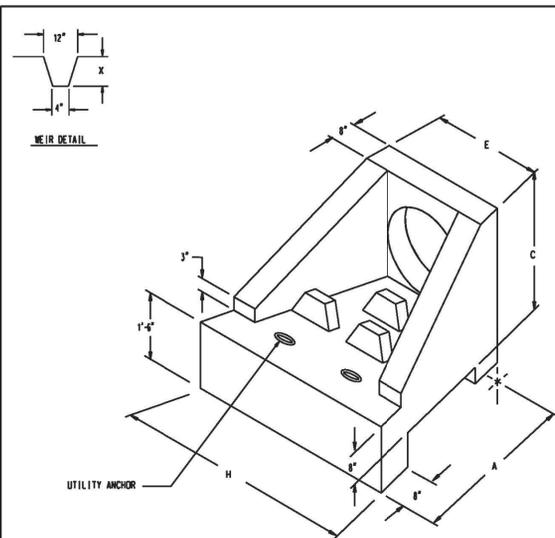
- PIPE OPENING IN FACE OF WALL WILL EQUAL PIPE I.D. FOR 12"-36" DIA. PIPE.
- 0" FOR AW HEADWALL
6" FOR BW & CW HEADWALL
6" TO 27" FOR DW HEADWALL
- AW & BW REQUIRE NO REINFORCEMENT PER SOCI DESIGN



PRECAST WINGED HEADWALL DETAIL

SCALE: NTS

PH: 1-800-737-0707 DWG# ET-200
 REV DATE: 02/20/14 SHEET# 1 OF 1



PIPE DIA.	DIMENSION					WEIGHT
	A	C	E	H	X	
12"	4'-0"	2'-0"	2'-3"	4'-3"	12"	3,037#
15"	4'-0"	2'-0"	2'-3"	4'-3"	13 1/2"	3,037#
18"	4'-0"	2'-11"	3'-0"	5'-3"	15"	3,766#
24"	5'-0"	3'-3"	3'-6"	6'-0"	18"	5,467#

GENERAL NOTES:

- 2" MIN. CONCRETE COVERAGE.
- REIF. - #4 REBAR 12" C.C. EA. WAY.
- HOLE SIZE = PIPE O.D. + 3".
- 1/4" CHAMFER OR ROUND ON ALL EXPOSED EDGES.

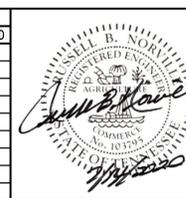


ENERGY DISSIPATOR BLOCK 12" - 27" PIPE

SCALE: NTS

PH: 1-800-737-0707 DWG# ET-230
 DATE: 01/23/12 SHEET# 1 OF 1

REVISIONS		
DATE	DESCRIPTIONS	APPROVED



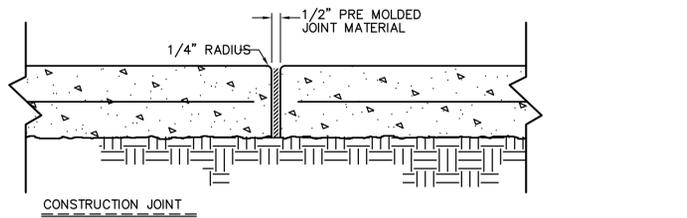
SHELBY MALL SUBDIVISION - LOT 1
 MARGARITAS RESTAURANT
 DEVELOPER: JOSE FLORES
 ENGINEER: CIVIL ENGINEERING SOLUTIONS, LLC.

Sheet 2 of 3

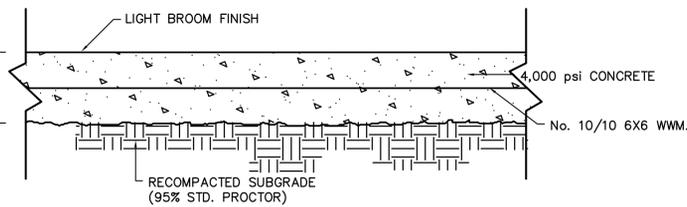
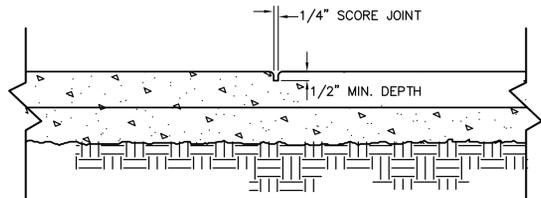
DETAILS
 LOCATION: COPPER CREEK DRIVE AT CREEK MILL ROAD
 MILLINGTON, TENNESSEE

SURVEY JB MORRIS DATE 6/2020 BOOK
 DRAFTED C.E.S. DATE 7/14/20 SCALE NTS
 DESIGN C.E.S. DATE 7/14/20 CHECKED DATE
 APPROVED

CITY ENGINEER DATE



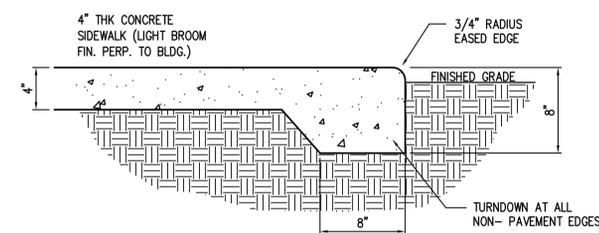
CONSTRUCTION JOINT



CONCRETE SIDEWALK AT BUILDING

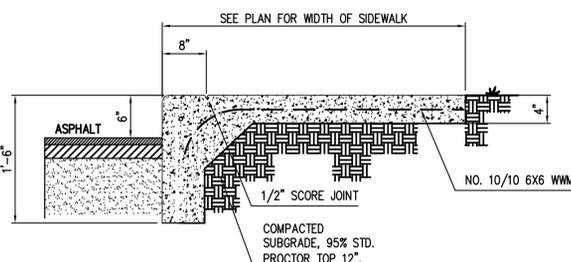
N.T.S.

NOTE: INSTALL EXP. JOINT ANY WHERE CONCRETE ABUTS SIGNS, CONCRETE CURB OR BUILDING.



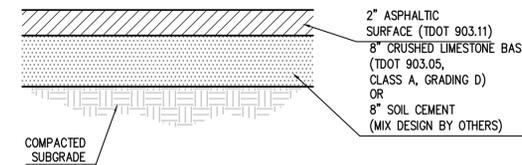
TURN DOWN SIDEWALK

N.T.S. COORDINATE WITH ARCHITECT'S DETAILS



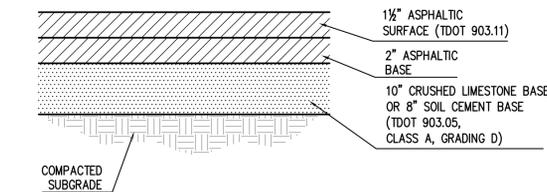
6" TURN DOWN CURB & SIDEWALK AT DRIVES

N.T.S. COORDINATE WITH ARCHITECT'S DETAILS



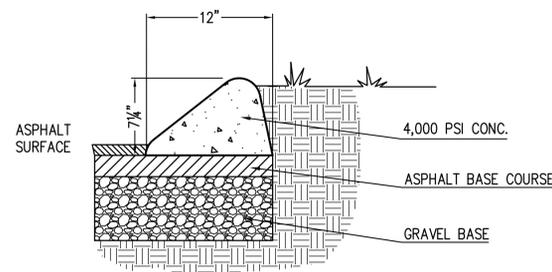
LIGHT DUTY ASPHALTIC PAVEMENT

N.T.S. (PAVEMENT THICKNESS PER OWNER)



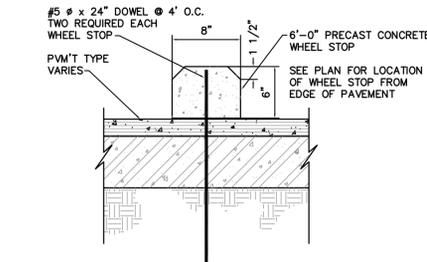
HEAVY DUTY ASPHALTIC PAVEMENT (ON STREET)

N.T.S. (PAVEMENT THICKNESS PER GEOTECHNICAL REPORT OR OWNER)



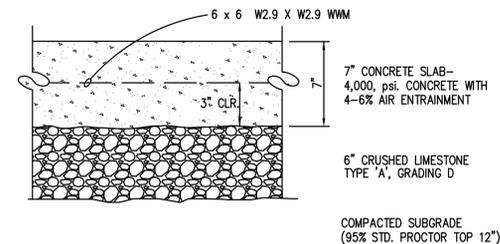
EXTRUDED 6" SLOPING CONCRETE CURB

N.T.S.

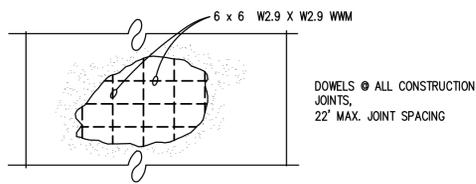


CONCRETE WHEEL STOP

N.T.S.



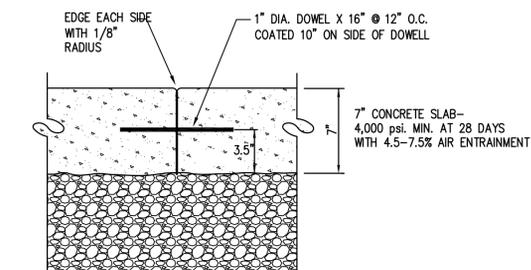
SECTIONAL VIEW



PLAN VIEW

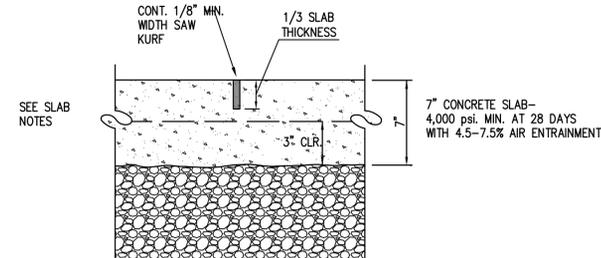
CONCRETE PAVING DETAIL

N.T.S. COORDINATE WITH ARCHITECT'S DETAILS



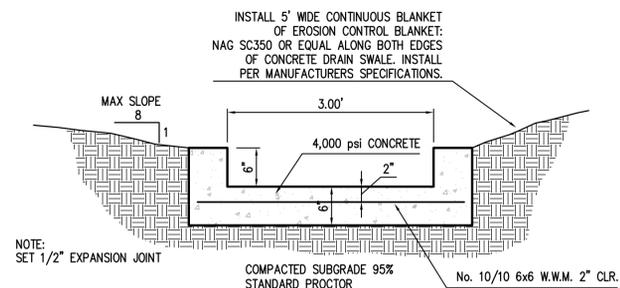
CONCRETE PAVING - CONSTRUCTION JOINT

N.T.S.



CONCRETE PAVING - SAWN CONTROL JOINT

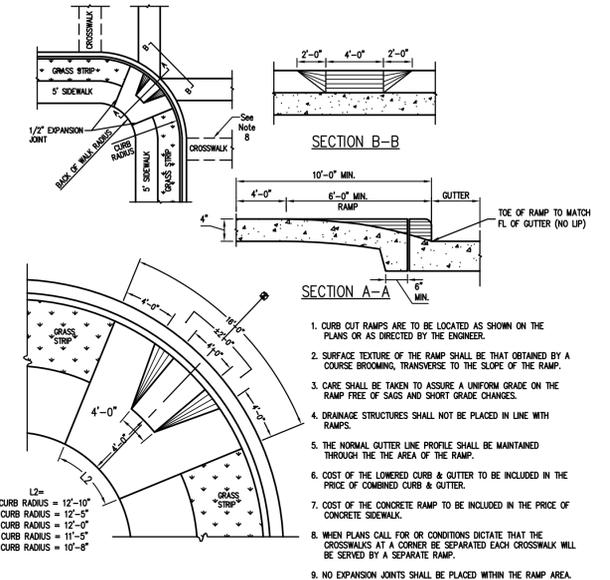
N.T.S.



NOTE: SET 1/2" EXPANSION JOINT

CONCRETE DRAINAGE FLUME

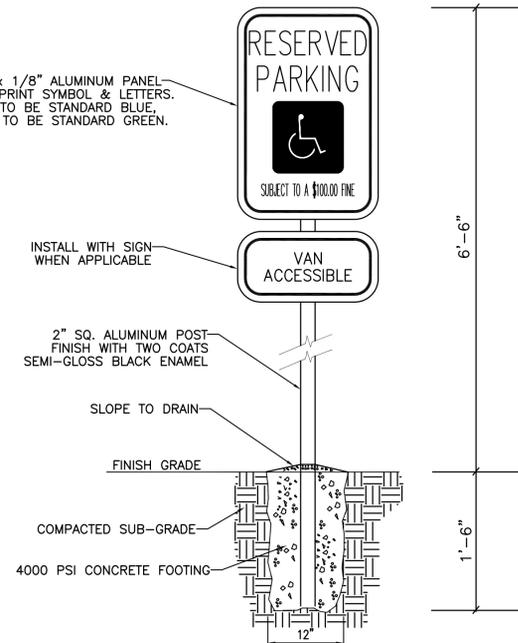
N.T.S.



STANDARD HANDICAP RAMP

N.T.S.

12"x 18"x 1/8" ALUMINUM PANEL- SCREEN PRINT SYMBOL & LETTERS. SYMBOL TO BE STANDARD BLUE, LETTERS TO BE STANDARD GREEN.

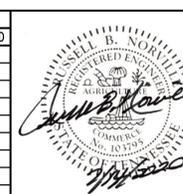


HANDICAP PARKING SIGN

N.T.S.

REVISIONS		
DATE	DESCRIPTIONS	APPROVED

SHELBY MALL SUBDIVISION - LOT 1
MARGARITAS RESTAURANT
 DEVELOPER: JOSE FLORES
 ENGINEER: CIVIL ENGINEERING SOLUTIONS, LLC.



Sheet 3 of 3

DETAILS
 LOCATION: COPPER CREEK DRIVE AT CREEK MILL ROAD
MILLINGTON, TENNESSEE

SURVEY: J.B. MORRIS DATE: 6/2020 BOOK: _____
 DRAFTED: C.E.S. DATE: 7/14/20 SCALE: N.T.S.
 DESIGN: C.E.S. DATE: 7/14/20 CHECKED: _____ DATE: _____
 APPROVED: _____
 CITY ENGINEER: _____ DATE: _____