

PROPOSED CIVIL DESIGN CONSTRUCTION PLANS

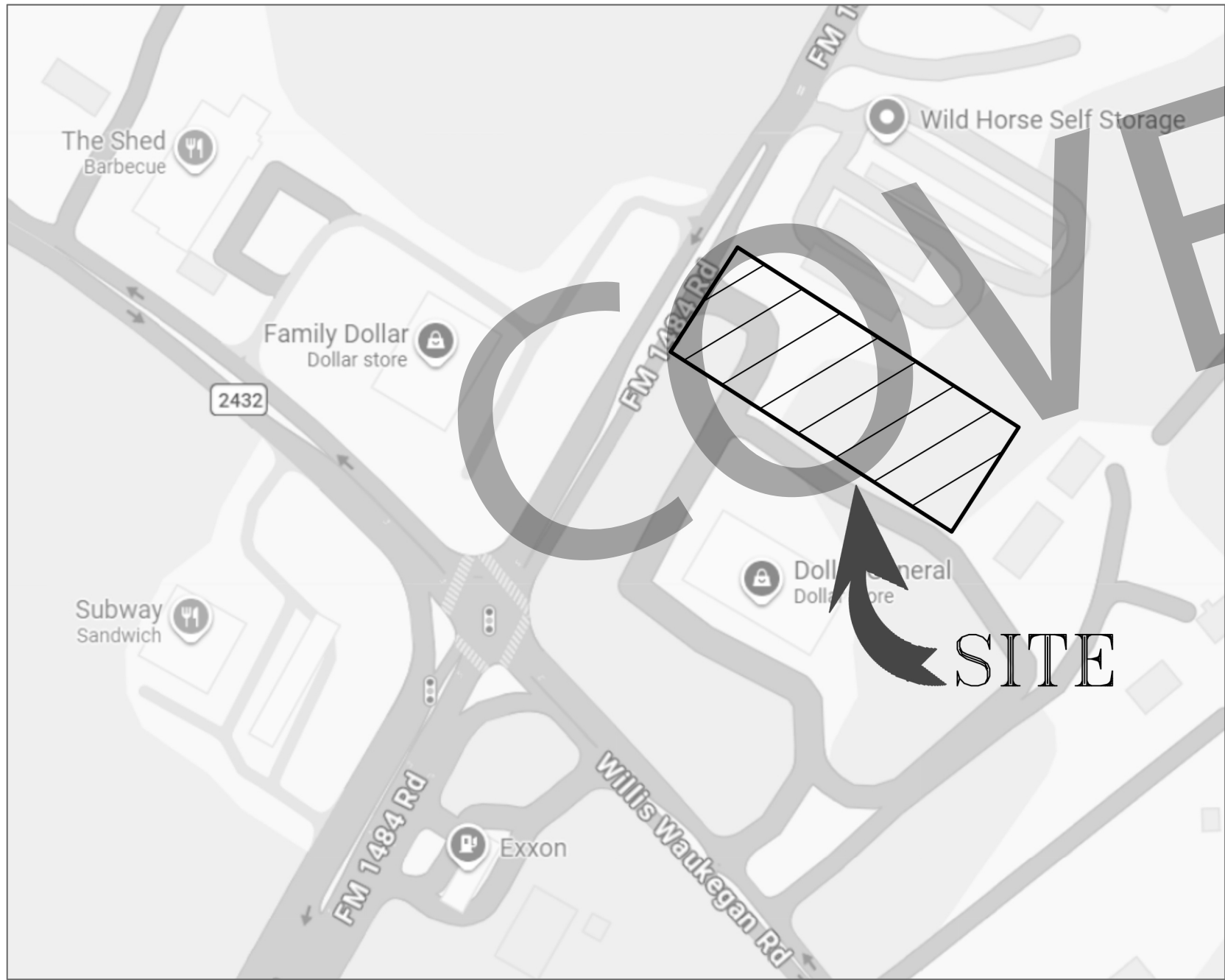
TO SERVE

PROPOSED MIXED-USE BUILDING

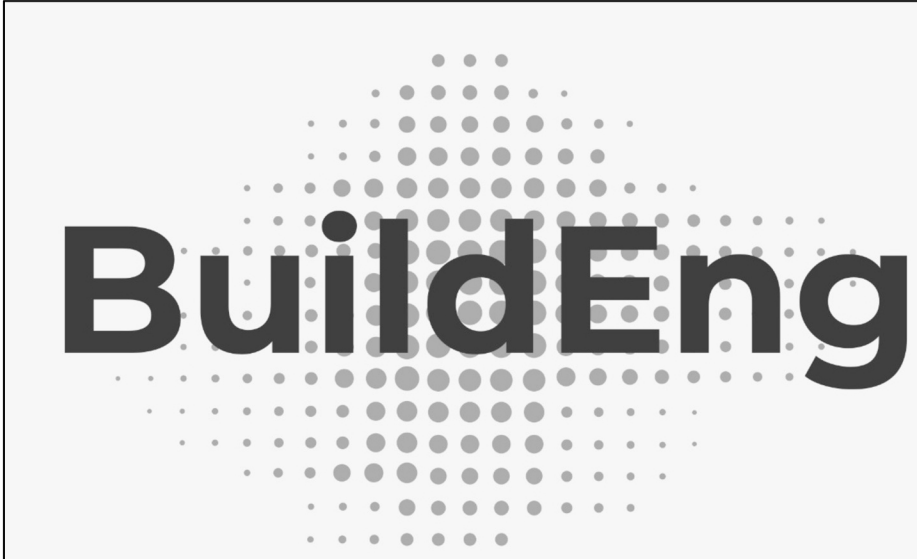
FM 1484 AND WILLIS WAUKEGAN ROAD

CONROE, TX 77303

JUNE 2026



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MONTGOMERY COUNTY
ENGINEERING DEPARTMENT

THESE PLANS HAVE BEEN REVIEWED FOR GENERAL CONFORMITY WITH MONTGOMERY COUNTY'S DESIGN REQUIREMENTS, REGULATIONS AND CONSTRUCTION SPECIFICATIONS, HOWEVER, THE RESPONSIBILITY FOR ENSURING CONSTRUCTABILITY AND ADHERENCE TO SOUND ENGINEERING PRACTICES RESTS WITH THE ENGINEER SCALING THE PLANS. ALL CONSTRUCTION ACTIVITIES FOR THE PROJECT MUST COMPLY WITH MONTGOMERY COUNTY REGULATIONS BEFORE THE ISSUANCE OF THE INITIAL CERTIFICATION. ANY ERRORS, OMISSIONS, OR EXCLUSIONS IN THE PLANS MAY RESULT IN SIGNIFICANT INCREASES IN BOTH CONSTRUCTION COSTS AND TIME DELAYS.

COUNTY ENGINEER

DATE

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PROPOSED MIXED-USE BUILDING

FM 1484 AND WILLIS WAUKEGAN ROAD CONROE, TX 77303

COVER SHEET

DESIGNED BY:

DWN BY:

CHK BY:

SHEET REFERENCE:

C.00

GENERAL NOTES:

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING ALL MATERIAL AND LABOR TO CONSTRUCT THE PROJECT AS SHOWN AND DESCRIBED IN THE CONSTRUCTION DOCUMENTS IN ACCORDANCE WITH THE APPROPRIATE APPROVING AUTHORITIES, SPECIFICATIONS AND REQUIREMENTS.
2. THE CONTRACTOR SHALL HAVE AVAILABLE AT THE JOB SITE AT ALL TIMES ONE COPY OF THE CONSTRUCTION DOCUMENTS INCLUDING PLANS, SPECIFICATIONS, AND SPECIAL CONDITIONS AND COPIES OF ANY REQUIRED CONSTRUCTION PERMITS.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL QUANTITIES, TAKE-OFF MEASUREMENTS, MATERIALS, ETC., DURING THE BID PROCESS. ANY QUANTITIES PROVIDED ON PLANS ARE PROVIDED AS A COURTESY. WHEN DISCREPANCIES OCCUR, THE PHYSICAL PLAN TAKES PRECEDENCE.
4. A COPY OF THE ELECTRONIC DRAWING FILE MAY BE REQUESTED FROM ENGINEER BY CONTRACTOR TO PROVIDE COORDINATES FOR LOCATION IN FIELD. IT IS THE CONTRACTOR'S RESPONSIBILITY TO REQUEST ELECTRONIC FILES AFTER ANY REVISIONS TO PLANS, IF ANY OCCUR.
5. THE CONTRACTOR SHALL CHECK ALL EXISTING CONDITIONS, UTILITY INVERTS, UTILITY ROUTINGS, UTILITY CROSSINGS, AND DIMENSIONS IN THE FIELD PRIOR TO COMMENCEMENT OF WORK. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THAT THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS DO NOT CONFLICT WITH ANY KNOWN EXISTING OR OTHER PROPOSED IMPROVEMENTS. REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO INSTALLATION.
6. THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF ALL EXISTING UTILITIES. TAKE CARE TO PROTECT UTILITIES THAT ARE TO REMAIN. COORDINATE ALL CONSTRUCTION WITH THE APPROPRIATE UTILITY COMPANY. THE CONTRACTOR SHALL CALL NATIONAL ONE CALL (811) 72 HOURS PRIOR TO PROCEEDING WITH ANY EXCAVATION. THE CONTRACTOR SHALL REPAIR ANY DAMAGED UTILITIES ACCORDING TO LOCAL STANDARDS AT THE CONTRACTOR'S EXPENSE.
7. THE CONTRACTOR SHALL CONFORM TO ALL LOCAL CODES AND RECEIVE APPROVAL WHERE NECESSARY BEFORE CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR DOCUMENTING AND MAINTAINING AS-BUILT INFORMATION WHICH SHALL BE RECORDED AS CONSTRUCTION PROGRESSES OR AT THE COMPLETION OF APPROPRIATE CONSTRUCTION INTERVALS. ALL AS-BUILTS SHALL BE PREPARED IN ACCORDANCE WITH LOCAL AGENCY(S) REQUIREMENTS. IF A CERTIFIED AS-BUILT SURVEY IS REQUIRED, THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING A STAMPED SURVEY AND SUBMITTING TO ENGINEER.
8. THE CONTRACTOR SHALL LIMIT CONSTRUCTION OPERATIONS TO WITHIN THE LIMITS OF CONSTRUCTION. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR ANY DAMAGES OUTSIDE THE LIMITS OF CONSTRUCTION. CARE SHALL BE TAKEN TO PROTECT ANY UTILITIES, TREES, BUILDINGS ETC. WHICH ARE TO REMAIN AND NOT TO BE DISTURBED BY THE CONSTRUCTION.
9. EXISTING PAVEMENT OF PUBLIC ROADWAYS SHALL BE PATCHED IN ACCORDANCE WITH LOCAL AGENCY STANDARDS WHEREVER UTILITY INSTALLATION REQUIRES REMOVAL OF THE EXISTING PAVEMENT. COORDINATE PAVEMENT TRENCHING LOCATIONS WITH SITE CIVIL, PLUMBING AND ELECTRICAL PLANS.
10. DIMENSIONS AND COORDINATES PROVIDED ARE TO FACE OF CURB AND/OR EXTERIOR FACE OF BUILDING UNLESS OTHERWISE NOTED.
11. THE CONTRACTOR SHALL COMPLY WITH ALL PERTINENT PROVISIONS OF THE MANUAL OF ACCIDENT PREVENTION AND CONSTRUCTION ISSUED BY AGC OF AMERICA, INC. AND THE SAFETY AND HEALTH REGULATIONS OF CONSTRUCTION ISSUED BY THE U.S. DEPARTMENT OF LABOR.
12. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY TEMPORARY WORKS SUCH AS BRACING, SHEETING AND SHORING, BLASTING PROTECTION, WARNING LIGHTS AND BARRICADES, ETC. AS MAY BE NECESSARY FOR THE PROTECTION OF LIFE AND PROPERTY FOR HIS OWN EMPLOYEES AND THE GENERAL PUBLIC.
13. PORTIONS OF THE WORK SHOWN ON THESE PLANS MAY REQUIRE TRENCH AND/OR MASS EXCAVATION. IN SOME CASES, THIS WILL REQUIRE THE REMOVAL OF ROCK. IN THE USE OF EXPLOSIVES FOR THE SUBSEQUENT EXCAVATION OF ROCK MATERIAL, ALL APPLICABLE LOCAL AND STATE REQUIREMENTS REGARDING THE USE AND STORAGE OF EXPLOSIVE MATERIAL SHALL BE FOLLOWED. THE PROPER PERMITS MUST BE SECURED AND PRE-BLAST SURVEYS WILL BE CONDUCTED IN AREAS WHERE ADJACENT PROPERTIES OR IMPROVEMENTS OFF OF THE PROJECT PROPERTY COULD BE IMPACTED. IN PORTIONS OF THE PROJECT WHERE TRENCH EXCAVATION IS REQUIRED, THE CONTRACTOR WILL BECOME FAMILIAR WITH ALL APPLICABLE TRENCH SAFETY REQUIREMENTS AND REGULATIONS AND TAKE THE NECESSARY MEASURES TO INSURE THE SAFETY OF HIS EMPLOYEES AND ANY OTHER INDIVIDUALS HAVING A NEED TO BE IN AND AROUND THE WORK.
14. ANY WORK UNACCEPTABLE TO THE OWNER'S REPRESENTATIVE OR TO THE LOCAL AGENCY(S) SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR AT NO ADDITIONAL EXPENSE TO THE OWNER.

DEMOLITION NOTES:

1. THE CONTRACTOR SHALL VERIFY THE LIMITS OF DEMOLITION WITH THE OWNER'S REPRESENTATIVE PRIOR TO COMMENCEMENT OF WORK.
2. THE CONTRACTOR SHALL CLEAR AND GRUB ALL AREAS UNLESS OTHERWISE INDICATED, REMOVING TREES, STUMPS, ROOTS, MUCK, EXISTING PAVEMENT AND ALL OTHER DELETERIOUS MATERIAL. UPON REMOVAL NO ROOT GREATER THAN THREE INCHES IN DIAMETER SHALL REMAIN WITHIN FIVE FEET OF AN UNDERGROUND STRUCTURE OR UTILITY LINE OR UNDER PAVED FOOTINGS OR PAVED AREAS.
3. IN AREAS WHERE EXISTING PAVEMENT, WALKS, OR CURBS ARE TO BE REMOVED, SAW CUT TO PROVIDE A CLEAN EDGE. COORDINATE EXTENT OF PAVEMENT DEMOLITION WITH THE LIMIT OF IMPROVEMENTS ON THE SITE LAYOUT PLAN AND UTILITY PLAN.
4. THE CONTRACTOR SHALL COORDINATE PHASING OF THE DEMOLITION WITH THE OWNER'S REPRESENTATIVE AND UTILITY PROVIDERS PRIOR TO BEGINNING WORK. DISRUPTION OF EXISTING UTILITY SERVICES AND TRAFFIC PATTERNS SHALL BE MINIMIZED TO THE EXTENT POSSIBLE AND INITIATED ONLY AFTER APPROVAL BY THE LOCAL AGENCY(S) AND UTILITY PROVIDER(S).
5. NO UTILITY OR STORM SEWER LINES SHALL BE DEMOLISHED UNTIL THE NEW LINES HAVE BEEN INSTALLED AND ARE PLACED INTO OPERATION.
6. THE CONTRACTOR SHALL INCORPORATE INTO HIS WORK ANY ISOLATION VALVES OR TEMPORARY PLUGS REQUIRED TO CONSTRUCT NEW UTILITY LINES AND DEMOLISH EXISTING UTILITY LINES.
7. WHERE WATER LINE AND SEWER LINE ABANDONMENT IS PLANNED, THE CONTRACTOR MAY ABANDON WATER LINES AND SEWER LINES IN PLACE WHERE THEY OCCUR AT LEAST 24 INCHES (TO TOP OF PIPE) BELOW FINAL SUBGRADE ELEVATIONS AND OUTSIDE THE BUILDING FOOT PRINT. ALL UTILITY LINES BEING ABANDONED IN PLACE SHALL HAVE ALL ENDS PERMANENTLY CLOSED USING A CONCRETE PLUG.
8. CAVITIES AND TRENCHES LEFT BY DEMOLITION WORK SHALL BE BACKFILLED AND COMPACTED IN ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS.
9. ALL MATERIALS BEING REMOVED AND NOT RELOCATED UNDER THE NEW CONSTRUCTION, INCLUDING TREES AND SHRUBS, SIGNS, LIGHT POLES, UTILITY STRUCTURES, ETC., SHALL BE FIRST OFFERED TO THE OWNER'S REPRESENTATIVE AND IF NOT ACCEPTED SHALL THEN BE PROPERLY DISPOSED OF BY THE CONTRACTOR.

SITE GRADING NOTES:

1. THE DISTURBED AREA FOR THIS PROJECT IS APPROXIMATELY 1.00 ACRES.
2. THE SUBJECT PROPERTY DOES NOT LIE WITHIN A SPECIAL FLOOD HAZARD ZONE ACCORDING TO PANEL NO. 48339C0250G OF THE F.E.M.A. FLOOD INSURANCE RATE MAPS FOR MONTGOMERY COUNTY, TEXAS, DATED AUGUST 21, 2024.
3. MULCH AND SEED ALL DISTURBED AREAS AS SOON AS POSSIBLE AFTER FINAL GRADING IS COMPLETED, UNLESS OTHERWISE INDICATED. CONTRACTOR SHALL TAKE WHATEVER MEANS NECESSARY TO ESTABLISH PERMANENT SOIL STABILIZATION.
4. THE CONTRACTOR SHALL CHECK EXISTING GRADES AND DIMENSIONS PRIOR TO BEGINNING WORK AND REPORT ANY DISCREPANCIES TO THE ENGINEER. THIS GRADING & DRAINAGE PLAN IS NOT A DETERMINATION OR GUARANTEE OF THE SUITABILITY OF THE SUBSURFACE CONDITIONS FOR THE WORK INDICATED. A GEOTECHNICAL SOILS REPORT HAS BEEN PREPARED AND IS AVAILABLE FROM THE OWNER. DETERMINATION OF THE SUBSURFACE CONDITIONS FOR THE WORK INDICATED IS THE CONTRACTOR'S SOLE RESPONSIBILITY.
5. IF ANY SPRINGS OR UNDERGROUND STREAMS ARE EXPOSED DURING CONSTRUCTION THE OWNER'S REPRESENTATIVE AND ENGINEER SHALL BE NOTIFIED IMMEDIATELY. PERMANENT MEDIATION MAY BE REQUIRED, THE LOCATION AND SPECIFICATION OF WHICH WILL BE DETERMINED BY THE CONDITIONS WHICH ARE ENCOUNTERED.
6. THE PROPOSED GRADING AND DRAINAGE PLAN CONTAIN CONTOUR LINES AND SPOT ELEVATIONS RESULTING FROM AN ENGINEERED DESIGN AND REFLECT A PLANNED INTENT WITH REGARD TO DRAINAGE AND MOVEMENT OF MATERIALS. SHOULD THE CONTRACTOR HAVE ANY QUESTION OF THE INTENT OR ANY PROBLEM WITH THE CONTINUITY OF GRADES, THE ENGINEER SHALL BE CONTACTED IMMEDIATELY.
7. ALL CUT AND FILL SLOPES SHALL BE 3:1 OR FLATTER UNLESS OTHERWISE INDICATED ON PLANS. FILL SLOPES OF 3:1 AND GREATER SHALL BE PLACED AND COMPACTED A MINIMUM OF 5 FEET BEYOND THE PROPOSED SLOPE LIMITS AND THEN EXCAVATED BACK TO THE PROPOSED LOCATION.
8. THE MAXIMUM SLOPE WITHIN ACCESSIBLE PARKING SPACES SHALL BE 2.0% IN ANY DIRECTION. THE MINIMUM GRADE ON ASPHALT OR CONCRETE PAVING SHALL BE 1.0% UNLESS OTHERWISE INDICATED ON PLANS.
9. PROVIDE A SMOOTH TRANSITION BETWEEN EXISTING PAVEMENT AND NEW PAVEMENT. SLIGHT FIELD ADJUSTMENT MAY BE REQUIRED. THE CONTRACTOR WILL BE REQUIRED TO ADJUST GRADES OF INTERSECTING STREETS, ALLEYS, PUBLIC ENTRANCES AND PRIVATE DRIVES AS DIRECTED BY THE ENGINEER.
10. THE CONTRACTOR SHALL PROVIDE POSITIVE DRAINAGE AT ALL TIMES DURING AND AFTER CONSTRUCTION. SOIL AFFECTED BY PERCHED WATER IN FOUNDATION AND PAVEMENT AREAS MUST BE UNDERCUT AND REPLACED WITH SUITABLE FILL MATERIALS APPROVED BY A GEOTECHNICAL ENGINEER. GROUNDWATER INFILTRATION INTO EXCAVATIONS SHOULD BE EXPECTED, AND THE WATER SHALL BE REMOVED USING GRAVITY DRAINAGE OR PUMPING.
11. THE CONTRACTOR SHALL TAKE SPECIAL CARE TO COMPACT FILL SUFFICIENTLY AROUND AND OVER ALL PIPES, STRUCTURES, VALVE STEMS, ETC., INSIDE THE PROPOSED PAVED AREAS TO AVOID SETTLEMENT. ANY SETTLEMENT DURING THE WARRANTY PERIOD SHALL BE RESTORED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
12. THE CONTRACTOR SHALL NOT DISTURB VEGETATION OR REMOVE ANY TREES EXCEPT WHEN NECESSARY FOR GRADING PURPOSES.
13. THE CONTRACTOR SHALL STRIP TOPSOIL FROM ALL CUT AND FILL AREAS AND STOCKPILE. UPON COMPLETION OF GENERAL GRADING THE TOPSOIL SHALL BE PLACED OVER ALL DISTURBED AREAS TO A MINIMUM DEPTH OF 6". CONTRACTOR SHALL PROVIDE ADDITIONAL TOPSOIL IF INSUFFICIENT QUANTITIES EXIST ON SITE. THE CONTRACTOR SHALL PROVIDE MEASURES TO PREVENT SEDIMENT FROM STOCKPILED TOPSOIL OR FILL MATERIAL FROM CONTAMINATING SURROUNDING AREAS OR ENTERING NEARBY STREAMS.
14. ALL FILL MATERIAL SHALL BE APPROVED BY THE GEOTECHNICAL ENGINEER PRIOR TO PLACEMENT. THIS MATERIAL SHALL BE PLACED IN LIFTS AND COMPACTED AS DIRECTED BY THE GEOTECHNICAL ENGINEER (TO 95% STANDARD PROCTOR).
15. THE CONTRACTOR IS RESPONSIBLE FOR PERMITTING ANY SITE USED FOR DISPOSAL AND/OR STOCKPILE OF ANY MATERIAL FOR SUCH ACTIVITY. A COPY OF THE APPROVED PERMIT MUST BE PROVIDED TO THE INSPECTOR PRIOR TO COMMENCEMENT OF WORK ON ANY PROPERTY. FAILURE TO DO SO MAY RESULT IN THE CONTRACTOR REMOVING ANY ILLEGALLY PLACED MATERIAL AT HIS OWN EXPENSE.
16. ANY EXCESS EARTH MATERIAL AS A RESULT FROM GRADING ACTIVITIES SHALL BE FIRST OFFERED TO THE OWNER. IF NOT ACCEPTED BY THE OWNER, THE CONTRACTOR SHALL DISPOSE OF EARTH MATERIAL OFF SITE AT NO ADDITIONAL COST TO THE OWNER. IT IS THE CONTRACTOR'S RESPONSIBILITY TO IMPORT SUITABLE MATERIAL FOR GRADING ACTIVITIES IF SUFFICIENT AMOUNTS OF EARTH MATERIAL ARE NOT AVAILABLE ON SITE AT NO ADDITIONAL COST TO THE OWNER.
17. SEGMENTAL WALLS SHALL BE PROVIDED BY THE CONTRACTOR ON A DESIGN BUILD BASIS. WALL DESIGN PLANS STAMPED BY A REGISTERED ENGINEER IN THE STATE OF THE PROJECT SHALL BE SUBMITTED TO THE ENGINEER AS A SHOP DRAWING AND INCLUDED IN THE CONSTRUCTION DOCUMENTS.
18. TOP OF GRATE ELEVATIONS FOR DRAINAGE STRUCTURES SHALL BE AS SHOWN ON THE DETAIL AND GRADING PLAN, UNLESS NOTED OTHERWISE. THE GRATES SHALL SLOPE WITH THE PAVEMENT AND/OR CURB AND GUTTER GRADES. LOCATION OF DRAINAGE STRUCTURES IS AS SHOWN ON THE GRADING PLAN.
19. THE CONTRACTOR SHALL COORDINATE EXACT LOCATION OF STORM DRAIN CONNECTIONS AT THE BUILDING WITH THE PLUMBING PLANS.
20. REINFORCED CONCRETE STORM PIPE SHALL MEET ASTM 76 CLASS III, WALL TYPE "B" MESH REINFORCEMENT, HIGH DENSITY POLYETHYLENE PIPE (HDPE) SHALL MEET ASTM F 2648. POLYVINYLCHLORIDE PIPE (PVC) SHALL MEET ASTM D3034, SDR 35.

EROSION CONTROL NOTES:

1. EROSION PREVENTION AND SEDIMENT CONTROL MEASURES MUST BE IN PLACE AND FUNCTIONAL BEFORE GRADING ACTIVITIES BEGIN AND MUST BE CONSTRUCTED AND MAINTAINED THROUGHOUT THE DURATION OF THE PROJECT. TEMPORARY MEASURES MAY BE REMOVED AT THE BEGINNING OF THE WORKDAY BUT MUST BE REPLACED AT THE END OF THE WORKDAY.
2. THE CONTRACTOR SHALL SEQUENCE CONSTRUCTION TO MINIMIZE THE EXPOSURE TIME OF GRADED OR DENUDED AREAS.
3. CONSTRUCT SILT BARRIERS BEFORE BEGINNING GRADING OPERATIONS.
4. PROVIDE TEMPORARY CONSTRUCTION ACCESS(ES) AT THE POINT(S) WHERE CONSTRUCTION VEHICLES EXIT THE CONSTRUCTION AREA. MAINTAIN PUBLIC ROADWAYS FREE OF TRACKED MUD AND DIRT.
5. EXISTING VEGETATION AND GROUND COVER SHALL NOT BE DESTROYED, REMOVED OR DISTURBED MORE THAN 10 DAYS PRIOR TO GRADING OR EARTH MOVING UNLESS THE AREA IS SEEDED AND/OR MULCHED OR OTHER TEMPORARY COVER IS INSTALLED.
6. USE TEMPORARY VEGETATION AND/OR MULCH TO PROTECT BARE AREAS FROM EROSION DURING CONSTRUCTION.
7. INSPECTION AND MAINTENANCE OF EROSION CONTROL DEVICES SHALL BE PERFORMED ON A REGULAR BASIS. IF AT ANY TIME DURING CONSTRUCTION, THE EROSION AND SEDIMENT CONTROL MEASURES INSTALLED FAIL TO FUNCTION PROPERLY, NEED MAINTENANCE OR REPAIR, OR NEED NEW REPLACEMENT IN KIND, THE CONTRACTOR WILL EFFECT SUCH ACTIONS AS ARE NEEDED TO CORRECT THE SITUATION AT NO ADDITIONAL COST TO THE OWNER.
8. THE CONTRACTOR SHALL USE WATER SPRINKLING AND OTHER SUITABLE METHODS AS NECESSARY TO CONTROL DUST AND DIRT CAUSED BY CONSTRUCTION ACTIVITY. THE USE OF MOTOR OILS AND OTHER PETROLEUM BASED OR TOXIC LIQUIDS FOR DUST CONTROL ARE PROHIBITED.
9. ALL WASH WATER (CONCRETE TRUCKS, VEHICLE CLEANING, EQUIPMENT CLEANING, ETC.) SHALL BE DETAINED AND PROPERLY TREATED OR DISPOSED.
10. STABILIZATION PRACTICES SHOULD BE INITIATED AS SOON AS PRACTICAL, BUT IN NO CASE MORE THAN 7 DAYS WHERE CONSTRUCTION HAS TEMPORARILY OR PERMANENTLY CEASED. DISTURBED AREAS WHERE CONSTRUCTION ACTIVITY HAS PERMANENTLY STOPPED SHALL BE PERMANENTLY STABILIZED NO LATER THAN 7 DAYS AFTER THE LAST CONSTRUCTION ACTIVITY OCCURRED.
11. SEDIMENT SHOULD BE REMOVED FROM SEDIMENT AND EROSION CONTROL DEVICES AS NECESSARY AND MUST BE REMOVED WHEN DESIGN CAPACITY HAS BEEN REDUCED BY 50% OR AS DIRECTED BY OWNER'S REPRESENTATIVE.
12. THE CONTRACTOR SHALL REMOVED SEDIMENT BUILD UP FROM ALL DRAINAGE STRUCTURES BEFORE ACCEPTANCE BY LOCAL GOVERNING AGENCY OR AS DIRECTED BY THE OWNER'S REPRESENTATIVE.
13. THE CONTRACTOR SHALL REMOVE THE TEMPORARY EROSION AND SEDIMENT CONTROL DEVICES ONLY AFTER A GOOD STAND OF VEGETATIVE COVER HAS BEEN ESTABLISHED ON GRADED AREAS AND WHEN IN THE OPINION OF THE OWNER'S REPRESENTATIVE, THEY ARE NO LONGER NEEDED.

UTILITY NOTES:

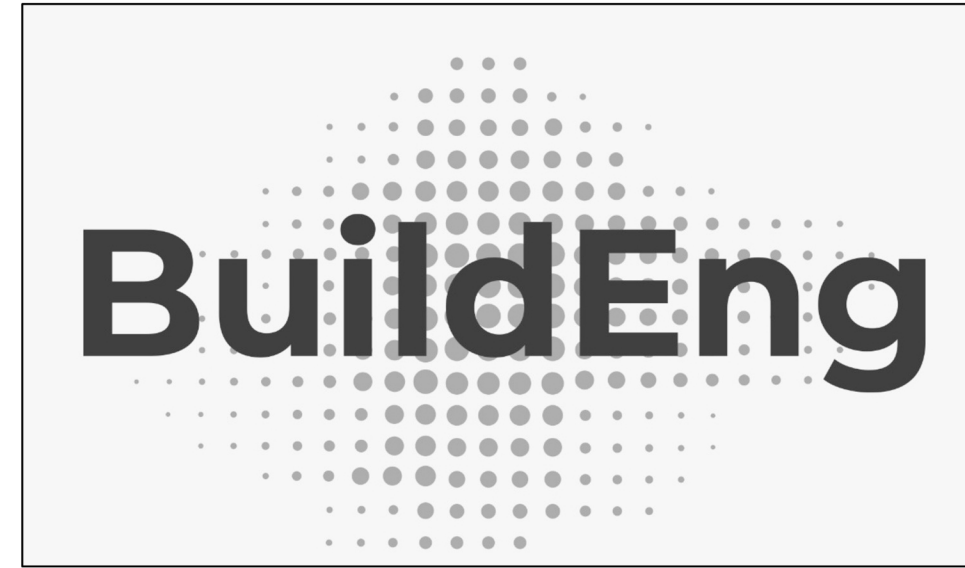
1. ALL WATER LINES, SEWER LINES AND APPURTENANCES SHALL BE CONSTRUCTED OF MATERIALS THAT CONFORM WITH LOCAL AGENCY(S) AND UTILITY PROVIDER DETAILS AND SPECIFICATIONS.
2. SANITARY SEWER SHALL BE OF MATERIAL AS SPECIFIED ON PLANS. POLYVINYLCHLORIDE (PVC) SHALL MEET ASTM D3034 SDR35. DUCTILE IRON PIPE (DIP) SHALL MEET ANSI/21.51/AWWA C-151 CLASS 52.
3. WATER LINES SHALL BE OF MATERIAL AS SPECIFIED ON PLANS. CEMENT LINED DUCTILE IRON (DIP) SHALL MEET AWWA C-151 CLASS 52. POLYVINYLCHLORIDE (PVC) SHALL MEET AWWA C-900, SDR 18, CLASS 150.
4. A MINIMUM COVER OF 36" SHALL BE PROVIDED OVER ALL WATER LINES.
5. THE CONTRACTOR SHALL MAINTAIN A HORIZONTAL SEPARATION OF 10 FEET BETWEEN SANITARY SEWER LINES AND WATER LINES. WHERE THESE CRITERIA CANNOT BE MET, THE CONTRACTOR SHALL MAINTAIN 18" VERTICAL SEPARATION BETWEEN WATER AND SEWER LINES.
6. EXISTING UTILITIES SHOWN ARE LOCATED ACCORDING TO THE INFORMATION AVAILABLE TO THE SURVEYOR AT THE TIME OF THE TOPOGRAPHIC SURVEY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR THE ENGINEER. GUARANTEE IS NOT MADE THAT ALL EXISTING UNDERGROUND UTILITIES ARE SHOWN OR THAT THE LOCATION OF THOSE SHOWN ARE ENTIRELY ACCURATE. FINDING THE ACTUAL LOCATION OF ANY EXISTING UTILITIES IS THE CONTRACTOR'S RESPONSIBILITY AND SHALL BE DONE BEFORE HE COMMENCES ANY WORK IN THE VICINITY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY AND ALL DAMAGES DUE TO THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES. THE OWNER OR ENGINEER WILL ASSUME NO LIABILITY FOR ANY DAMAGES SUSTAINED OR COST INCURRED BECAUSE OF THE OPERATIONS IN THE VICINITY OF EXISTING UTILITIES OR STRUCTURES, NOR FOR TEMPORARY BRACING AND SHORING OF SAME. IF IT IS NECESSARY TO SHORE, BRACE, SWING OR RELOCATE A UTILITY, THE UTILITY COMPANY OR DEPARTMENT AFFECTED SHALL BE CONTACTED AND THEIR PERMISSION OBTAINED REGARDING THE METHOD TO USE FOR SUCH WORK.
7. THE CONTRACTOR SHALL VERIFY THE HORIZONTAL AND VERTICAL LOCATIONS OF THE POINT OF CONNECTIONS OF ALL UTILITIES PRIOR TO ORDERING OF MATERIALS OR COMMENCEMENT OF WORK. REPORT ANY DISCREPANCIES TO THE ENGINEER IMMEDIATELY.
8. THE CONTRACTOR SHALL COORDINATE THE SEQUENCE OF CONSTRUCTION FOR ALL UTILITY LINES TO PREVENT CONFLICTS WITH EXISTING OR PROPOSED WATER LINES, SANITARY SEWER LINES, SANITARY SEWER SERVICES, STORM SEWERS, OR ANY OTHER UTILITY OR STRUCTURE.
9. BEFORE CONNECTIONS ARE MADE INTO EXISTING UTILITIES, THE NEW LINES ARE TO BE FLUSHED AND TESTED BY THE CONTRACTOR IN ACCORDANCE WITH THE LOCAL AGENCY(S) AND UTILITY PROVIDER(S) WATER AND SEWER SPECIFICATIONS.
10. REDUCED PRESSURE BACKFLOW PREVENTOR (RPBP) OR DUAL CHECK WILL BE REQUIRED ON ALL TESTS AND FILL LINES (JUMPER) NEEDED FOR WATER MAIN CONSTRUCTION AND MUST BE APPROVED BY LOCAL AGENCY AND UTILITY PROVIDER.
11. THE CONTRACTOR SHALL PROVIDE ALL HORIZONTAL AND VERTICAL BENDS TO ATTAIN THE ALIGNMENT INDICATED ON THE PLANS. PROVIDE VERTICAL BENDS WHERE NECESSARY TO ALLOW WATER LINES TO PASS UNDER OR OVER OTHER UTILITY LINES (ALL BENDS AND BRACES NEEDED MAY NOT BE SHOWN ON THESE PLANS). PROVIDE BRACING AND/OR RODDING AT ALL BENDS AND TEES AS REQUIRED.
12. THE CONTRACTOR SHALL COORDINATE EXACT LOCATION OF UTILITY CONNECTIONS AT THE BUILDING WITH PLUMBING PLANS.
13. PROPOSED GAS LINE, ELECTRIC LINE AND TELEPHONE LINE CONSTRUCTION AND INSTALLATION SHALL BE COORDINATED WITH THE RESPECTIVE UTILITY PROVIDERS.
14. EXISTING CASTINGS LOCATED IN FILL/CUT AREAS SHALL BE ADJUSTED TO ENSURE THAT THE TOP OF CASTING IS FLUSH WITH THE FINISHED GRADE.
15. THE CONTRACTOR SHALL MARK THE LOCATION OF ALL NEW PVC LINES WITH #8 WIRE.
16. ALL CONNECTIONS TO EXISTING MANHOLES SHALL BE BY THE CORING AND RESILIENT SEAL METHOD.
17. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY PROTECTIVE MEASURES TO SAFEGUARD EXISTING UTILITIES FROM DAMAGE DURING CONSTRUCTION OF THIS PROJECT. IN THE EVENT THAT SPECIAL EQUIPMENT IS REQUIRED TO WORK OVER AND AROUND THE UTILITIES, THE CONTRACTOR WILL BE REQUIRED TO FURNISH SUCH EQUIPMENT AT NO ADDITIONAL COST TO THE OWNER.
18. ALL FIRE LINES SHALL BE INSTALLED BY A SPRINKLER CONTRACTOR LICENSED IN THE STATE OF THE PROJECT.
19. PRIOR TO SUBMITTING OF BID, THE CONTRACTOR WILL BE RESPONSIBLE FOR CONTACTING OWNERS OF ALL AFFECTED UTILITIES IN ORDER TO DETERMINE THE EXTENT TO WHICH UTILITY RELOCATIONS AND/OR ADJUSTMENTS WILL HAVE UPON THE SCHEDULE OF WORK FOR THE PROJECT. WHILE SOME WORK MAY BE REQUIRED 'AROUND' UTILITY FACILITIES THAT WILL REMAIN IN PLACE, OTHER UTILITY FACILITIES MAY NEED TO BE ADJUSTED CONCURRENTLY WITH THE CONTRACTOR'S OPERATIONS.

EROSION CONTROL TYPICAL NOTES:

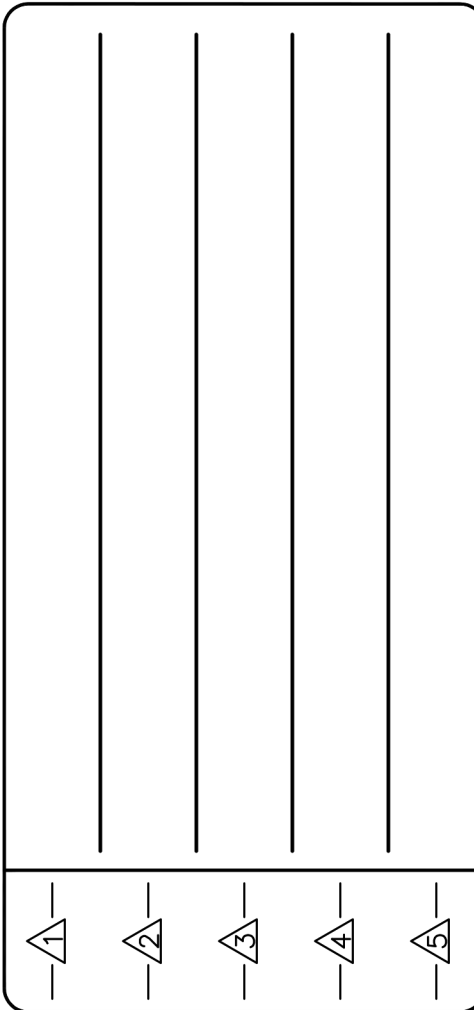
1. ALL CONTROL MEASURES MUST BE PROPERLY SELECTED, INSTALLED, AND MAINTAINED IN ACCORDANCE WITH THE MANUFACTURE'S SPECIFICATIONS AND THE CONTRACT DOCUMENTS. IF PERIODIC INSPECTIONS OR OTHER INFORMATION INDICATES A CONTROL HAS BEEN USED INAPPROPRIATELY OR INCORRECTLY, THE CONTRACTOR MUST REPLACE OR MODIFY THE CONTROL FOR SITE SITUATIONS.
2. IF SEDIMENT ESCAPES THE CONSTRUCTION SITE, OFF-SITE ACCUMULATIONS OF SEDIMENT THAT HAVE NOT REACHED A STREAM MUST BE REMOVED AT A FREQUENCY SUFFICIENT TO MINIMIZE OFFSITE IMPACTS. PERMITTEES SHALL NOT INITIATE REMEDIATION/RESTORATION OF A STREAM WITHOUT CONSULTING THE DIVISION FIRST. THIS PERMIT DOES NOT, HOWEVER, AUTHORIZE ACCESS TO PRIVATE PROPERTY.
3. SEDIMENT SHOULD BE REMOVED FROM SEDIMENT TRAPS, SILT FENCES, SEDIMENTATION PONDS, AND OTHER SEDIMENT CONTROLS AS NECESSARY, AND MUST BE REMOVED WHEN DESIGN CAPACITY HAS BEEN REDUCED BY 33%.
4. LITTER, CONSTRUCTION DEBRIS, AND CONSTRUCTION CHEMICALS EXPOSED TO STORM WATER SHALL BE PICKED UP PRIOR TO ANTICIPATED STORM EVENTS, OR OTHERWISE PREVENTED FROM BECOMING A POLLUTANT SOURCE FOR STORM WATER DISCHARGES.
5. PRE-CONSTRUCTION VEGETATIVE GROUND COVER SHALL NOT BE DESTROYED, REMOVED OR DISTURBED MORE THAN 20 CALENDAR DAYS PRIOR TO GRADING OR EARTH MOVING UNLESS THE AREA IS SEEDED AND/OR MULCHED OR OTHER TEMPORARY COVER IS INSTALLED.
6. CLEARING AND GRUBBING MUST BE HELD TO THE MINIMUM NECESSARY FOR GRADING AND EQUIPMENT OPERATION.
7. CONSTRUCTION MUST BE SEQUENCED TO MINIMIZE THE EXPOSURE TIME OF GRADED OR DENUDED AREAS.
8. EROSION AND SEDIMENT CONTROL MEASURES 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.
9. THE FOLLOWING RECORDS SHALL BE MAINTAINED ON SITE, THE DATES WHEN MAJOR GRADING ACTIVITIES OCCUR, THE DATES WHEN CONSTRUCTION ACTIVITIES TEMPORARILY OR PERMANENTLY CEASE ON A PORTION OF THE SITE, AND THE DATES WHEN STABILIZATION MEASURES ARE INITIATED.
10. STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICAL IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, BUT IN NO CASE MORE THAN SEVEN DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED. EXCEPT IN THE FOLLOWING TWO SITUATIONS: 1. WHERE THE INITIATION OF STABILIZATION MEASURES BY THE SEVENTH DAY IS PRECLUDED BY SNOW COVER OR FROZEN GROUND CONDITIONS, STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICAL; OR 2. WHERE CONSTRUCTION ACTIVITY ON A PORTION OF THE SITE IS TEMPORARILY CEASED, AND EARTH DISTURBING ACTIVITIES WILL BE RESUMED WITHIN 15 DAYS, TEMPORARY STABILIZATION MEASURES DO NOT HAVE TO BE INITIATED ON THAT PORTION OF SITE.
11. CONSTRUCTION MUST BE PHASED FOR PROJECTS IN WHICH OVER 50 ACRES OF SOIL WILL BE DISTURBED. AREAS OF THE COMPLETED PHASE MUST BE STABILIZED WITHIN 21 DAYS AFTER ANOTHER PHASE HAS BEEN INITIATED OR OTHERWISE PREVENTED FROM BECOMING A POLLUTANT SOURCE FOR STORM WATER DISCHARGES. AFTER USE, SILT FENCES SHOULD BE REMOVED OR OTHERWISE PREVENTED FROM BECOMING A POLLUTANT SOURCE FOR STORM WATER DISCHARGES.
12. TEMPORARY OR PERMANENT SOIL STABILIZATION SHALL BE ACCOMPLISHED WITHIN 15 DAYS AFTER FINAL GRADING OR OTHER EARTH WORK. PERMANENT STABILIZATION WITH PERENNIAL VEGETATION OR OTHER PERMANENTLY STABLE, NON-ERODING SURFACE SHALL REPLACE ANY TEMPORARY MEASURES AS SOON AS PRACTICABLE.
13. NO SOLID MATERIALS INCLUDING BUILDING MATERIAL, SHALL BE DISCHARGED TO WATERS OF THE UNITED STATES EXCEPT AS AUTHORIZED BY A PERMIT.
14. OFFSITE VEHICLE TRACKING OF SEDIMENTS AND THE GENERATION OF DUST SHALL BE MINIMIZED.

SCHEDULE OF INSPECTIONS AND MAINTENANCE NOTES

1. INSPECTIONS SHALL BE DONE BEFORE ANTICIPATED STORM EVENTS (OR SERIES OF STORM EVENTS SUCH AS INTERMITTENT SHOWERS OVER ONE OR MORE DAYS), AND WITHIN 24 HOURS AFTER THE END OF A STORM EVENT OF 0.25 INCHES OR GREATER, AND AT LEAST TWICE EVERY SEVEN CALENDAR DAYS, NOT ON CONSECUTIVE DAYS. WHEN PORTIONS OF THE SITE HAVE BEEN FINALLY OR TEMPORARILY STABILIZED, OR RUNOFF IS UNLIKELY DUE TO WINTER CONDITIONS (E.G. SITE COVERED WITH SNOW, ICE OR FROZEN GROUND), SUCH INSPECTION ONLY HAS TO BE CONDUCTED ONCE PER MONTH.
2. INSPECTIONS AND ASSOCIATED NECESSARY REPAIRS DONE 60 HOURS BEFORE A RAIN EVENT CONSTITUTE COMPLIANCE WITH "BEFORE ANTICIPATED STORM EVENTS," AND INSPECTIONS AND REPAIRS ON A FRIDAY MEET THE REQUIREMENTS FOR RAIN EVENTS OVER THE WEEKEND.
3. QUALIFIED PERSONNEL SHALL INSPECT DISTURBED AREAS OF THE CONSTRUCTION SITE THAT HAVE NOT BEEN FINALLY STABILIZED. AREAS USED FOR STORAGE OF MATERIALS THAT ARE EXPOSED TO PRECIPITATION, STRUCTURAL CONTROL MEASURES, AND LOCATIONS WHERE VEHICLES ENTER OR EXIT THE SITE.
4. DISTURBED AREAS AND AREAS USED FOR STORAGE OF MATERIALS THAT ARE EXPOSED TO PRECIPITATION SHALL BE INSPECTED FOR EVIDENCE OF, OR THE POTENTIAL FOR, POLLUTANTS ENTERING THE DRAINAGE SYSTEM. EROSION AND SEDIMENT CONTROL MEASURES IDENTIFIED IN THE STORM WATER POLLUTION PREVENTION PLAN AND IN THE CONTRACT DOCUMENTS SHALL BE OBSERVED TO ENSURE THAT THEY ARE OPERATING CORRECTLY.
5. OUTFALL POINTS (WHERE DISCHARGES FROM THE SITE ENTER STREAMS OR WET WEATHER CONVEYANCES) SHALL BE INSPECTED TO ASCERTAIN WHETHER EROSION CONTROL MEASURES ARE EFFECTIVE IN PREVENTING SIGNIFICANT IMPACTS TO RECEIVING WATERS. WHERE DISCHARGE LOCATIONS ARE INACCESSIBLE, NEARBY DOWNSTREAM LOCATIONS SHALL BE INSPECTED IF POSSIBLE. LOCATIONS WHERE VEHICLES ENTER OR EXIT THE SITE SHALL BE INSPECTED FOR EVIDENCE OF OFFSITE SEDIMENT TRACKING.
6. BASED ON THE RESULTS OF THE INSPECTION, ANY INADEQUATE CONTROL MEASURES OR CONTROL MEASURES IN DISREPAIR SHALL BE REPLACED OR MODIFIED, OR REPAIRED AS NECESSARY, BEFORE THE RAIN EVENT IF POSSIBLE, BUT IN NO CASE MORE THAN SEVEN DAYS AFTER THE NEED IS IDENTIFIED. IF MAINTENANCE PRIOR TO THE NEXT ANTICIPATED STORM EVENT IS IMPRACTICABLE, MAINTENANCE MUST BE SCHEDULED AND ACCOMPLISHED AS SOON AS PRACTICABLE.
7. BASED ON THE RESULTS OF THE INSPECTION, THE SITE DESCRIPTION PROVIDED, AND THE POLLUTION PREVENTION MEASURES PRESENTED IN THIS PLAN MAY BE REVISED AS APPROPRIATE, BUT IN NO CASE LATER THAN 14 CALENDAR DAYS FOLLOWING THE INSPECTION. SUCH MODIFICATIONS SHALL PROVIDE FOR TIMELY IMPLEMENTATION OF ANY CHANGES TO THIS PLAN IN NO CASE LATER THAN 21 CALENDAR DAYS FOLLOWING THE INSPECTION.
8. INSPECTIONS SHALL BE DOCUMENTED AND INCLUDE THE SCOPE OF THE INSPECTION, NAME(S) AND TITLE OR QUALIFICATIONS OF PERSONNEL MAKING THE INSPECTION, THE DATE(S) OF THE INSPECTION, MAJOR OBSERVATIONS RELATING TO THE IMPLEMENTATION OF THE STORM WATER POLLUTION PREVENTION PLAN (INCLUDING THE LOCATION(S) OF DISCHARGES OF SEDIMENT OR OTHER POLLUTANTS FROM THE SITE AND OF ANY CONTROL DEVICE THAT FAILED TO OPERATE AS DESIGNED OR PROVED INADEQUATE FOR A PARTICULAR LOCATION AND ACTIONS TAKEN IN ACCORDANCE IN PARAGRAPH 6 ABOVE.



MONTGOMERY COUNTY	
ENGINEERING DEPARTMENT	
THESE PLANS HAVE BEEN REVIEWED FOR GENERAL CONFORMITY WITH MONTGOMERY COUNTY'S DESIGN REQUIREMENTS, REGULATIONS AND CONSTRUCTION SPECIFICATIONS, HOWEVER, THE RESPONSIBILITY FOR ENSURING CONSTRUCTABILITY AND ADHERENCE TO SOUND ENGINEERING PRACTICES RESTS WITH THE ENGINEER SCALING THE PLANS. ALL CONSTRUCTION ACTIVITIES FOR THE PROJECT MUST COMPLY WITH MONTGOMERY COUNTY REGULATIONS BEFORE THE ISSUANCE OF THE INITIAL CERTIFICATION. ANY ERRORS, OMISSIONS, OR EXCLUSIONS IN THE PLANS MAY RESULT IN SIGNIFICANT INCREASES IN BOTH CONSTRUCTION COSTS AND TIME DELAYS.	
COUNTY ENGINEER	DATE
_____	_____

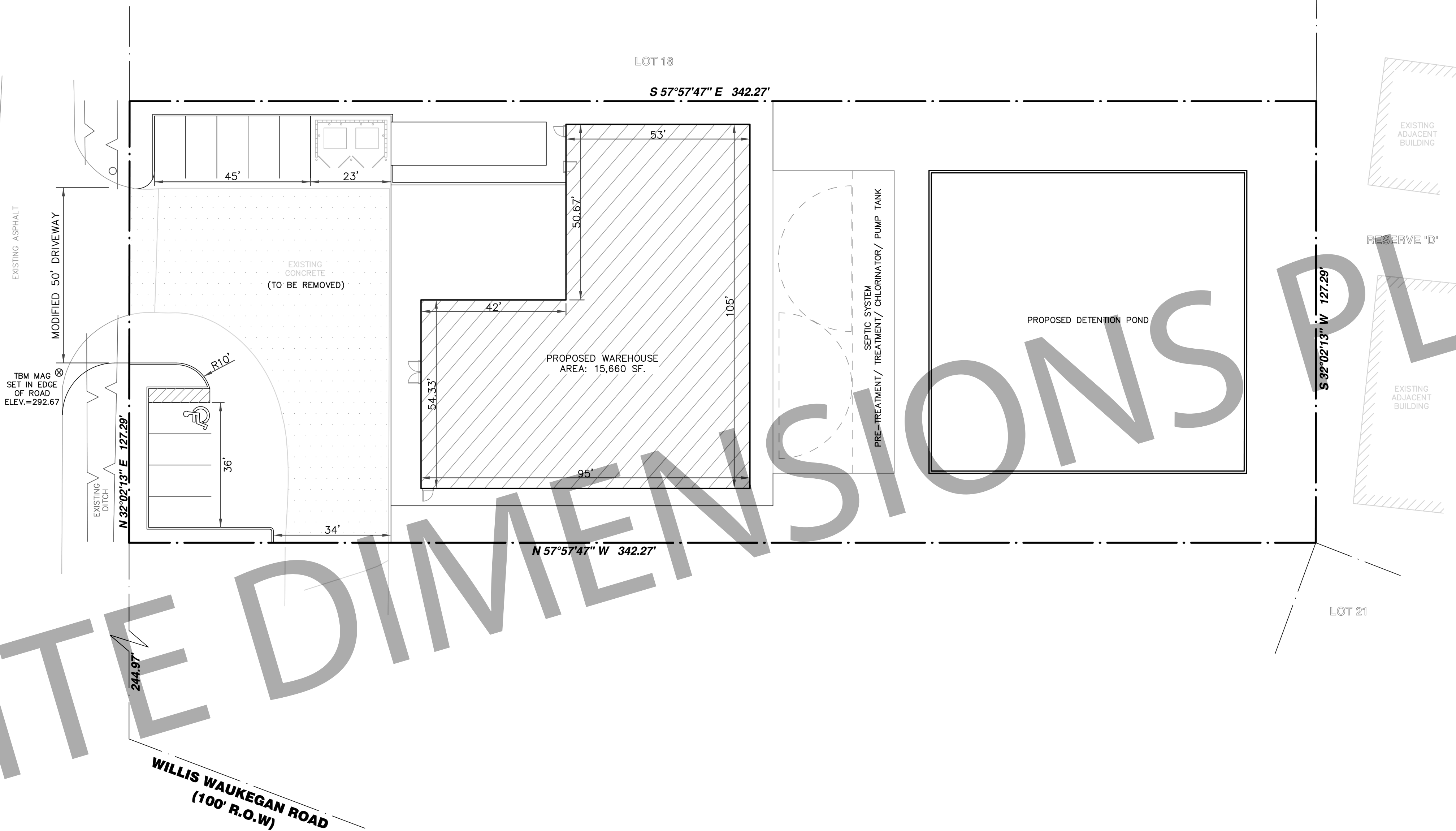


DESIGNED BY:	
DWN BY:	
CHK BY:	

PROPOSED MIXED-USE BUILDING	FM 1484 AND WILLIS WAUKEGAN ROAD CONROE, TX 77303
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GENERAL CONSTRUCTION NOTES	
DESIGNED BY:	DWN BY:
CHK BY:	

SHEET REFERENCE:	
C.01	

F.M. HWY NO. 1484
(80' R.O.W)**SITEWORKS NOTES:**

- CONTRACTOR SHALL FIELD VERIFY LOCATION AND ELEVATION OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION OF PROPOSED FACILITIES. NOTIFY ENGINEER IMMEDIATELY OF ANY DISCREPANCIES.
- CONTRACTOR SHALL NOTIFY THE APPROPRIATE UTILITY COMPANY 48 HOURS PRIOR TO EXCAVATING NEAR THEIR UTILITY.
- CONTRACTOR SHALL TAKE ALL DUE PRECAUTIONS TO PROTECT EXISTING FACILITIES FROM DAMAGE. ANY DAMAGE TO EXISTING FACILITIES INCURRED AS A RESULT OF CONSTRUCTION OPERATIONS WILL BE REPAIRED BY THE CONTRACTOR AT HIS OWN EXPENSE.
- CONTRACTOR SHALL TAKE EXTRA CARE TO PROTECT TREES IN AREAS ADJACENT TO CONSTRUCTION.
- CONTRACTOR SHALL CONFIRM NO CONFLICTS BETWEEN EXISTING AND PROPOSED DRY/WET UTILITIES IN PUBLIC R.O.W., BEFORE STARTING SITE WORK CONSTRUCTION.

CONSTRUCTION NOTE:

CONTRACTOR SHALL CONFIRM NO CONFLICTS BETWEEN EXISTING AND PROPOSED DRY/WET UTILITIES IN PUBLIC R.O.W., BEFORE STARTING SITE WORK CONSTRUCTION.

CONTRACTOR SHALL HYDROMULCH ALL NEWLY GRADED AREAS AND EXPOSED SOILS UPON PAVING COMPLETION.

EXCESS SOIL MATERIAL IS THE RESPONSIBILITY OF THE CONTRACTOR & IS TO BE DISPOSED OFFSITE RESPONSIBLY AT NO SEPARATE PAY.

LEGEND

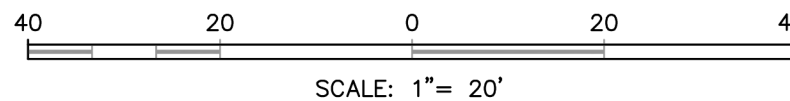
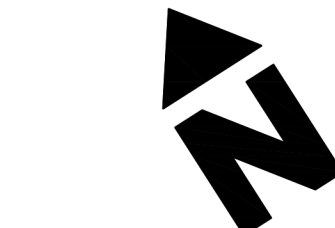
	PROPERTY LINE
	PROPOSED BUILDING
	EXISTING CONCRETE DRIVE

IMPERVIOUS COVER ANALYSIS:

TOTAL SITE AREA = 43,567 S.F.		
IMPROVEMENT TYPE	AREA OF EXISTING IMPERVIOUS COVER	AREA OF FINAL IMPERVIOUS COVER
BUILDINGS		7,840 S.F.
CONCRETE DRIVE AND SIDEWALK	4,920 S.F.	20,260 S.F.
TOTAL AREA	4,920 S.F.	28,100 S.F.
TOTAL FINAL IMPERVIOUS COVER = 28,100 S.F.		
PERCENTAGE OF IMPERVIOUS COVER = 65.00%		

PROJECT DATA

SITE ADDRESS	FM 1484 AND WILLIS WAUKEGAN ROAD CONROE, TX 77303
CITY	CITY OF CONROE
COUNTY	MONTGOMERY COUNTY
STATE	TEXAS
TOTAL SITE AREA	43,567 S.F. (1.00 AC.)
FEMA MAP NUMBER	48339C0250G
EFFECTIVE DATE	08/21/2024
FEMA ZONE	ZONE X
PROPOSED BUILDING DIMENSIONS	95' x 105'
EXISTING IMPERVIOUS AREA	4,920 S.F.
PROPOSED IMPERVIOUS AREA	28,100 S.F.

**MONTGOMERY COUNTY**

ENGINEERING DEPARTMENT

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COUNTY ENGINEER

DATE

PROPOSED MIXED-USE
BUILDINGFM 1484 AND WILLIS WAUKEGAN
ROAD CONROE, TX 77303

SITE PLAN

DESIGNED BY:

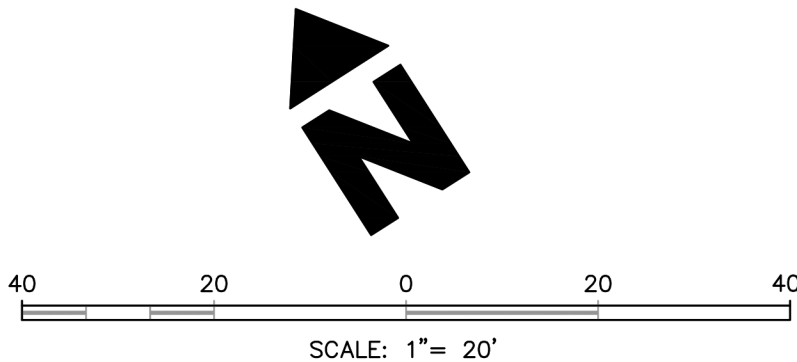
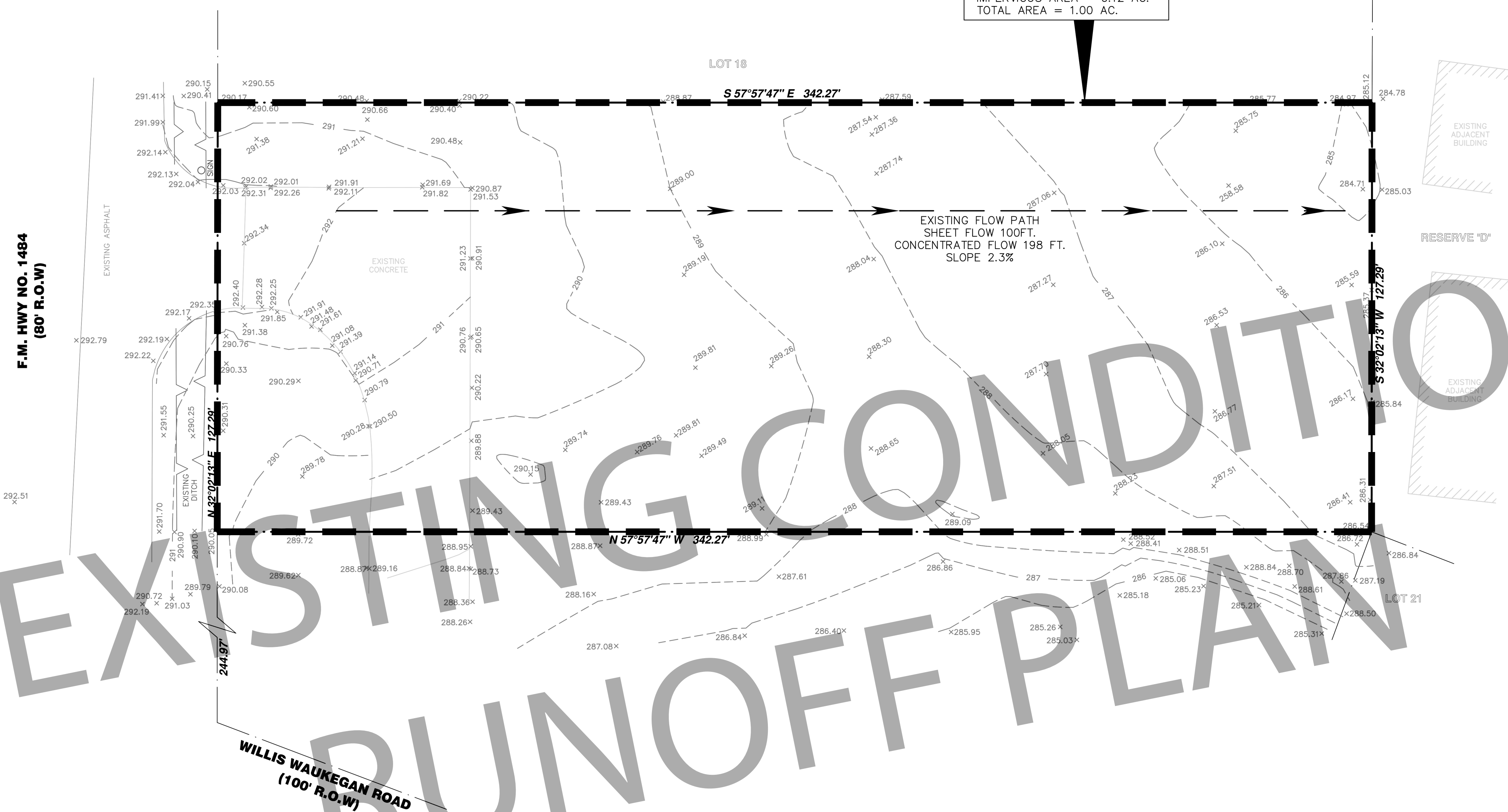
DWN BY:

CHK BY:

SHEET
REFERENCE:

C.02

F.M. HWY NO. 1484
(80' R.O.W)



SITeworks NOTES:

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MONTGOMERY COUNTY

ENGINEERING DEPARTMENT

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COUNTY ENGINEER

DATE

PROPOSED MIXED-USE
BUILDING

FM 1484 AND WILLIS WAUKEGAN
ROAD CONROE, TX 77303

EXISTING
CONDITION
RUNOFF

DESIGNED BY:

DWN BY:

CHK BY:

SHEET
REFERENCE:

C.03

DETENTION CALCULATIONS BASED ON MONTGOMERY COUNTY CRITERIA

BuildEng

EXISTING CONDITION RUNOFF CALCULATIONS

(RATIONAL METHOD)

(Montgomery County Drainage Criteria Manual)

TOTAL SITE AREA = 1.00 AC.
IMPERVIOUS AREA = 0.12 AC.
PERVIOUS AREA = 0.88 AC.

C = Runoff Coefficient

From Table 2.2, Page 6

C = 0.35 Pervious cover (Slope 1% -3.50%)

C = 0.85 Impervious cover (Slope 1% -3.50%)

Cw = Weighted "C" value

$$C_w = \frac{0.88 \times 0.35 + 0.12 \times 0.85}{1.00} = 0.41$$

$$Q = C_f \times C \times I \times A$$

From Table 2.1, Page 5

Cf = 1.10 (25-Yr storm event)

Cf = 1.25 (100-Yr storm event)

Tc calculations:

Equation 2.4, Page 9

(For Shallow Concentrated flow time
with approx. length of 100 feet)

$$V = 16.1345 \sqrt{S} = 16.1345 \sqrt{0.02}$$

$$V = 2.28 \text{ ft/sec}$$

$$T_c = \frac{100}{2.28 \times 60}$$

$$T_c = 0.73 \text{ min. (MIN. 10 Minutes USED)}$$

From Figure 2.1a, Page 7

$$I_{25\text{-yr}} = 9.40 \text{ IN/HR.}$$

$$I_{100\text{-yr}} = 11.70 \text{ IN/HR.}$$

25-year Storm

$$Q = C_f \times C \times I \times A$$

$$Q = 1.10 \times 0.41 \times 9.40 \times 1.00$$

$$Q = 4.24 \text{ CFS}$$

100-year Storm

$$Q = C_f \times C \times I \times A$$

$$Q = 1.25 \times 0.41 \times 11.70 \times 1.00$$

$$Q = 6.00 \text{ CFS}$$

DEVELOPED CONDITION RUNOFF CALCULATIONS

(RATIONAL METHOD)

(Montgomery County Drainage Criteria Manual)

TOTAL SITE AREA = 1.00 AC.

IMPERVIOUS AREA = 0.65 AC.

PERVIOUS AREA = 0.35 AC.

C = Runoff Coefficient

From Table 2.2, Page 6

C = 0.35 Pervious cover (Slope 1% -3.50%)

C = 0.85 Impervious cover (Slope 1% -3.50%)

Cw = Weighted "C" value

$$C_w = \frac{0.35 \times 0.35 + 0.65 \times 0.85}{1.00} = 0.68$$

$$Q = C_f \times C \times I \times A$$

From Table 2.1, Page 5

Cf = 1.10 (25-Yr storm event)

Cf = 1.25 (100-Yr storm event)

Tc calculations:

Assume minimum Tc = 5 Minutes

From Figure 2.1, Page 7

$$I_{25\text{-yr}} = 11.80 \text{ IN/HR.}$$

$$I_{100\text{-yr}} = 14.80 \text{ IN/HR.}$$

25-year Storm

$$Q = C_f \times C \times I \times A$$

$$Q = 1.10 \times 0.68 \times 11.80 \times 1.00$$

$$Q = 8.82 \text{ CFS}$$

100-year Storm

$$Q = C_f \times C \times I \times A$$

$$Q = 1.25 \times 0.68 \times 14.80 \times 1.00$$

$$Q = 12.58 \text{ CFS}$$

REQUIRED DETENTION VOLUME (25-Year)

(Detention design for Drainage Areas of Less than 50 AC.)

(Montgomery County Drainage Criteria Manual)

Section 7.3.3, Page 114

Triangular Hydrograph Method

B = Duration of inflow to the basin (Second)

V_R = Total basin inflow volume (AC-FT)

S = Required Storage Volume (AC-FT)

I = Peak inflow rate (CFS) - Developed Condition

O = Peak outflow rate (CFS) - Existing Condition

P = Total Point Rainfall (24 HR storm) = 10.80 inches (Table 2.4, Page 10)

Based on SCS method, Page 24 (Developed Condition CN = 95)

R = Excess Runoff (Inches)

A = Area of the site (Acres)

$$S = \frac{1000}{CN} - 10 = \frac{1000}{95} - 10 = 0.53$$

$$R = \frac{(P - 0.2*S)^2}{P + 0.8*S} = \frac{(10.80 - 0.2 * 0.53)^2}{10.80 + 0.8 * 0.53}$$

$$R = 10.19 \text{ Inches} = 0.85 \text{ Ft.}$$

$$V_R = R \times A$$

$$V_R = 0.85 \text{ feet} \times 1.00 \text{ AC.} = 0.85 \text{ AC.-FT.}$$

$$B = \frac{43560 * V_R}{0.5 * I} = \frac{43560 * 0.85}{0.5 * 8.82} = 8,395 \text{ Sec.}$$

$$S = \frac{(0.5) B*(I-O)}{43560} = \frac{0.5 \times 8,395 (8.82 - 4.24)}{43560} = 0.44 \text{ AC-FT}$$

REQUIRED DETENTION VOLUME (100-Year)

(Detention design for Drainage Areas of Less than 50 AC.)

(Montgomery County Drainage Criteria Manual)

Section 7.3.3, Page 114

Triangular Hydrograph Method

B = Duration of inflow to the basin (Second)

V_R = Total basin inflow volume (AC-FT)

S = Required Storage Volume (AC-FT)

I = Peak inflow rate (CFS) - Developed Condition

O = Peak outflow rate (CFS) - Existing Condition

P = Total Point Rainfall (24 HR storm) = 16.10 inches (Table 2.4, Page 10)

Based on SCS method, Page 24 (Developed Condition CN = 95)

R = Excess Runoff (Inches)

A = Area of the site (Acres)

$$S = \frac{1000}{CN} - 10 = \frac{1000}{95} - 10 = 0.53$$

$$R = \frac{(P - 0.2*S)^2}{P + 0.8*S} = \frac{(16.10 - 0.2 * 0.53)^2}{16.10 + 0.8 * 0.53}$$

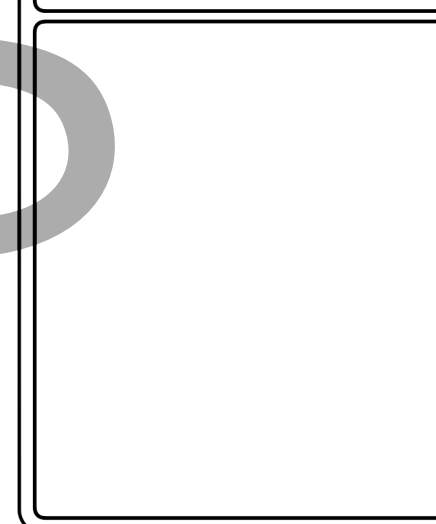
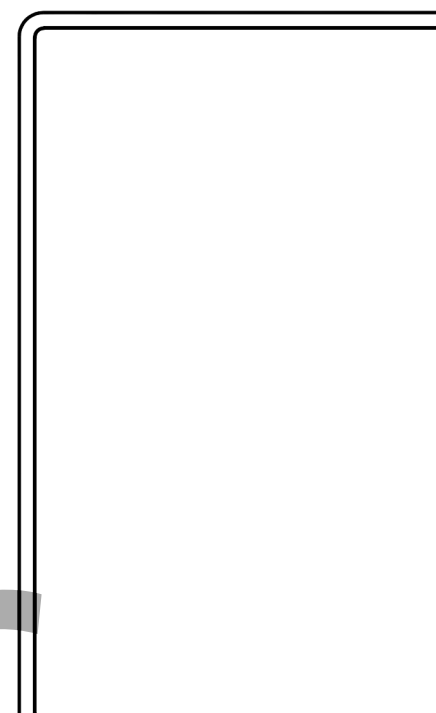
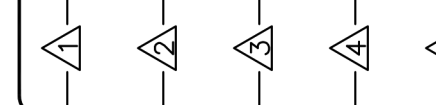
$$R = 15.48 \text{ Inches} = 1.29 \text{ Ft.}$$

$$V_R = R \times A$$

$$V_R = 1.29 \text{ feet} \times 1.00 \text{ AC.} = 1.29 \text{ AC.-FT.}$$

$$B = \frac{43560 * V_R}{0.5 * I} = \frac{43560 * 1.29}{0.5 * 12.58} = 8,933 \text{ Seconds}$$

$$S = \frac{(0.5) B*(I-O)}{43560} = \frac{0.5 \times 8,933 (12.58 - 4.24)}{43560} = 0.86 \text{ AC-FT}$$



PROPOSED MIXED-USE BUILDING	FM 1484 AND WILLIS WAUKEGAN ROAD CONROE, TX 77303
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MONTGOMERY COUNTY DETENTION CALCULATIONS		
DESIGNED BY:	DWN BY:	CHK BY:

SHEET REFERENCE:	
C.04	

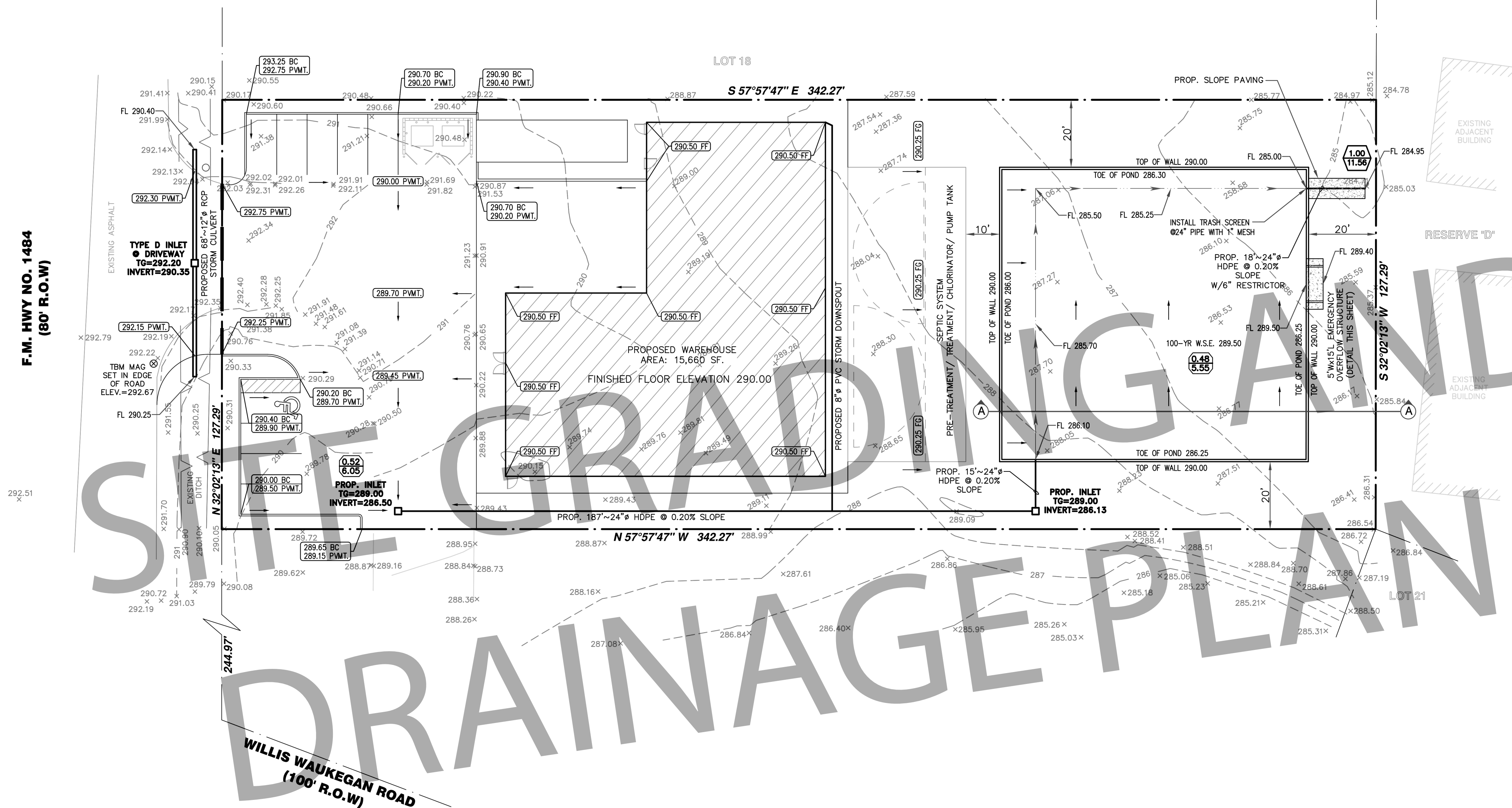
MONTGOMERY COUNTY

ENGINEERING DEPARTMENT

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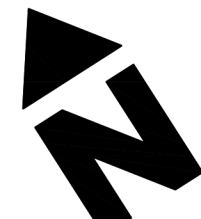
COUNTY ENGINEER

DATE

F.M. HWY NO. 1484
(80' R.O.W)

LEGEND

	PROPERTY LINE
	HIGH POINT (H.P.)
	DIRECTION OF FLOW
	PROPOSED FINISHED FLOOR ELEVATION
	PROPOSED FINISHED GRADE ELEVATION
	PROPOSED PAVEMENT ELEVATION
	ACCUM DRAINED AREA (ACRES)
	ACCUM 100-YR FLOW RATE (CFS)
	AREA DRAINED PER INLET (ACRES)
	100-YR FLOW RATE PER INLET (CFS)

40 20 0 20 40
SCALE: 1" = 20'

MONTGOMERY COUNTY

ENGINEERING DEPARTMENT

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COUNTY ENGINEER

DATE

PROPOSED MIXED-USE
BUILDINGFM 1484 AND WILLIS WAUKEGAN
ROAD CONROE, TX 77303SITE GRADING
AND DRAINAGE
PLAN

DESIGNED BY:

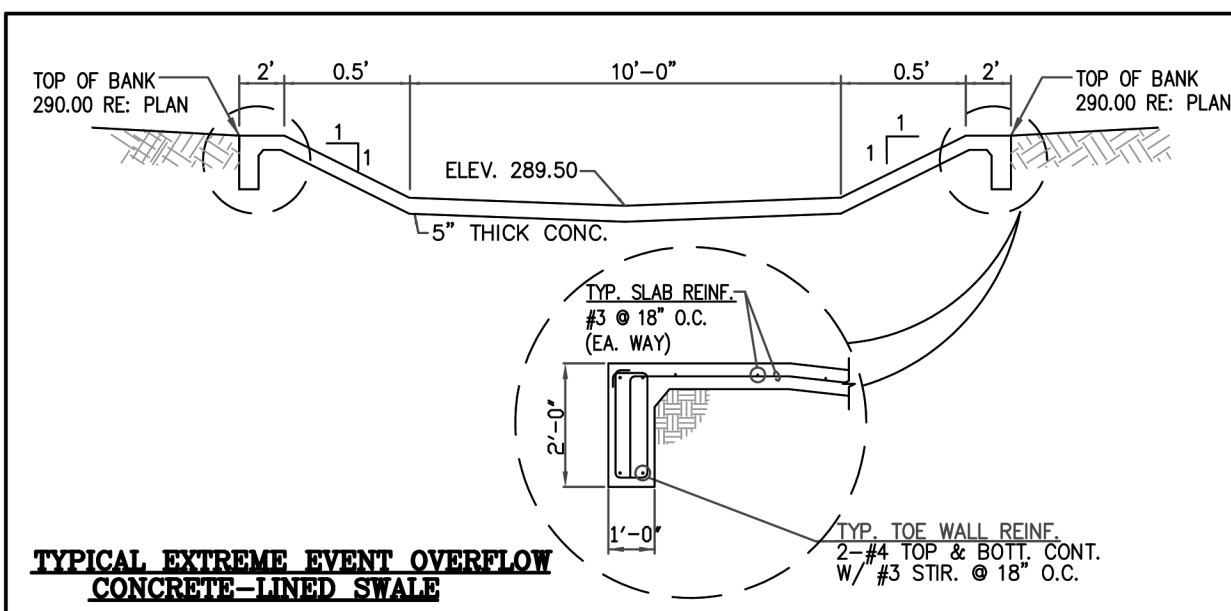
DWN BY:

CHK BY:

SHEET
REFERENCE:

C.05

OVERFLOW STRUCTURE CALCULATIONS:

TYPICAL EXTREME EVENT OVERFLOW
CONCRETE-LINED SWALE

EXTREME EVENT OVERFLOW WEIR CALCULATIONS:

ACCUMULATED 100-YR PEAK DEVELOPED FLOW RATE (CFS)
 $Q_{ACCU} = 11.56$ CFS
 $Q_w = \text{MAX FLOW @ ELEVATION } 290.00' \text{ (POND TOP BANK ELEV.)}$
WEIR LENGTH (L) = 10'
H = WEIR CREST ELEV. - MAX HEAD ALLOWED
H = 290.00' - 289.50' = 1.0'
 $C_d = \text{WEIR COEFFICIENT} = 0.62$
g = GRAVITATIONAL FACTOR = 32.20
TRAPEZOIDAL WEIR FLOW EQUATION:
 $Q_w = \frac{2}{3} * C_d * L * (2g)^{1/2} * (H)^{1.5}$
 $Q_w = \frac{2}{3} * 0.62 * 10 * (2 * 32.2)^{1/2} * (0.50)^{1.5}$
 $Q_w = 11.72$ CFS
EXTREME EVENT OVERFLOW CAPACITY > 100-YR PEAK DEVELOPED FLOW RATE
11.72 CFS > 11.56 CFS

STAIR DETAIL

NOT TO SCALE

DETENTION CALCULATIONS

SITE AREA = 43,567 S.F. (1.00 AC.)
DETENTION REQUIRED = 37,460 S.F. (0.86 AC.)
(RE: MONTGOMERY COUNTY CALCULATIONS SHEET C.04)
DETENTION PROVIDED IN PROPOSED DETENTION POND = 38,800 C.F. (0.89 AC-FT)
TOTAL DETENTION PROVIDED = 38,800 C.F. (0.89 AC-FT)
NET DETENTION PROVIDED = 38,800 C.F. (0.89 AC-FT) $\geq$ 0.86 AC-FT
MAX DETENTION WATER SURFACE ELEVATION (W.S.E.) = 289.50

FLOOD PLAIN DATA

ALL OF THIS PROPERTY LIES WITHIN ZONE "X" FLOODPLAIN PER THE FLOOD INSURANCE RATE MAP, COMMUNITY PANEL NO. 48339C0250-G, WHICH BEARS AN EFFECTIVE DATE AUGUST 21, 2024.

SITEWORKS NOTES:

- CONTRACTOR SHALL FIELD VERIFY LOCATION AND ELEVATION OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION OF PROPOSED FACILITIES. NOTIFY ENGINEER IMMEDIATELY OF ANY DISCREPANCIES.
- CONTRACTOR SHALL NOTIFY THE APPROPRIATE UTILITY COMPANY 48 HOURS PRIOR TO EXCAVATING NEAR THEIR UTILITY.
- CONTRACTOR SHALL TAKE ALL DUE PRECAUTIONS TO PROTECT EXISTING FACILITIES FROM DAMAGE. ANY DAMAGE TO EXISTING FACILITIES INCURRED AS A RESULT OF CONSTRUCTION OPERATIONS WILL BE REPAIRED BY THE CONTRACTOR AT HIS OWN EXPENSE.
- CONTRACTOR SHALL TAKE EXTRA CARE TO PROTECT TREES IN AREAS ADJACENT TO CONSTRUCTION.
- CONTRACTOR SHALL CONFIRM NO CONFLICTS BETWEEN EXISTING AND PROPOSED DRY/WET UTILITIES IN PUBLIC R.O.W., BEFORE STARTING SITE WORK CONSTRUCTION.

CONSTRUCTION NOTE:

CONTRACTOR SHALL CONFIRM NO CONFLICTS BETWEEN EXISTING AND PROPOSED DRY/WET UTILITIES IN PUBLIC R.O.W., BEFORE STARTING SITE WORK CONSTRUCTION.

CONTRACTOR SHALL HYDROMULCH ALL NEWLY GRADED AREAS AND EXPOSED SOILS UPON PAVING COMPLETION.

EXCESS SOIL MATERIAL IS THE RESPONSIBILITY OF THE CONTRACTOR & IS TO BE DISPOSED OFFSITE RESPONSIBLY AT NO SEPARATE PAY.

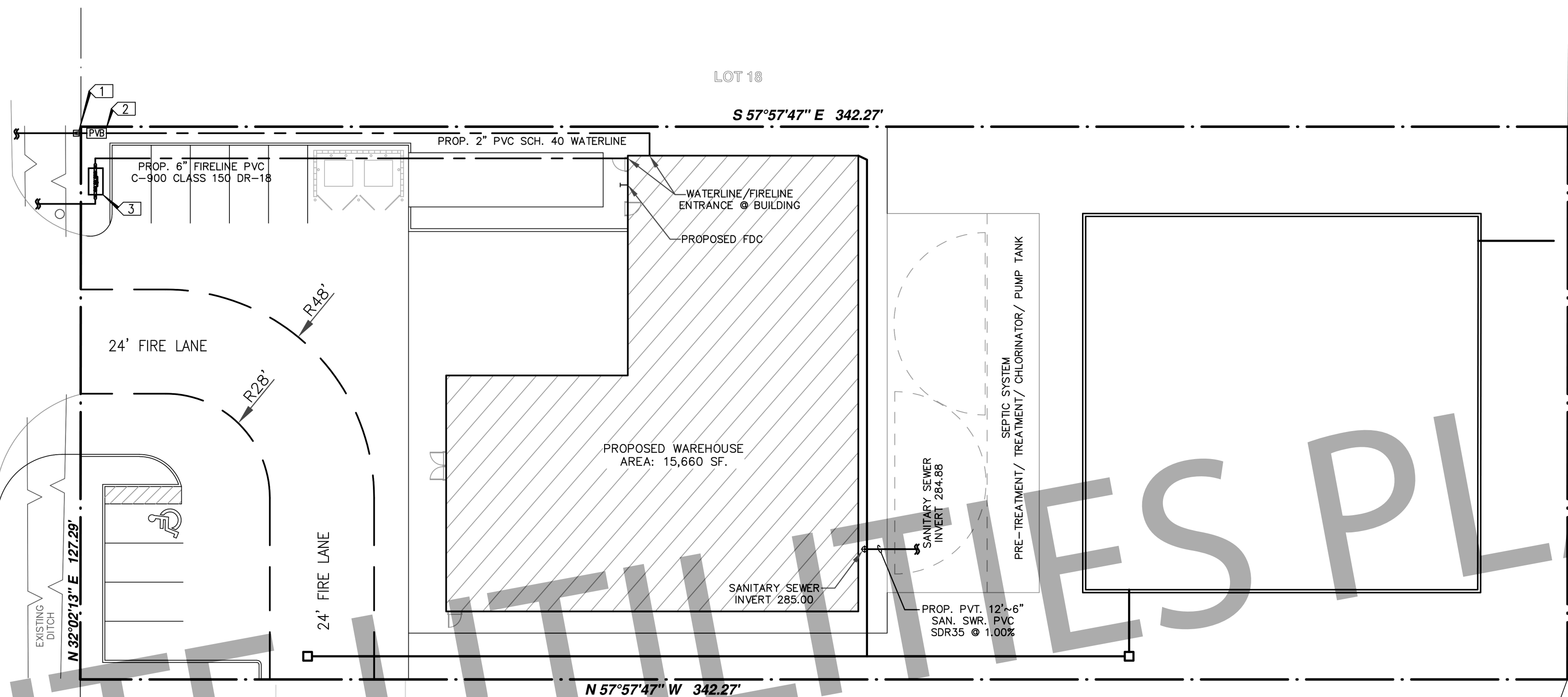
F.M. HWY NO. 1484
(80' R.O.W)

EXISTING ASPHALT

TBM MAG
SET IN EDGE
OF ROAD
ELEV.=292.67

N 32°02'13" E 127.29'

244.97'

WILLIS WAUKEGAN ROAD
(100' R.O.W)EXISTING
ADJACENT
BUILDING

RESERVE 'D'

EXISTING
ADJACENT
BUILDING

LOT 21

SANITARY SEWER SYSTEM

POLY-VINYL-CHLORIDE (PVC SDR 26) PIPE SHALL CONFIRM TO ASTM SPECIFICATIONS D3034 AND BE INSTALLED ACCORDING TO ASTM D2321.

ALL SANITARY SEWER SERVICE LINES SHALL BE CONSTRUCTED TO TRUE ALIGNMENT AND GRADE. WARPED AND SAGGING LINES WILL NOT BE PERMITTED.

BUILDING TIE-ON CONNECTION WILL BE MADE DIRECTLY TO THE STUB-OUT FROM THE BUILDING PLUMBING AT THE FOUNDATION ON ALL WASTES OUTLETS.

WATER-TIGHT ADAPTERS OF A TYPE COMPATIBLE WITH THE MATERIALS BEING JOINED WILL BE USED AT THE POINT OF CONNECTION OF THE SERVICE LINE TO THE BUILDING PLUMBING. NO CEMENT GROUT MATERIALS ARE PERMITTED.

NO BENDS OR TURNS AT ANY POINT WILL BE GREATER THAN 45 DEGREES.

CLEANOUT WILL BE MADE WITH AIRTIGHT MECHANICAL PLUG.

THE PHYSICAL CONNECTION TO THE AUTHORITY'S SEWER MAIN WILL BE MADE BY USE OF AN ADAPTER OF A TYPE COMPATIBLE WITH MATERIALS BEING JOINED. THE CONNECTION SHALL BE WATERTIGHT. NO CEMENT GROUT MATERIALS ARE PERMITTED.

BACKFILLING OF SERVICE LINES TRENCH MUST BE ACCOMPLISHED WITHIN TWENTY-FOUR (24) HOURS OF INSPECTION AND APPROVAL. NO DEBRIS WILL BE PERMITTED IN THE TRENCH.

SANITARY SEWER CLEANOUTS: ENSURE SANITARY SEWER CLEANOUTS ARE INSTALLED: EVERY 100 FEET ALONG HORIZONTAL PIPING. AT ALL DIRECTION CHANGES GREATER THAN 45 DEGREES

HORIZONTAL SEPARATION: MAINTAIN A MINIMUM 5 FEET OF HORIZONTAL DISTANCE BETWEEN THE WATER SUPPLY AND SEWER LINES.

VERTICAL SEPARATION (IF CROSSING): THE WATER SUPPLY LINE MUST BE INSTALLED 12 INCHES ABOVE THE SEWER LINE. IF THIS SEPARATION IS NOT ACHIEVABLE, ENCASE THE SEWER PIPE IN CONCRETE.

EXISTING UTILITIES, FACILITIES & TREES

CONTRACTOR SHALL FIELD VERIFY LOCATION AND ELEVATION OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION OF PROPOSED FACILITIES. NOTIFY ENGINEER IMMEDIATELY OF ANY DISCREPANCIES.

CONTRACTOR SHALL NOTIFY THE APPROPRIATE UTILITY COMPANY 48 HOURS PRIOR TO EXCAVATING NEAR THEIR UTILITY.

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CONTRACTOR SHALL TAKE EXTRA CARE TO PROTECT TREES IN AREAS ADJACENT TO CONSTRUCTION.

DOMESTIC WATER SYSTEM

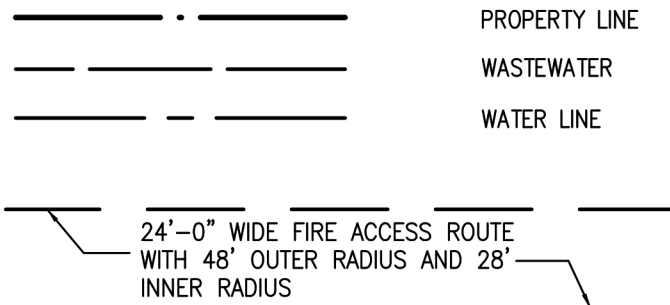
ALL WATER LINE MAINS SIZES 1 THRU 3 INCH SHALL BE PVC SCH 40.

WATER LINE SHALL BE CONSTRUCTED AND TESTED IN ACCORDANCE WITH AUTHORITY SPECIFICATION FOR WATER MAIN CONSTRUCTION AS CURRENTLY AMENDED.

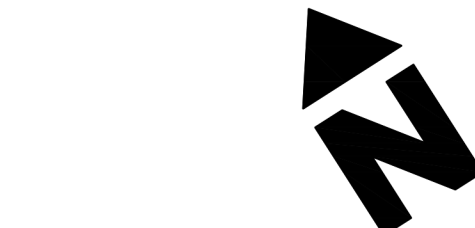
WATER LINE SHALL HAVE BANK SAND BEDDING AND BACKFILL.

PROVIDE THRUST BLOCKING ACCORDING TO AUTHORITY STANDARDS SPECIFICATIONS.

PROVIDE A MINIMUM 6-INCHES OF CLEARANCE AT STORM SEWER AND WATER LINE CROSSING.

LEGENDS:**KEYED PLAN NOTES**

- 2" DOMESTIC WATER METER 2" STANDARD CONNECTION. (TAPPING SADDLE AND CORPORATION STOP).
- REDUCED PRESSURE ZONE BACKFLOW PREVENTOR OF PVB TYPE. CONTRACTOR SHALL PROVIDE SECURITY CAGE FOR THE BFP.
- 6" DOUBLE DETECTOR BACKFLOW PREVENTER ASSEMBLY WITH BYPASS METER FOR FIRE SERVICE. CONTRACTOR SHALL PROVIDE SECURITY CAGE FOR BACKFLOW PREVENTER. THE ENTIRE FIRELINE BETWEEN THE PUBLIC WATER CONNECTION AND THE BUILDING SHALL BE INSTALLED BY A STATE LICENSED FIRE SPRINKLER CONTRACTOR.

40 20 0 20 40
SCALE: 1"= 20'**MONTGOMERY COUNTY**

ENGINEERING DEPARTMENT

THESE PLANS HAVE BEEN REVIEWED FOR GENERAL CONFORMITY WITH MONTGOMERY COUNTY'S DESIGN REQUIREMENTS, REGULATIONS AND CONSTRUCTION SPECIFICATIONS, HOWEVER, THE RESPONSIBILITY FOR ENSURING CONSTRUCTABILITY AND ADHERENCE TO SOUND ENGINEERING PRACTICES RESTS WITH THE ENGINEER SCALING THE PLANS. ALL CONSTRUCTION ACTIVITIES FOR THE PROJECT MUST COMPLY WITH MONTGOMERY COUNTY REGULATIONS BEFORE THE ISSUANCE OF THE INITIAL CERTIFICATION. ANY ERRORS, OMISSIONS, OR EXCLUSIONS IN THE PLANS MAY RESULT IN SIGNIFICANT INCREASES IN BOTH CONSTRUCTION COSTS AND TIME DELAYS.

COUNTY ENGINEER

DATE

PROPOSED MIXED-USE
BUILDINGFM 1484 AND WILLIS WAUKEGAN
ROAD CONROE, TX 77303SITE UTILITIES
PLAN

DESIGNED BY:

DWN BY:

CHK BY:

SHEET
REFERENCE:

C.06

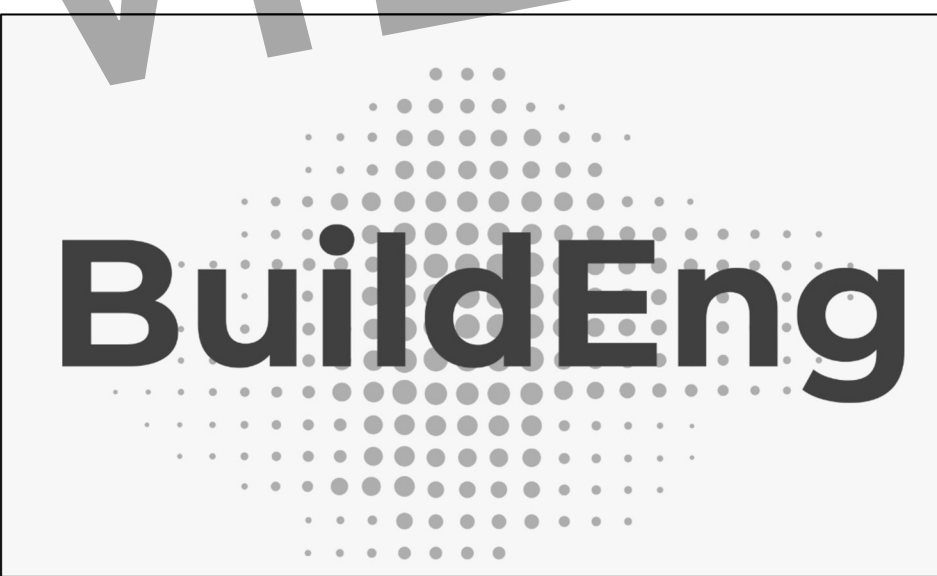
GRAVEL BAG INLET PROTECTION BARRIER
(NOT TO SCALE)

GENERAL NOTES:

1. PLACE GRAVEL BAGS IN THE GUTTER ON EACH SIDE OF THE INLET OPENING. BAGS SHALL BE PLACED TIGHTLY AGAINST THE CURB.
2. PLACE GRAVEL BAGS AT BACK OF CURB ALONG INLET.
3. GRAVEL BAGS SHALL NOT BLOCK THROAT OF INLET, UNLESS DIRECTED BY THE ENGINEER.
4. IF THE LANE ADJACENT TO THE INLET IS CLOSED TO TRAFFIC, THEN ADDITIONAL BAGS SHALL BE PLACED CONTINUOUSLY ACROSS THE FRONT OF THE INLET, BUT SHALL NOT BLOCK THE THROAT OF THE INLET.

SILT FENCE
(NOT TO SCALE)

CSN HOLDER



SWPPP / BMP SIGN

LEFT SIDE

FRONT

LEGEND

— — — — — PROPERTY LINE

SC STABILIZED CONSTRUCTION ACCESS

x SF x DESIGNATES SILT FENCE

CONCRETE TRUCK WASHOUT SIGN DETAIL (OR EQUIVALENT)

CONCRETE TRUCK WASHOUT
(NOT TO SCALE)

STORM WATER POLLUTION PREVENTION NOTES

1. SEDIMENT WILL BE RETAINED ON SITE TO THE MAXIMUM EXTENT PRACTICABLE.
2. CONTROL MEASURE WILL BE PROPERLY SELECTED, INSTALLED AND MAINTAINED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS AND GOOD ENGINEERING PRACTICE. IF DAMAGED OR RENDERED INEFFECTIVE, THE EROSION AND SEDIMENT CONTROLS WILL BE REPAIRED OR REPLACED IMMEDIATELY.
3. WHEN PUMPING (DEWATERING) STANDING STORM WATER FROM THE SITE, THE OPERATOR SHALL USE APPROPRIATE BEST MANAGEMENT PRACTICES (BMP'S) FROM THE STORM WATER MANAGEMENT HANDBOOK FOR CONSTRUCTION ACTIVITIES THAT ADDRESS DEWATERING ACTIVITIES. UNTREATED/DIRECT DISCHARGE INTO A STORM SEWER WILL NOT BE ALLOWED.
4. IF THE INTERIM PERIOD BETWEEN CONSTRUCTION OF UTILITIES AND STREET CONSTRUCTION WILL BE MORE THEN 21 DAYS, THE STREET RIGHT-OF-WAY WILL BE MULCHED OR OTHERWISE STABILIZED WITHIN THE 14 DAYS.
5. AFTER PAVING COMPLETION, NEWLY GRADED AREAS AND ALL EXPOSED SOILS WILL BE COMPLETELY STABILIZED.
6. CONTROL MEASURES WILL BE INSTALLED ALONG BACK OF CURB TO ADEQUATELY PREVENT SEDIMENT RUNOFF INTO STREETS ONCE PAVING COMPLETE.
7. CONCRETE TRUCKS WILL NOT BE ALLOWED TO WASH OUT OR DISCHARGE SURPLUS CONCRETE OR DRUM WASH WATER ON THE SITE, UNLESS THEY ARE USING A PROPERLY DESIGNED AND DESIGNATED CONCRETE WASHOUT AREA.
8. EROSION AND SEDIMENT CONTROL MEASURES THAT HAVE BEEN IMPROPERLY INSTALLED OR HAVE BEEN DISABLED, RUN-OVER, REMOVED, OR OTHERWISE RENDERED INEFFECTIVE MUST BE REPLACED OR CORRECTED IMMEDIATELY.
9. MAINTENANCE AND REPAIRS WILL BE CONDUCTED WITHIN 24 HOURS OF INSPECTION REPORT.
10. SEDIMENT WILL BE REMOVED FROM BEHIND THE FILTER FABRIC FENCE WHEN IT REACHES 1/3 THE HEIGHT OF THE FENCE.
11. SEDIMENT WILL BE REMOVED AROUND THE INLET BARRIERS AND DIKES WHEN THE STORAGE CAPACITY HAS BEEN APPROXIMATELY 50% FILLED.
12. INSPECTIONS OF ALL BMP'S WILL BE CONDUCTED EVERY FOURTEEN (14) CALENDAR DAYS AND WITHIN 24 HOURS OF THE END OF A STORM EVENT OF 0.5 INCHES OR GREATER; OR EVERY 7 CALENDAR DAYS.
13. EROSION AND SEDIMENT CONTROL MEASURES IDENTIFIED IN THE PLANS WILL BE INSPECTED TO INSURE EFFECTIVE OPERATION.
14. THE SWPPP WILL BE AMENDED TO REPLACE INEFFECTIVE BMP'S IDENTIFIED THROUGH INSPECTIONS WITHIN 7 DAYS OF IDENTIFYING THE DEFICIENCY.
15. REPORTS WILL INCLUDE WHAT MAINTENANCE WAS DONE AS A RESULT OF THE INSPECTION.
16. ALL LITTER, TRASH AND FLOATABLE DEBRIS WILL BE CONTAINED WITHIN THE SITE.

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MONTGOMERY COUNTY
ENGINEERING DEPARTMENT

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COUNTY ENGINEER _____ DATE _____

DESIGNED BY: _____

DWN BY: _____

CHK BY: _____

PROPOSED MIXED-USE BUILDING

FM 1484 AND WILLIS WAUKEGAN ROAD CONROE, TX 77303

EROSION CONTROL AND SEDIMENTS PLAN

SHEET REFERENCE: **C.07**