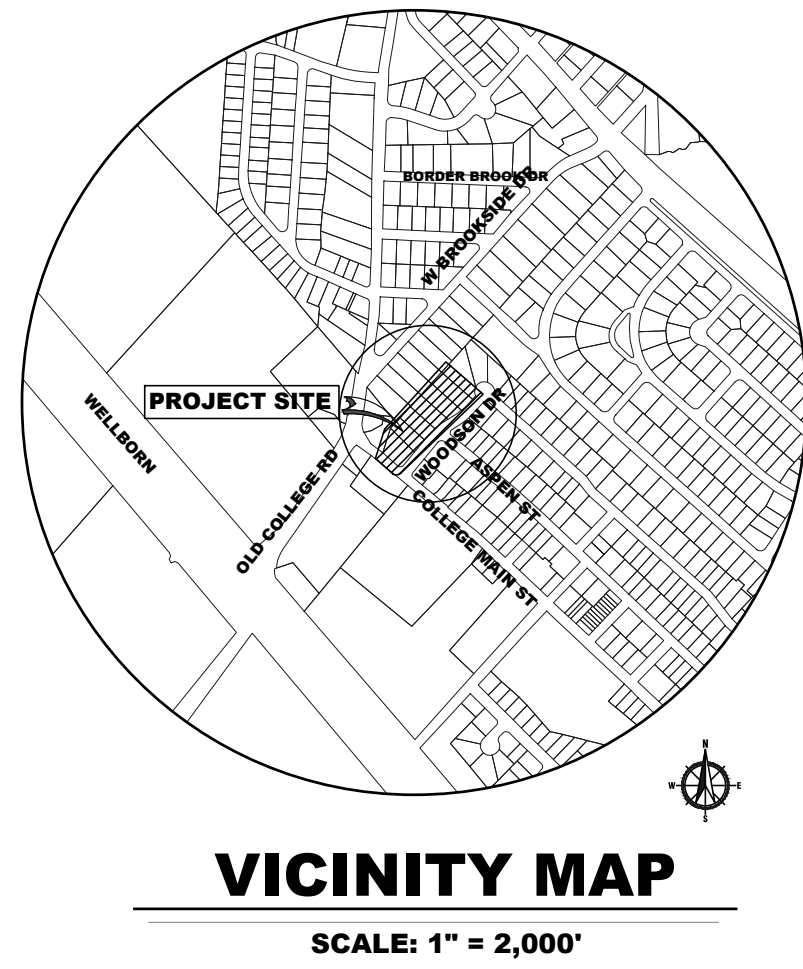


TEXAS ONE CALL SYSTEM
1-800-245-454
CALL BEFORE YOU DIG.
 TEXAS ONE CALL PARTICIPANTS SHALL REQUEST 72 HOURS BEFORE YOUR DIG, DRILL, OR BLAST.

THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. HE AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MAY OCCUR BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.



SITE DEVELOPMENT PLANS

FOR

WOODSON MIXED USE DEVELOPMENT

500-604 WOODSON DRIVE

BRYAN, TEXAS



2900 S CONGRESS, SUITE 203
 AUSTIN, TEXAS 78704
 PH: 512.820.3265
 FIRM #18863
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WWW.M3ENGINEERING.COM

PLAN SET DATE: 11/23/2022

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RELATED CASES

	FILE NUMBERS
• ZONING CASE	• RZ20-28
• RESTRICTIVE COVENANT	• None
• SUBDIVISION	• None
• LAND STATUS REPORT	• None
• EXISTING SITE PLAN	• None

ZONING NOTES

ZONING: **PD-M PLANNED DEVELOPMENT MIXED USE (ORDINANCE NO. 2490)**
 EXISTING USE: **RD-S SINGLE FAMILY**
 PROPOSED USE: **PD-M MIXED USE (APPROVED)**

FLOODPLAIN NOTES

NO PORTIONS OF THE PROPERTY CONTAIN FLOODPLAIN AS INDICATED BY FEMA MAP NUMBER 48041C021HF DATED 4/2/2014.

LEGAL DESCRIPTION

LOTS 13-18 COLLEGE OAKS ADDITION

SITE DATA

TOTAL SITE AREA: **2.27 ACRES**
 TOTAL DISTURBED AREA: **2.27 ACRES**
 PROPOSED IMPERVIOUS AREA: ± 1.41 ACRES **SF ~ 63.8 %**
 NUMBER OF LOTS: 1

CITY OF BRYAN GENERAL NOTES

RELEASE OF THIS APPLICATION DOES NOT CONSTITUTE A VERIFICATION OF ALL DATA, INFORMATION AND CALCULATIONS SUPPLIED BY THE APPLICANT. THE ENGINEER OF RECORD IS SOLELY RESPONSIBLE FOR THE COMPLETENESS, ACCURACY AND ADEQUACY OF HIS/HER SUBMITTAL, WHETHER OR NOT THE APPLICATION IS REVIEWED FOR CODE COMPLIANCE BY CITY AND COUNTY ENGINEERS.

APPROVAL OF THESE PLANS BY THE CITY OF BRYAN INDICATES COMPLIANCE WITH APPLICABLE CITY REGULATIONS ONLY. APPROVAL BY OTHER GOVERNMENTAL ENTITIES MAY BE REQUIRED PRIOR TO THE START OF CONSTRUCTION. THE APPLICANT IS RESPONSIBLE FOR DETERMINING WHAT ADDITIONAL APPROVALS MAY BE NECESSARY.

A PRECONSTRUCTION MEETING WITH THE CITY OF BRYAN INSPECTOR IS REQUIRED PRIOR TO ANY SITE DISTURBANCE.

ALL RESPONSIBILITY FOR THE ADEQUACY OF THESE PLANS REMAIN WITH THE ENGINEER WHO PREPARED THEM. IN APPROVING THESE PLANS THE CITY OF BRYAN MUST RELY UPON THE ADEQUACY OF THE WORK OF THE DESIGN ENGINEER.

THE PRINCIPAL ROADWAY IS WOODSON DRIVE WHICH IS A LOCAL STREET.

ADDITIONAL NOTES

LOTS WITH 65 PSI OR GREATER REQUIRE A PRIV. SET AT 65 PSI, TO BE INSTALLED ON THE PROPERTY OWNERS SIDE OF THE DOMESTIC WATER METER.

UTILITY CONTACTS

PLANNING AND DEVELOPMENT REVIEW: CITY OF BRYAN 979-209-5030	TV / INTERNET SERVICE: SUDDEN LINK COMMUNICATIONS 979-595-2429
DIG TESS 800-344-8377	FRONTIER COMMUNICATIONS 979-821-4783
WATER & WASTEWATER SERVICE: CITY OF BRYAN 979-209-5900	FIRE DEPARTMENT: CITY OF BRYAN
ELECTRIC SERVICE: BRYAN TEXAS UTILITIES (BTU) 979-821-5700	
TELEPHONE SERVICE: AT&T	
GAS: ATMOS ENERGY 979-774-2506	

FIRE FLOW

CITY OF BRYAN FIRE DEPARTMENT

DESIGN STANDARDS	2015 IFC WITH CITY OF BRYAN LOCAL AMENDMENTS
FIRE FLOW DEMAND @ 20 PSI	1,500 GPM
INTENDED USE	RETAIL / RESIDENTIAL
CONSTRUCTION CLASSIFICATION	TYPE V
BUILDING FIRE AREA (LARGEST)	7,200
AUTOMATIC FIRE SPRINKLER SYSTEM	DOMESTIC 13D SYSTEM
REDUCED FIRE FLOW DEMAND @ 20 PSI	1,500 GPM (75% REDUCTION)

SURVEY DISCLAIMER

THIS SET OF CONSTRUCTION DOCUMENTS WAS PREPARED USING AN EXISTING TITLE SURVEY PERFORMED AND SUPPLIED BY GRIFFITH CONSULTING DATED 1/29/2020. M3 ENGINEERING, LLC HAS NOT FIELD VERIFIED THE ACCURACY OF THE INFORMATION PROVIDED NOR DOES M3 ENGINEERING, LLC PROVIDE VERIFICATION OF THE FIELD WORK. FOR THE DEVELOPMENT OF THESE CONSTRUCTION DRAWINGS, M3 ENGINEERING, LLC, RELIES UPON THE INFORMATION PROVIDED BY THE RPLS UNDER WHOSE SUPERVISION THE SURVEY WAS ISSUED TO THE BRIAN KAPAVIK. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF RECORD OF ANY DISCREPANCIES FOUND DURING THE FIELD VERIFICATION OF CONSTRUCTION STAKING PRIOR TO THE START OF CONSTRUCTION.

BENCHMARKS

TBM A THE ELEVATIONS (AND/OR CONTOURS) SHOWN HEREON ARE REFERENCED TO TBM "A". A "NAIL WITH SHINER STAMPED "GRIFFIN" IN THE CURBLINE OF THE NORTH SIDE OF WOODSON DRIVE AND ON THE WESTERN SIDE OF ASPEN DRIVE

ELEVATION: 487.86 (NAVD88) (N. E.) AND WERE DETERMINED AS A RESULT OF AN ON THE GROUND SURVEY COMPLETED ON 1/29/2021.

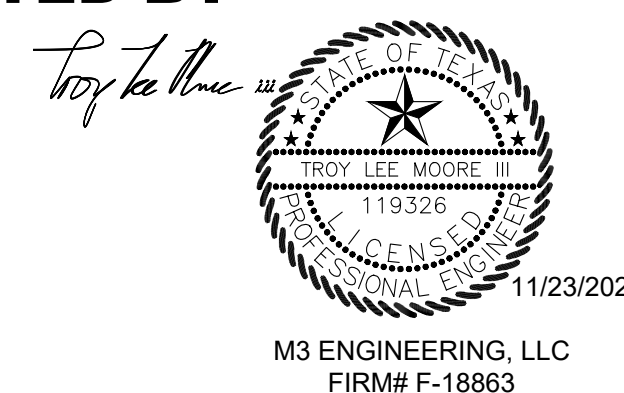
CITY OF BRYAN REVISION BLOCK

No.	REVISION DESCRIPTION	REVIEWED BY:	DATE:

CONTACTS

OWNER / DEVELOPER: WOODSON DEVELOPMENT LLC 4464 LEONARD ROAD BRYAN, TEXAS 77807	ENGINEER: M3 ENGINEERING 2900 S CONGRESS, SUITE 203 AUSTIN, TEXAS 78704	MEP: SWOBODA ENGINEERING 7010 COYOTE RUN BRYAN, TEXAS 77808
ATTN: BRIAN KAPAVIK 408-645-4391 ~ WOODSONDEVELOP@GMAIL.COM	ATTN: TROY MOORE, PE 512-820-3265 ~ TMOORE@M3ENGINEERING.COM	ATTN: GEORGE KORPITA 979-774-3400
ARCHITECT: THETFORD ARCHITECTURE, LLC COLLEGE STATION, TEXAS	SURVEYOR: GRIFFITH CONSULTING 4000 SENDERO SPRINGS DRIVE ROUND ROCK, TEXAS 78681	GEOTECH: GESSNER ENGINEERING 2501 ASHFORD DR COLLEGE STATION, TEXAS 77840
ATTN: ALAN THETFORD 979-587-6483	ATTN: JAMES GRIFFITH, RPLS 512-626-0023	ATTN: NIKOLAS GOMES, M.S., P.E. 979-307-5421

SUBMITTED BY



C:\Users\Troy_2\OneDrive\Documents\Projects\1053-Woodson Development\1053001 - WoodsonCAD\2006-CAD.dwg Troy_2 November 23, 2022

GENERAL CONSTRUCTION NOTES

- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST CITY OF BRYAN/COLLEGE STATION STANDARD SPECIFICATIONS AND DETAILS FOR: (WATER, SEWER, STREETS, DRAINAGE). THE CONTRACTOR IS REQUIRED TO OBTAIN COPY OF THE SPECIFICATIONS PRIOR TO BIDDING. ALL CONSTRUCTION SHALL BE COORDINATED WITH THE CITY ENGINEER'S OFFICE.
- ALL UTILITY LINES (WATER, GAS, SANITARY SEWER, STORM) SEWER, ETC.) SHOWN ARE TAKEN FROM BEST AVAILABLE RECORD INFORMATION BASED ON CONSTRUCTION UTILITY MAP DOCUMENTS OBTAINED FROM CITY & INDEPENDENT AGENCIES AND/OR ABOVE GROUND FIELD EVIDENCE. SHOWN POSITIONS MAY NOT REPRESENT AS-BUILT CONDITIONS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE EXACT LOCATION OF ALL EXISTING UNDERGROUND UTILITIES. NOTIFICATION OF THE UTILITY COMPANIES 48 HOURS IN ADVANCE OF CONSTRUCTION IS REQUIRED.
 - DIG TESS: (800) 344-8377
 - ATMOS ENERGY: (979) 774-2506
 - SUDDEN LINK COMMUNICATIONS: (979) 595-2429
 - FRONTIER COMMUNICATIONS: (979) 821-4783
 - WATER/SEWER CITY OF BRYAN: (979) 209-5900
 - BTU: (979) 821-5700
 - CITY OF BRYAN: (979) 209-5900

- THE CONTRACTOR SHALL SET UP A PRE-CONSTRUCTION MEETING WITH CITY OF BRYAN PRIOR TO THE START OF ELECTRICAL INFRASTRUCTURE CONSTRUCTION.
- THE CONSTRUCTION SHALL COMPLY WITH OSHA STANDARD 29 CFR PART 1926 SUBPART P FOR TRENCH SAFETY REQUIREMENTS.
- BUILDING SETBACK SHALL BE IN ACCORDANCE WITH ORDINANCE #2490
- PROPOSED SIGNS SHALL BE PERMITTED SEPARATELY IN ACCORDANCE WITH THE SIGN ORDINANCE.
- IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO USE WHATEVER MEANS NECESSARY TO MINIMIZE EROSION AND PREVENT SEDIMENT FROM LEAVING THE PROJECT SITE. THIS INCLUDES THE INSTALLATION OF A CONSTRUCTION EXIT AND SILT FENCE AS NECESSARY. THE CONTRACTOR IS REQUIRED TO MAINTAIN THE TPDES GENERAL PERMIT NO. TXR 190000 REQUIREMENTS FOR CONSTRUCTION SITES.
- ALL AREAS WHERE EXISTING VEGETATION AND GRASS COVER HAVE BEEN DISTURBED BY CONSTRUCTION SHALL BE ADEQUATELY BLOCK SODDED OR HYDROMULCHED, AND WATERED UNTIL GROWTH IS ESTABLISHED. IN DEVELOPED AREAS WHERE GRASS IS PRESENT, BLOCK SOD WILL BE REQUIRED. BARED AREAS SHALL BE SEEDDED OR SODDED WITHIN 14 CALENDAR DAYS OF LAST DISTURBANCE.
- DRAINAGE INFORMATION AND DETAILS WILL BE PROVIDED ON THE DRAINAGE PLAN AND DRAINAGE REPORT.
- LANDSCAPING AND IRRIGATION DESIGN & ANALYSIS WILL BE PROVIDED ON THE LANDSCAPE & IRRIGATION PLANS. THE IRRIGATION SYSTEM MUST BE APPROVED AND INSTALLED PRIOR TO CERTIFICATE OF OCCUPANCY.
- ALL PAVEMENT SHALL BE PER PAVEMENT SECTIONS AS SHOWN IN THE GEOTECHNICAL REPORT BY PSI, DATED _____.
- DETENTION AND DRAINAGE FACILITIES SHALL BE CONSTRUCTED FIRST.
- THE CONTRACTOR SHALL PROMPTLY NOTIFY THE ENGINEER OF ANY DISCREPANCIES IN THESE PLANS, DRAWINGS, AND SPECIFICATIONS.
- IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COMPLY WITH ALL STATE AND FEDERAL REGULATIONS REGARDING CONSTRUCTION ACTIVITIES NEAR ENERGIZED OVERHEAD POWER LINES.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING UTILITIES OR SERVICE LINES THAT ARE CROSSED OR EXPOSED DURING CONSTRUCTION OPERATIONS. WHERE EXISTING UTILITIES OR SERVICE LINES ARE CUT, BROKEN, OR DAMAGED, THE CONTRACTOR SHALL REPAIR OR REPLACE THE UTILITIES OR SERVICE LINE WITH THE SAME TYPE OF MATERIAL AND CONSTRUCTION OR BETTER. THIS MATERIAL AND WORK SHALL BE AT THE CONTRACTOR'S OWN EXPENSE.
- A COPY OF THE APPROVED CONSTRUCTION PLANS MUST BE KEPT ON SITE AT ALL TIMES THROUGHOUT THE ENTIRE CONSTRUCTION OF THE PROJECT. CONTRACTOR SHALL MAINTAIN A SET OF REDLINE DRAWINGS, RECORDING AS-BUILT CONDITIONS DURING CONSTRUCTION.
- ANY ADJACENT PROPERTY AND RIGHT-OF-WAY DISTURBED DURING CONSTRUCTION WILL BE RETURNED TO THEIR EXISTING CONDITION OR BETTER.
- THE CONTRACTOR SHALL NOT CREATE A DIRT NUISANCE OR SAFETY HAZARD IN ANY STREET OR DRIVEWAY.
- ADEQUATE DRAINAGE SHALL BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION AND ANY DRAINAGE DITCHES DISTURBED DURING CONSTRUCTION SHALL BE RESTORED TO EXISTING CONDITIONS OR BETTER.
- THE CONTRACTOR SHALL PROTECT ALL MONUMENTS, IRON PINS, AND PROPERTY CORNERS DURING CONSTRUCTION.
- THE CONTRACTOR MAY OBTAIN AN ELECTRONIC COPY OF THESE PLANS FOR CONSTRUCTION PURPOSES. THE ELECTRONIC FILE AND INFORMATION GENERATED, BY M3 ENGINEERING (M3) FOR THIS PROJECT IS CONSIDERED BY SE TO BE CONFIDENTIAL. WHEN ISSUED, ITS USE IS INTENDED SOLELY FOR THE INDIVIDUAL OR ENTITY TO WHICH IT IS ADDRESSED. PERMISSION IS NOT GRANTED TO THE RECIPIENT FOR DISTRIBUTION OF THESE DOCUMENTS IN ANY FORM OR FASHION. THE RECIPIENT UNDERSTANDS THAT THIS DATA IS AUTHORIZED AS IS WITHOUT ANY WARRANTY AS TO IT PERFORMANCE, ACCURACY, ERROR, OR AS TO ANY RESULTS GENERATED. PERMISSION IS NOT GRANTED THROUGHOUT ITS USE. RECIPIENT ALSO UNDERSTANDS AND AGREES THAT M3, UPON RELEASE OF SUCH DATA, IS NO LONGER RESPONSIBLE FOR THEIR USE OR MODIFICATION. THE USER AND RECIPIENT OF THE ELECTRONIC DATA ACCEPTS FULL RESPONSIBILITY AND LIABILITY FOR ANY CONSEQUENCES ARISING OUT OF THEIR USE.

- SITE SPECIFIC NOTES
- THE PROPERTY IS ZONED PD-M PLANNED DEVELOPMENT - MIXED USE DISTRICT PER APPROVAL ORDINANCE NO. 2490
 - THE PROPERTY IS OWNED BY THE WOODSON DEVELOPMENT LLC. THE PROPERTY IS LOCATED AT 500-604 WOODSON DRIVE WITHIN THE CITY LIMITS OF BRYAN, TEXAS.
 - THE TOTAL DISTURBED AREA FOR THIS PROJECT IS 2.27 ACRES.
 - THE SUBJECT TRACT DOES LIE WITHIN THE 100 YEAR FLOODPLAIN ACCORDING TO FEMA FLOOD INSURANCE RATE MAPS #4804100215F, EFFECTIVE DATE: 4/22/04.
 - PARKING LOT STRIPING OTHER THAN FIRE LANE STRIPING SHALL CONFORM TO TxDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION OF HIGHWAYS, STREETS, AND BRIDGES; ITEM 666, TYPE 2 WARNING MATERIALS.
 - CONTOURS SHOWN ARE FROM GIS DATA.
 - ALL STORM SEWER IS PRIVATE. STORM SEWER COVERS SHALL BE LABELED PRIVATE AND SHALL NOT USE THE CITY OF BRYAN LOGO ON COVERS.
 - THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CONTAINMENT AND PROPER DISPOSAL OF ALL LIQUID AND SOLID WASTE ASSOCIATED WITH THIS PROJECT. THE CONTRACTOR SHALL USE ALL MEANS NECESSARY TO PREVENT THE OCCURRENCE OF WIND BLOWN LITTER FROM THE PROJECT SITE.
 - SITE IS REQUIRED TO PROVIDE CONTAINMENT FOR WASTE PRIOR TO AND DURING DEMOLITION/CONSTRUCTION. SOLID WASTE ROLL OFF BOXES AND/OR METAL DUMPSTERS SHALL BE SUPPLIED BY CITY OR CITY-PERMITTED CONTRACTOR(S).
 - NORMAL DOMESTIC WASTEWATER IS ANTICIPATED TO BE DISCHARGED FROM THIS DEVELOPMENT.
 - ALL BACKFLOW DEVICES MUST BE INSTALLED AND TESTED UPON INSTALLATION AS PER CITY ORDINANCE.
 - THE IRRIGATION SYSTEM MUST BE PROTECTED BY EITHER AN ATMOSPHERIC OR A PRESSURE VACUUM BREAKER OR REDUCED PRESSURE PRINCIPLE BACK FLOW DEVICE AND INSTALLED AS PER CITY ORDINANCE.
 - ALL DEVICES, APPURTENANCES, APPLIANCES AND APPARATUS INTENDED TO SERVE SOME SPECIAL FUNCTION AND THAT CONNECTS TO THE WATER SUPPLY SYSTEM, SHALL BE PROVIDED WITH PROTECTION AGAINST BACKFLOW AND CONTAMINATION OF THE WATER SUPPLY.
 - ALL MEASUREMENTS ARE TO FACE OF CURB UNLESS OTHERWISE NOTED. TYPICAL 4' RADIUS DIMENSIONS. RADIUS OVER 100' NOT SHOWN FOR CLARITY. CONTRACTOR SHALL HAVE THIS RADIUS STAKED OUT BY SURVEYOR.
 - FOR DRIVEWAY CONSTRUCTION, THE OWNER IS RESPONSIBLE FOR ALL COSTS FOR RELOCATION OF, OR DAMAGE TO UTILITIES. GATES FOR TWO WAY FIRE LANES SHOULD BE 20 FT OR AT LEAST FULL WIDTH OF THE FIRE LANE. GATES FOR ONE WAY FIRE LANES SHOULD BE AT LEAST 16 FT.
 - A 7' VERTICAL CLEARANCE, INCLUDING TREE LIMBS, FOR ALL DRIVEWAYS AND INTERNAL CIRCULATION AREAS ON SITE IS REQUIRED, WHERE FIRE DEPARTMENT ACCESS IS REQUIRED. THE MINIMUM CLEARANCE IS 14'
 - FIRE LANES MUST BE MARKED ALONG THE EDGES OF THE FIRE DEPARTMENT ACCESS ROADS. REFER TO DETAILS PAGE FOR FIRE LANE STRIPPING.
 - CONTRACTOR SHALL MAKE EVERY EFFORT TO PRESERVE AND MAINTAIN EXISTING TREE CANOPY WHERE APPLICABLE. AN OWNER'S REPRESENTATIVE IS REQUIRED TO BE ONSITE DURING CLEARING OPERATIONS AND OR TREE REMOVAL. CONTRACTOR SHALL OBTAIN APPROVAL FROM OWNER'S REPRESENTATIVE PRIOR TO THE REMOVAL OF ANY TREES 4 INCHES OR LARGER.

GENERAL CONSTRUCTION NOTES

- ALL RESPONSIBILITY FOR THE ADEQUACY OF THESE PLANS REMAINS WITH THE ENGINEER WHO PREPARED THEM. IN REVIEWING THESE PLANS, THE CITY OF BRYAN MUST RELY ON THE ADEQUACY OF THE WORK OF THE DESIGN ENGINEER.
- CONTRACTOR SHALL CALL TEXAS 811 (811 OR 1-800-344-8377) FOR UTILITY LOCATIONS PRIOR TO ANY WORK IN CITY EASEMENTS OR STREET R.O.W.
- CONTRACTOR SHALL NOTIFY THE CITY'S SITE AND SUBDIVISION INSPECTION DIVISION AT 512-974-6360 OR 512-974-7034 AT LEAST 24 HOURS PRIOR TO THE INSTALLATION OF ANY DRAINAGE FACILITY WITHIN A DRAINAGE EASEMENT OR STREET R.O.W. THE METHOD OF PLACEMENT AND COMPACTION OF BACKFILL IN THE CITY'S R.O.W. MUST BE APPROVED PRIOR TO THE START OF BACKFILL OPERATIONS.
- FOR SLOPES OR TRENCHES GREATER THAN FIVE (5) FEET IN DEPTH, A NOTE MUST BE ADDED STATING THAT CONSTRUCTION OPERATIONS SHALL BE ACCOMPLISHED IN ACCORDANCE WITH APPLICABLE REGULATIONS OF THE U.S. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION. COPIES OF OSHA STANDARDS MAY BE PURCHASED FROM THE U.S. GOVERNMENT PRINTING OFFICE; INFORMATION AND RELATED REFERENCE MATERIALS MAY BE PURCHASED FROM OSHA, 811 E. 6TH STREET, AUSTIN, TEXAS.
- ALL SITE WORK MUST ALSO COMPLY WITH ENVIRONMENTAL REQUIREMENTS.
- CONTRACTOR INFORMATION:

CONTRACTOR:	UNKNOWN AT TIME OF SUBMITTAL
CONTRACTOR ADDRESS:	N/A PHONE # N/A

DEVELOPER'S REPRESENTATIVE RESPONSIBLE FOR PLAN ALTERATIONS:
M3 ENGINEERING LLC PHONE# 512.448.9551

PERSON OR FIRM RESPONSIBLE FOR EROSION/SEDIMENTATION CONTROL MAINTENANCE:
UNKNOWN AT TIME OF SUBMITTAL PHONE# N/A

PERSON OF FIRM RESPONSIBLE FOR TREE/NATURAL AREA PROTECTION MAINTENANCE:
UNKNOWN AT TIME OF SUBMITTAL PHONE# N/A

- TOPOGRAPHIC INFORMATION SHOWN HEREON IS BASED UPON A 1/29/2020 GROUND SURVEY PERFORMED BY GRIFITH CONSULTING. ONLY VISIBLE ABOVE-GROUND EVIDENCE OF IMPROVEMENTS UTILITIES IS SHOWN HEREON.
- IF CONTRACTOR FINDS A DISCREPANCY WITH THE TOPOGRAPHIC INFORMATION ON THESE PLANS, HE/SHE SHOULD CONTACT THE ENGINEER/SURVEYOR IMMEDIATELY.
- ALL AREAS DISTURBED BY CONSTRUCTION SHALL BE RESTORED AND GRADED TO DRAIN.
- ANY TEMPORARY SPOILS STOCKPILE MUST BE LOCATED OUTSIDE OF ANY TREE DRIPLINES AND IN THE TEMPORARY SPOILS AREA DESIGNATED ON THE APPROVED PLANS. ALL SURPLUS MATERIAL WILL BE DISPOSED OFF SITE.
- ALL DEBRIS AND EXCESS MATERIAL SHALL BE REMOVED FROM THE SITE IN A MANNER NOT TO DAMAGE THE OWNERS PROPERTY PRIOR TO ACCEPTANCE OF THE PROJECT.
- CONTRACTOR SHALL COMPLY WITH ALL LOCAL BUILDING CODES AND REGULATIONS, AS WELL AS OTHER SAFETY CODES AND INSPECTION PROVISIONS APPLICABLE TO THIS PROJECT.
- CONTRACTOR WILL BE RESPONSIBLE FOR SECURING ALL REQUIRED PERMITS FOR THE PROPOSED CONSTRUCTION AND SHALL NOTIFY ALL RESPECTIVE GOVERNMENTAL OR UTILITY AGENCIES AFFECTED BY CONSTRUCTION.
- CONTRACTOR MUST COORDINATE ALL WORK THROUGH THE OWNER, ENGINEER, AND WITH ALL OTHER TRADE CONTRACTORS WHO MAY BE WORKING ON-SITE SIMULTANEOUSLY.
- CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES WITH FACILITIES ADJACENT TO OR IN THE VICINITY OF THE PROPOSED CONSTRUCTION AND HAVE EACH FACILITY LOCATED PRIOR TO BEGINNING CONSTRUCTION.
- LOCATION AND DEPTH OF EXISTING UTILITIES SHOWN ON THE PLANS ARE APPROXIMATE ONLY. ACTUAL LOCATIONS MUST BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION AND CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTION OF SAME DURING CONSTRUCTION.
- CONTRACTOR TO PROTECT EXISTING FACILITIES INCLUDING BUT NOT LIMITED TO UTILITIES, STREETS, CURBS, SIDEWALKS, LANDSCAPING, SPRINKLER SYSTEMS, FENCES, ETC. ADJACENT TO WORK AREA. CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING TO ITS ORIGINAL, OR BETTER, CONDITION, EXISTING FACILITIES DAMAGED BY CONTRACTOR. (NO SEPARATE PAY ITEM)
- CONSTRUCTION AREAS SHOULD BE STRIPPED OF ALL VEGETATION, LOOSE TOPSOIL, AND DEBRIS, EXCEPT AS SHOWN ON THE PLANS. THE EXPOSED SUBGRADE SHOULD BE CLEANED OF DEBRIS AND ORGANICS AND THEN PROOF-ROLLED WITH AT LEAST A 20 TON PNEUMATIC ROLLER TO DETECT WEAK AREAS. SUCH AREAS SHOULD BE REMOVED AND REPLACED WITH SOILS EXHIBITING SIMILAR CLASSIFICATION, MOISTURE CONTENT, AND DENSITY AS THE ADJACENT IN-PLACE SOILS.
- CONTRACTOR SHALL MAINTAIN UNRESTRICTED DRAINAGE OF THE PROJECT SITE AND ADJACENT AREAS DURING CONSTRUCTION. UNDER NO CIRCUMSTANCES SHALL CONTRACTOR ALLOW STORM WATER TO POND AND SATURATE ANY PREPARED SUBGRADE, EXCAVATION OR EMBANKMENT SOILS. CONTRACTOR SHALL IMMEDIATELY PUMP ALL WATER OUT OF AREAS WHICH CANNOT DRAIN BY GRAVITY FLOW WITH SPECIAL ATTENTION REQUIRED TO THE BUILDING PAD AND PAVEMENT SUBGRADE AREAS. ANY LAYER DETERMINED TO BE SATURATED MUST BE DRIED OUT. RE-COMPACTED OR REMOVED AND REPLACED PRIOR TO CONTINUING CONSTRUCTION OF NEXT EMBANKMENT LAYER.
- ALL EMBANKMENT, BASES AND SUBGRADES SHOULD BE PROPERLY PLACED WITH COMPACTION TO BE OBTAINED UTILIZING THE "DENSITY CONTROL" METHOD. (ASTM D 698).

EMBANKMENT/FILL	95% MAXIMUM DRY DENSITY
PAVEMENT SUB-GRADE	95% MAXIMUM DRY DENSITY

FLOWABLE FILL

- CONTRACTOR SHALL REFERENCE THE GEOTECHNICAL REPORT DESIGN DETAILS FOR ADDITIONAL INFORMATION.

PERFORMANCE EXPECTATIONS
- FLOWABLE BACKFILL SHALL SET AND DEVELOP SUFFICIENT STRENGTH TO SUPPORT PASSENGER CAR TRAFFIC WITHIN 24 HOURS AFTER PLACEMENT.
- EIGHT WEEKS AFTER PLACEMENT, HARDENED FLOWABLE FILL SHALL BE READILY REMOVABLE TO DEPTHS OF ABOUT 2 INCHES USING BACKHOE BUCKET TEETH.
- DESIGN THE MIX TO BE PLACED WITHOUT CONSOLIDATION AND TO FILL ALL INTENDED VOIDS. FILL AN OPEN-ENDED, 3-IN.-DIAMETER-BY-6-IN.-HIGH CYLINDER TO THE TOP TO TEST THE CONSISTENCY. IMMEDIATELY PULL THE CYLINDER STRAIGHT UP, THE CORRECT CONSISTENCY OF THE MIX MUST PRODUCE A MINIMUM 6-IN.-DIAMETER CIRCULAR SPREAD WITH NO SEGREGATION.
- PLACEMENT SHALL BE DONE IN 12" LIFTS.

MIX DESIGN
- PROPOSED MIX DESIGN SHALL BE SUBMITTED FOR REVIEW AT LEAST TWO WEEKS PRIOR TO USE.
- MIX PROPERTIES MAY BE ADJUSTED BASED ON SITE AND SPECIFIC CONDITIONS AND PERFORMANCE. IF ACCELERATORS ARE USED, THEY SHALL BE NON CORROSIVE AND SHALL NOT CONTAIN CHLORIDES. ADJUSTMENTS MUST BE APPROVED BY OWNERS REPRESENTATIVE.
- FIELD ADJUSTMENTS OF THE MIX SHALL BE COORDINATED WITH REPRESENTATIVES OF OWNER, THE GENERAL CONTRACTOR AND THE MATERIAL SUPPLIER. ADJUSTMENTS MUST BE APPROVED BY OWNERS REPRESENTATIVE.

TRENCH SAFETY

- IN ACCORDANCE WITH THE LAWS OF THE STATE OF TEXAS AND THE U.S. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION REGULATIONS, ALL TRENCHES OVER 5 FEET IN DEPTH IN EITHER HARD AND COMPACT OR SOFT AND UNSTABLE SOIL, SHALL BE SLOPED, SHORED, SHEETED, BRACED OR OTHERWISE SUPPORTED. FURTHERMORE, ALL TRENCHES LESS THAN 5 FEET IN DEPTH SHALL ALSO BE EFFECTIVELY PROTECTED WHEN HAZARDOUS GROUND MOVEMENT MAY BE EXPECTED. TRENCH SAFETY SYSTEMS TO BE UTILIZED FOR THIS PROJECT WILL BE PROVIDED BY THE CONTRACTOR.
- IN ACCORDANCE WITH THE U.S. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION REGULATIONS, WHEN PERSONS ARE IN TRENCHES 4-FEET DEEP OR MORE, ADEQUATE MEANS OF EXIT, SUCH AS A LADDER OR STEPS, MUST BE PROVIDED AND LOCATED SO AS TO REQUIRE NO MORE THAN 25 FEET OF LATERAL TRAVEL.
- CONSTRUCTION SHALL NOT PROCEED UNTIL APPROPRIATE TRENCH SAFETY SYSTEM DETAILS, AS DESIGNED BY A PROFESSIONAL ENGINEER, ARE RETAINED AND COPIES SUBMITTED TO THE CITY OF BRYAN.

SITE CLEARING

- CONTRACTOR SHALL CONDUCT SITE CLEARING OPERATIONS TO THE EXTENT SHOWN ON THE DRAWINGS, INCLUDING BUT NOT LIMITED TO: REMOVAL OF TREES AND OTHER VEGETATION, TOPSOIL STRIPPING, CLEARING AND GRUBBING, AND REMOVAL ALL IMPROVEMENTS ABOVE OR BELOW GRADE, INCLUDING FOUNDATIONS UNLESS OTHERWISE NOTED. REFER TO THE GEOTECHNICAL REPORT FOR THIS PROJECT FOR ADDITIONAL SITE PREPARATION REQUIREMENTS.
- SITE CLEARING OPERATIONS SHALL NOT DAMAGE OR INTERFERE WITH THE PUBLIC USE OF ROADS, WALKS, ADJACENT LAND OR FACILITIES AND EXISTING IMPROVEMENTS INTENDED TO REMAIN.
- EXISTING TREES TO REMAIN SHALL BE PROTECTED IN COMPLIANCE WITH - LANDSCAPE PLANS.
- CONTRACTOR SHALL REMOVE TREES, SHRUBS, GRASS AND OTHER VEGETATION, IMPROVEMENTS OR OBSTRUCTIONS INTERFERING WITH THE INSTALLATION OF NEW CONSTRUCTION OR AS SHOWN ON PLANS. CLEARING OPERATIONS SHALL INCLUDE REMOVAL OF STUMPS AND ROOTS.
- CONTRACTOR SHALL STRIP TOPSOIL IN A MANNER APPROPRIATE TO SEGREGATE FROM UNDERLYING SUBSOIL. TOPSOIL, STRIPPING NEAR TREES INTENDED TO REMAIN SHALL BE COMPLETED IN COMPLIANCE LANDSCAPE PLANS.
- SPOIL SHALL BE STORED ONLY IN AREAS SHOWN ON THE PLANS AND SHALL BE MAINTAINED IN ACCORDANCE WITH APPLICABLE POLLUTION PREVENTION PLANS OR PERMITS.
- WASTE MATERIAL OR EXCESS TOPSOIL GENERATED AS A RESULT OF CLEARING AND GRADING OPERATIONS SHALL BECOME THE PROPERTY OF THE CONTRACTOR. APPROPRIATE DISPOSAL OF ALL SPOIL MATERIAL SHALL BE AT THE CONTRACTOR'S EXPENSE. BURNING ON THE OWNER'S PROPERTY IS NOT PERMITTED.

PAVEMENT MARKINGS

- CONTRACTOR SHALL CLEAN PAVEMENT OF GREASE, DIRT, OIL, SAND, GRAVEL OR OTHER FOREIGN MATERIALS PRIOR TO APPLYING MARKINGS AS REQUIRED BY PAINT MANUFACTURER.
- PAVEMENT MARKINGS SHALL BE APPLIED BY MACHINE AT A RATE OF ONE (1) GALLON/100 SQUARE FEET, OR AS REQUIRED TO PROVIDE A MINIMUM WEAR FILM THICKNESS OF 15 MILS AND A DRY FILM THICKNESS OF 7.5 MILS PER COAT.
- A MINIMUM OF TWO COATS SHALL BE REQUIRED. PAINT SHALL BE APPLIED FOR A TOTAL THICKNESS OF 15 MILS. WAIT 30 DAYS AFTER PAVEMENT INSTALLATION BEFORE APPLYING THE SECOND COAT OF PAVEMENT MARKINGS.
- PAVEMENT MARKINGS SHALL NOT BE APPLIED DURING PERIODS OF EXCESS HUMIDITY OR PAVEMENT TEMPERATURES BELOW 50 DEGREES F.
- MINIMUM LINE WIDTH IS 4 INCHES. PAVEMENT MARKINGS MUST COMPLY WITH LOCAL FIRE STANDARDS AND CURRENT ACCESSIBILITY CODE.
- CLOSE AREAS TO TRAFFIC FOR DURATION OF DRYING TIME, WHICH SHALL BE NO LESS THAN THE MINIMUM RECOMMENDED BY THE PAINT MANUFACTURER.
- TRAFFIC PAINT SHALL BE SHERWIN WILLIAMS PRO-MAR TRAFFIC PAINT FOR FIRST COAT AND GORILLA TRAFFIC PAINT FOR SECOND COAT. COLOR AS SPECIFIED ON PLANS.
 - WHITE = PRODUCT CODE 22W-E008
 - YELLOW = PRODUCT CODE 22Y-E006
 - BLACK = PRODUCT CODE 22A-E001
 - RED = PRODUCT CODE 22R-E007

AS-BUILT NOTES

- CONTRACTOR IS EXPECTED KEEP & MAINTAIN AS-BUILT INFORMATION, INCLUDING MINOR FIELD CHANGES. FAILURE TO KEEP AS-BUILT RECORDS MAY DELAY FINAL CERTIFICATE OF OCCUPANCY.
- CONTRACTOR SHALL PROVIDE AND PAY FOR ALL AS-BUILT INFORMATION AS REQUIRED BY LOCAL ISSUING AUTHORITY.
- CONTRACTOR SHALL VERIFY AND INCLUDE PRICING FOR REQUIRED AS-BUILT INFORMATION DURING BIDDING PROCESS. AS-BUILT INFORMATION MAY INCLUDE, BUT NOT LIMITED TO: SANITARY SEWER, DOMESTIC WATER, FIRE LINES, FORCE MAINS, OVERHEAD AND UNDERGROUND POWER, PHONE, GAS, CABLE, STORM AND ALL DETENTION & WATER QUALITY FACILITIES.
- REQUIRED AS-BUILT INFORMATION SHALL BE PROVIDED AT LEAST THREE WEEKS PRIOR TO APPLICATION FOR FINAL CERTIFICATE OF OCCUPANCY TO THE ENGINEER OF RECORD.

COMPACTION NOTES

- BACKFILL MATERIAL AND PROCEDURES FOR TRENCHES SHALL BE IN COMPLIANCE WITH THE TEXAS DEPARTMENT OF TRANSPORTATION 204 STANDARD SPECIFICATION FOR CONSTRUCTION OF HIGHWAYS, STREETS AND BRIDGES, ITEM 400 - EXCAVATION AND BACKFILL FOR STRUCTURES.
- PLACE BACKFILL AND FILL MATERIALS IN LAYERS NOT MORE THAN 8 INCHES IN LOOSE DEPTH FOR MATERIAL COMPACTED BY HEAVY COMPACTION EQUIPMENT, AND NOT MORE THAN 4 INCHES IN LOOSE DEPTH FOR MATERIAL COMPACTED BY HAND-OPERATED TAMBERS.
- PLACE BACKFILL AND FILL MATERIALS EVENLY ON ALL SIDES OF STRUCTURES TO REQUIRED ELEVATIONS. PLACE BACKFILL AND FILL UNIFORMLY ALONG THE FULL LENGTH OF EACH STRUCTURE.
- PERCENTAGE OF MAXIMUM DRY DENSITY REQUIREMENTS: COMPACT SOIL TO NOT LESS THAN THE FOLLOWING PERCENTAGES OF MAXIMUM DRY DENSITY ACCORDING TO ASTM D 1557:
 - UNDER STRUCTURES, BUILDING SLABS, STEPS, AND IMPERVIOUS PAVEMENTS, COMPACT THE TOP 12 INCHES BELOW SUBGRADE AND EACH LAYER OF BACKFILL OR FILL MATERIAL AT 98 PERCENT MAXIMUM DRY DENSITY.
 - UNDER WALKWAYS, COMPACT THE TOP 6 INCHES BELOW SUBGRADE AND EACH LAYER OF BACKFILL OR FILL MATERIAL AT 95 PERCENT MAXIMUM DRY DENSITY.
 - UNDER LAWN OR UNPAVED AREAS, COMPACT THE TOP 6 INCHES BELOW SUBGRADE AND EACH LAYER OF BACKFILL OR FILL MATERIAL AT 95 PERCENT MAXIMUM DRY DENSITY.
- MATERIAL IN CONFORMANCE TO NOTE 4 WHICH ARE PLACED AND COMPACTED TO LESS THAN THE SPECIFIED DENSITY SHALL BE:
 - RE-COMPACTED AS REQUIRED TO ACHIEVE SPECIFIED DENSITY.
 - REMOVED AND REPLACED WITH PROPERLY PLACED AND ACCEPTABLY COMPACTED MATERIAL.
 - COMPACT BY PUDDING IS PROHIBITED.

SOLID WASTE NOTES

- SITES REQUIRING A "FRONT-LOAD" CONTAINER SHALL MEET THE MINIMUM REQUIREMENT OF A CONCRETE CONTAINMENT AREA 12 FEET WIDE AND 10 FEET DEEP FOR EACH DUMPSTER.
- IF FRONT-LOAD CONTAINERS ARE USED ADEQUATE MAINTENANCE (APPROACH AND BACKING) SPACE MUST BE PLANNED IN ORDER TO SERVICE WITH A 36FT. FRONT LOAD TRUCK WITH A TURNING RADIUS OF 42FT.
- IF BOLLARDS ARE PLANNED TO BE PLACED IN OR AROUND THE DUMPSTER ENCLOSURE THE SAME SIZE SPECIFICATIONS APPLY. EXAMPLE: IF THE BOLLARDS ARE PLACED IN THE REAR OF THE ENCLOSURE, THEN THE DISTANCE FROM THE BOLLARDS TO THE FRONT SHOULD BE 10 FEET, NOT 10 FEET FROM THE FENCE LINE.
- NOTE: DUMPSTER CONTAINMENT AREAS SHALL BE 6" CONCRETE, REINFORCED WITH #6 BARS AT 12" OC/W AND THE PAD SHALL EXTEND AN ADDITIONAL 10' IN FRONT OF THE CONTAINMENT AREA.
- CONTAINMENT AREAS ARE PREFERRED TO BE ON FLAT/LEVEL SERVICE AREAS. THE APRON/APPROACH IN FRONT OF THE ENCLOSURE SHOULD BE LEVEL WITH THE ENCLOSURE WITH NO MORE THAN A 2% GRADE VARIANCE.
- THE DUMPSTER CONTAINMENT AREA SHALL BE SURROUNDED ON THREE SIDES WITH A SCREEN CONSTRUCTED TO A HEIGHT OF SIX FEET.
- IF CONTAINMENT DOOR ARE PLANNED THEY MUST MEET THE REQUIREMENTS OF AN OPENING 12 FEET WIDE FOR EACH FRONT-LOAD CONTAINER. THIS INCLUDES DOORS OR WALK WAYS TO THE CONTAINERS. THE WIDTH FOR THE TRUCK TO SERVICE THE CONTAINER IS A MINIMUM 12 FEET. NOTE: IT IS RECOMMENDED THAT THE DOORS BE SET AT THE MINIMUM WIDTH AND HAVE THE ABILITY TO STAY OPEN IN THE EVENT OF HIGH WINDS OR EXTREME WEATHER CONDITIONS WITH BAR LOCKS, CHAINS, THE BARS, ETC.)
- IF RECYCLING CONTAINERS (I.E. GREASE BARREL, SCRAP FLOW CONTAINER, CARBONADO, GAS CYLINDERS) ARE PLANNED TO BE USED AND STORED IN THE DUMPSTER ENCLOSURE, ADDITIONAL SPACE MUST BE ADDED TO THE ALREADY REQUIRED ENCLOSURE AREA. DUMPSTER ENCLOSURES SHOULD NOT BE USED FOR A STORAGE AREA, UNLESS THE ENCLOSURE IS DESIGNED WITH ADDITIONAL SPACE TO ACCOMMODATE THE ITEMS TO BE STORED. A MINIMUM OF THE REQUIRED DIMENSIONS, 12' X 10', SHOULD STILL BE ALLOTTED FOR THE DUMPSTER IN THE ENCLOSURE.
- IF BRICKS, CMU BLOCKS, OR ANY OTHER MATERIAL USED FOR SCREENING ARE CONSTRUCTED, AN INTERIOR SPACE OF TWELVE FEET WIDE AND TEN FEET DEEP MUST BE MAINTAINED. IF DOORS ARE CONSTRUCTED THEY MUST MAINTAIN THE MINIMUM INTERIOR WIDTH REQUIREMENT OF TWELVE FEET, AND PROVIDE THE BARS OR ANCHORS TO SECURE THE DOORS WHILE SERVICING. THE PAD, SCREENING AND DOORS WILL BE CONSTRUCTED AND MAINTAINED AT THE PROPERTY OWNERS EXPENSE.
- AN ALL-WEATHER ACCESS ROUTE (I.E. PARKING LOTS, LOADING DOCKS, PRIVATE ROADS, ALLEYS, ETC.) CAPABLE OF SUPPORTING THE CONTAINER AND THE COLLECTION TRUCK MUST BE CONSTRUCTED AND WILL BE MAINTAINED AND REPAIRED AT THE OWNER'S EXPENSE.

SITE NOTES

- ALL IMPROVEMENTS SHALL BE MADE IN ACCORDANCE WITH THE RELEASED SITE PLAN. ANY ADDITIONAL IMPROVEMENTS WILL REQUIRE SITE PLAN AMENDMENT AND APPROVAL OF THE DEVELOPMENT SERVICES DEPARTMENT.
- ALL ON-SITE UTILITIES SHALL BE LOCATED UNDERGROUND UNLESS REQUIRED BY THE UTILITY TO BE OTHERWISE LOCATED.
- THE OWNER OF THE PROPERTY IS RESPONSIBLE FOR MAINTAINING CLEARANCES REQUIRED BY THE NATIONAL ELECTRICAL SAFETY CODE, OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) REGULATIONS, CITY OF BRYAN RULES AND REGULATIONS AND TEXAS STATE LAWS PERTAINING TO CLEARANCES WHEN WORKING IN CLOSE PROXIMITY TO OVERHEAD POWER LINES AND EQUIPMENT. BRYAN ENERGY WILL NOT RENDER ELECTRICAL SERVICE UNLESS REQUIRED CLEARANCES ARE MAINTAINED. ALL COSTS INCURRED BECAUSE OF FAILURE TO COMPLY WITH THE REQUIRED CLEARANCES WILL BE CHARGED TO THE OWNER.
- CONTRACTOR TO ADJUST CASTINGS, MANHOLE LIDS, AND OTHER APPLICABLE APPURTENANCES ON EXISTING UTILITIES WITHIN THE PROPOSED DRIVEWAY AND SIDEWALK RECONSTRUCTION LIMITS.
- EACH PARKING SPACE MUST HAVE A VERTICAL CLEARANCE AS SPECIFIED IN THE BUILDING CODE (MINIMUM 7'0 FEET).
- A MINIMUM VERTICAL CLEARANCE OF 11'4" MUST BE PROVIDED AT OCCUPANCY PASSENGER LOADING ZONES ALONG VEHICLE ACCESS ROUTES TO SUCH AREAS FROM SITE ENTRANCES. A MINIMUM VERTICAL CLEARANCE OF 9'6" MUST BE PROVIDED FOR VAN-ACCESSIBLE PARKING SPACES AND ALONG THE VEHICULAR ROUTE THERETO.
- WATER AND WASTEWATER SERVICE WILL BE PROVIDED BY THE CITY OF BRYAN.
- EXISTING STRUCTURES SHOWN TO BE REMOVED WILL REQUIRE A DEMOLITION PERMIT FROM THE CITY OF BRYAN DEVELOPMENT SERVICES DEPARTMENT.
- ALL SITE DRIVEWAYS SHALL MAINTAIN A VERTICAL CLEARANCE OF 14'-0" FOR FIRE DEPARTMENT ACCESS. TREES SHALL BE PRUNED APPROPRIATELY PER STANDARDS SET BY THE CITY OF BRYAN ENVIRONMENTAL CRITERIA MANUAL.
- APPROVAL OF THIS SITE PLAN DOES NOT INCLUDE BUILDING AND FIRE CODE APPROVAL NOR BUILDING PERMIT APPLICATION.
- ADDITIONAL ELECTRIC EASEMENTS MAY BE REQUIRED AT A LATER DATE.
- FOR DRIVEWAY CONSTRUCTION, THE OWNER IS RESPONSIBLE FOR ALL COSTS FOR RELOCATION OF, OR DAMAGE TO UTILITIES.
- FOR CONSTRUCTION WITHIN THE RIGHT-OF-WAY, A ROW EXCAVATION PERMIT IS REQUIRED.

EARTHWORK NOTES

- ALL EXCAVATION, BACKFILL AND COMPACTION SHALL BE PERFORMED AS SHOWN IN THE PLANS AND GEOTECHNICAL REPORT FOR THE SITE.
- EXCESS MATERIAL RESULTING FROM EXCAVATION OPERATIONS IS THE PROPERTY OF THE CONTRACTOR. APPROPRIATE DISPOSAL SHALL BE AT THE CONTRACTOR'S EXPENSE. ALL EXCAVATION SHALL BE PERFORMED AS DIRECTED IN THE PLANS AND IN COMPLIANCE WITH OSHA STANDARDS.
- OWNER WILL ENGAGE AT THE OWNER'S COST SOIL TESTING AND INSPECTION SERVICE IN ACCORDANCE WITH MATERIAL TESTING SPECIFICATION TO VERIFY COMPLIANCE WITH THE PLANS & SPECIFICATIONS.
- REPLACEMENT AND RETESTING OF DEFICIENT WORK SHALL BE DONE BY CONTRACTOR AT NO ADDITIONAL COMPENSATION. DATA ON SUBSURFACE CONDITIONS IS AVAILABLE TO THE CONTRACTOR. THE OWNER MAKES NO WARRANTY AS TO THE CORRECTNESS OF THESE REPORTS.
- THE CONTRACTOR MAY, AT HIS OWN EXPENSE, PERFORM ADDITIONAL TEST BORINGS.
- CONTRACTOR IS RESPONSIBLE FOR COORDINATION WITH ALL AFFECTED UTILITY COMPANIES. THIS SHALL INCLUDE LOCATION OF FACILITIES, PROTECTION DURING CONSTRUCTION, DAMAGE REPAIRS AND RESTORATION OF SERVICE. THE EXCAVATION IS UNCLASSIFIED, AND CONTRACTOR SHALL PERFORM EXCAVATION TO THE ELEVATIONS INDICATED IN THE PLANS, REGARDLESS OF CHARACTER OF MATERIAL, WITH NO ADDITIONAL COMPENSATION FROM THE OWNER.
- USE OF EXPLOSIVES IS PROHIBITED.
- CONTRACTOR IS RESPONSIBLE FOR PROVIDING BARRICADES REQUIRED TO WARN AND/OR PREVENT ACCESS TO CONSTRUCTION AREA. CONTRACTOR IS RESPONSIBLE FOR PROTECTING ADJACENT FACILITIES FROM DAMAGE.
- EARTHWORK SHALL BE PERFORMED IN COMPLIANCE WITH LANDSCAPE ARCHITECT'S PLANS FOR LANDSCAPE PROTECTION/RESTORATION, ETC. OVER-EXCAVATION IS NON-COMPENSABLE, AND SHALL BE BACKFILLED AND COMPACTED AS DIRECTED BY THE ENGINEER AT NO ADDITIONAL COST TO THE OWNER.
- CONTRACTOR SHALL PROVIDE ALL LABOR AND EQUIPMENT NECESSARY TO PROPERLY DEWATER EXCAVATION AREAS - AS REQUIRED. EXCAVATED MATERIAL SHALL BE STOCKPILED WHERE DIRECTED IN THE PLANS.
- STOCKPILE SHALL BE MAINTAINED IN COMPLIANCE WITH ALL RELEVANT POLLUTION PREVENTION PLANS. EARTHWORK SHALL BE PERFORMED TO THE TOLERANCES SHOWN IN THE PLANS AND/OR SPECIFIED IN THE GEOTECHNICAL REPORT FOR THE PROJECT. TRENCHES SHALL BE BACKFILLED ONLY AFTER INSPECTION AND APPROVAL OF THE TESTING LAB.

ABBREVIATIONS

PROVIDED BELOW ARE A LIST OF COMMON ABBREVIATIONS USED IN THIS CONSTRUCTION DOCUMENT. IF CONTRACTOR IS UNFAMILIAR WITH AN ABBREVIATION, HE OR SHE SHOULD CONTACT M3 ENGINEERING.

ASTM	AMERICAN STANDARD TEST METHOD	FO	FIBER OPTIC
ACI	AMERICAN CONCRETE INSTITUTE	FFE	FINISH FLOOR ELEVATION
BLDG	BUILDING	HDPE	HIGH DENSITY PLASTIC
CL	CENTERLINE	MATL	MATERIAL
CM	CONCRETE MASONRY UNIT	MECH	MECHANICAL
CMP	CORRUGATED METAL PIPE	MFR	MANUFACTURER
CO	CLEANOUT	MIN	MINIMUM
CONC	CONCRETE	MISC	MISCELLANEOUS
CONT	CONTINUOUS	NIC	NOT IN CONTRACT
CONTR	CONTRACTOR	OC	ON CENTER
COMM	COMMUNICATION	CC	ON CENTER EACH WAY
DEPT	DEPARTMENT	POLY	POLYETHYLENE
DET	DETAIL	PVC	POLYVINYL CHLORIDE
DI	DUCTILE IRON	SPEC	SPECIFICATIONS
DIA	DIAMETER	TBD	TO BE DETERMINED
DIM	DIMENSION	LNCR	TO BE REMOVED
DIP	DUCTILE IRON PIPE	TBR	TELEPHONE
DS	DOWN SPOUT	THK	THICKNESS
DWG	AUTOCAD DRAWING	VEH	VEHICLE
EG	EXISTING GRADE	W	WITH
ELEV	ELEVATION	W/O	WITHOUT
ESCP	EROSION CONTROL PLAN	YHD	YARD HYDRANT
EXT	EXISTING		
FL	FLOW LINE		
FG	FINISH GRADE		

ADA NOTES

- THE CITY OF BRYAN HAS REVIEWED THIS PLAN FOR COMPLIANCE WITH THE CITY'S DEVELOPMENT REGULATIONS ONLY. THE APPLICANT, PROPERTY OWNER, AND OCCUPANT OF THE PREMISES ARE RESPONSIBLE FOR DETERMINING WHETHER THE PLAN COMPLIES WITH ALL OTHER LAWS, REGULATIONS, AND RESTRICTIONS WHICH MAY BE APPLICABLE TO THE PROPERTY AND ITS USE.
- THE MINIMUM CLEAR WIDTH OF AN ACCESSIBLE ROUTE IS 36 IN. IF THE ACCESSIBLE ROUTE IS LESS THAN 60 IN. WIDE AND LONGER THAN 200 FT., PASSING SPACES AT LEAST 60 IN. BY 60 IN. MUST BE LOCATED EVERY 200 FT.
- SLOPES ON ACCESSIBLE ROUTES MAY NOT EXCEED 1:20 (5.0%) UNLESS DESIGNED AS A RAMP.
- ACCESSIBLE PARKING SPACES MUST BE LOCATED ON A SURFACE WITH A SLOPE NOT EXCEEDING 1:50 (2.0%) IN ALL DIRECTIONS.
- ACCESSIBLE ROUTES MUST HAVE A CROSS-SLOPE NO GREATER THAN 1:50 (2.0%)

DRIVEWAY NOTES

- ANY DROP OFF TWO INCHES OR GREATER ADJACENT TO A ROADWAY UNDER TRAFFIC SHALL HAVE A 3:1 SAFETY SLOPE CONSTRUCTED AT THE END OF EACH WORK DAY.
- THE PRIMARY CONTRACTOR IS RESPONSIBLE FOR KEEPING THE CITY ROADWAY FREE OF MUD, ROCKS, AND OTHER DEBRIS. IF THE HIGHWAY BECOMES UNSAFE FOR TRAFFIC BECAUSE OF DEBRIS FROM THE CONSTRUCTION SITE, THE CONTRACTOR MUST CLEAN THE ROADWAY IMMEDIATELY AND SUSPEND WORK IF NECESSARY.
- ALL TIES INTO PAVEMENT SHALL BE SAW CUT AT THE EDGE OF PAVEMENT.
- GENERAL CONTRACTOR MUST PROVIDE ON-SITE PARKING DURING ALL PHASES OF CONSTRUCTION. PARKING WILL NOT BE ALLOWED WITHIN THE RIGHT OF WAY CITY MAINTAINED ROADWAYS.

PAVING NOTES

- CERTAIN ASPECTS OF THE PAVING PLAN HAS BEEN PREPARED ACCORDING TO THE RECOMMENDATIONS IN THE GEOTECHNICAL ENGINEERING STUDY PREPARED GESSNER 821-0073 DATED AUGUST 30, 2021. PLEASE REFERENCE REPORT FOR PAVEMENT DESIGN SPECIFICATIONS AND REQUIRED SITE PREPARATION.
- PLEASE TAKE NOTE SHOULD THERE BE ANY DISCREPANCIES BETWEEN THE PAVING PLAN DETAILS AND SAID GEOTECHNICAL ENGINEERING STUDY, THE GEOTECHNICAL ENGINEERING STUDY SHALL PREVAIL.
- DESIGN MIX SUBMITTALS SHALL BE PROVIDED FOR REVIEW BY THE GEOTECHNICAL ENGINEER AT LEAST 14 DAYS PRIOR TO PLACEMENT.
- DO NOT UNLOAD OR USE ANY HEAVY CONSTRUCTION EQUIPMENT ON NEW CONCRETE FOR AT LEAST 7 DAYS AFTER CONCRETE IS POURED.
- DESIGN MIX SUBMITTALS SHALL BE PROVIDED FOR REVIEW AT LEAST 14 DAYS PRIOR TO PLACEMENT.
- JOINTS SHALL BE PLACED IN ANY PROPOSED CONCRETE PAVEMENT AND CURBING AS RECOMMENDED IN THE GEOTECHNICAL STUDY FOR THIS SITE. IF GEOTECHNICAL STUDY DOES NOT REFER A LAYOUT DESIGN, THE JOINT LOCATION & DESIGN SHALL CONFORM TO THE AMERICAN CONCRETE PAVEMENT ASSOCIATION (ACPA) TECHNICAL PUBLICATION 150.61.9IP, TABLE Z AND FIGURE 13. RE. 86.
- CONTRACTOR IS RESPONSIBLE FOR COORDINATING WORK SUCH THAT UTILITIES ARE INSTALLED PRIOR TO PAVEMENT BASE BEING INSTALLED OR ELSE LOCATE AND PLACE LINES FOR PROPOSED UNDERGROUND UTILITIES.
- ALL CONCRETE WORK SHALL CONFORM TO ALL APPLICABLE REQUIREMENTS OF ACI 303. FLY ASH CAN BE USED IN MIX DESIGNS WHERE SUITABLE.
- ALL CONCRETE PAVING AND FLATWORK SHALL BE CURED IN CONFORMANCE WITH AMERICAN CONCRETE PAVEMENT ASSOCIATION GUIDELINES.
- ALL CONCRETE PAVING MUST HAVE EXPANSION JOINTS 3 FEET ON EITHER SIDE OF THE WATER LINES.

STORM SEWER NOTES

- THE LOCATION OF UNDERGROUND UTILITIES SHOWN ON THIS PLAN ARE BASED ON FIELD SURVEYS AND LOCAL UTILITY COMPANY RECORDS. IT SHALL BE THE CONTRACTOR'S FULL RESPONSIBILITY TO CONTACT THE VARIOUS UTILITY COMPANIES TO LOCATE THEIR UTILITIES PRIOR TO STARTING CONSTRUCTION. (SEE COVER SHEET FOR UTILITY CONTACTS)
- VERIFY ALL EXISTING INVERTS AND RIM ELEVATIONS PRIOR TO CONSTRUCTION. CONTACT ENGINEER WITH ANY DISCREPANCIES.
- EXISTING DRAINAGE STRUCTURES ARE TO BE INSPECTED AND REPAIRED AS NEEDED. CONTRACTOR IS RESPONSIBLE FOR CLEARING DEBRIS FROM EXISTING PIPES AND SHALL BE INCLUDED IN BASE BID.
- COMPLETE OR COORDINATE ADJUSTMENT OF OTHER UTILITIES IN ORDER TO CONSTRUCT STORM SEWER TO ELEVATIONS PROVIDED.
- ANY WORK DONE IN THE PUBLIC RIGHT OF WAY WILL BE COMPLETED ACCORDING TO GOVERNING SPECIFICATIONS AND REGULATIONS.
- INSTALLATION OF THE STORM SEWER SYSTEM SHALL BEGIN AT THE OUTFALL AND PROGRESS UPSTREAM.
- ALL STORM SEWER INLETS/STRUCTURES SHALL BE PRE-CAST UNLESS OTHERWISE NOTED.
- ALL PIPE LENGTHS ARE MEASURED TO THE CENTER OF THE STRUCTURE.
- CONCRETE RISERS ARE TO BE USED IN PAVED AREAS UNLESS OTHERWISE SPECIFIED.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO RAISE AND LOWER ALL INLETS AND TOPS TO MATCH FINAL GRADES AND TO ENSURE THAT ALL INLETS FUNCTION PROPERLY WITH NO PONDING IN THE DRAINAGE AREA. ANY DRAINAGE AREAS THAT DO NOT FUNCTION PROPERLY SHALL BE REPAIRED AND/OR REPLACED AT THE CONTRACTOR'S EXPENSE.
- ALL STORMWATER MANHOLES IN PAVED AREAS SHALL HAVE TRAFFIC BEARING RIG & COVERS. MANHOLES IN UNPAVED AREAS SHALL BE 6" ABOVE GRADE AND LIDS SHALL BE LABELED "STORM SEWER".
- ALL MATERIALS AND INSTALLATION OF STORM SEWER PIPING SHALL COMPLY WITH THE FOLLOWING TEXAS DEPARTMENT OF TRANSPORTATION 204 STANDARD SPECIFICATIONS FOR CONSTRUCTION OF HIGHWAYS, STREETS AND BRIDGES.
- STORM PIPE SHALL BE AS FOLLOWS UNLESS OTHERWISE NOTED:

HDPE PIPE (12"-36"):
HDPE PIPE SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M-294 AND AASHTO MP7, TYPE S & D. WATER TIGHT CONNECTIONS SHALL USED WITH RUBBER GASKETS, WHICH CONFORMS TO ASTM F-477. INSTALLATION SHALL BE IN ACCORDANCE WITH ASTM RECOMMENDED PRACTICE D-3221. AASHTO SECTION 30, OR

PVC PIPE (4"-10"):
PVC PIPE SHALL CONFORM AND BE INSTALLED TO THE REQUIREMENTS ITEM 481 OF TEXAS DEPARTMENT OF TRANSPORTATION 2014 STANDARD SPECIFICATIONS FOR CONSTRUCTION OF HIGHWAYS, STREETS AND BRIDGES. PVC PIPE SHALL MEET THE REQUIREMENTS OF ASTM D 1785, SCHEDULE 40. PVC FITTINGS SHALL MEET THE REQUIREMENTS OF ASTM D 2466.

RCP PIPE (12"-60"):
RCP PIPE SHALL CONFORM AND BE INSTALLED TO THE REQUIREMENTS ITEM 464 OF TEXAS DEPARTMENT OF TRANSPORTATION 2014 STANDARD SPECIFICATIONS FOR CONSTRUCTION OF HIGHWAYS, STREETS AND BRIDGES. PRECAST REINFORCED CONCRETE PIPE THAT CONFORMS TO THE DESIGN SHOWN ON THE PLANS AND TO THE FOLLOWING:
ASTM C 76 OR ASTM C 655 UNLESS OTHERWISE SHOWN ON THE PLANS
FOR CIRCULAR PIPE, OR
ASTM C 506 FOR ARCH PIPE, OR
ASTM C 507 FOR HORIZONTAL

WATER & SEWER UTILITY NOTES

THE FOLLOWING NOTES ARE FOR FIRE LINES, DOMESTIC WATER LINES, WASTEWATER COLLECTION LINES, AND ALL RELATED APPURTENANCES FROM THE RIGHT OF WAY, OR DESIGNATED PUBLIC MAIN TO THE BUILDING PAD(S) AS SHOWN ON THE PLANS.

- INSTALLATION OF WASTEWATER & WATER MAINS SHALL BEGIN AT THE TAP TO THE PUBLIC WASTEWATER SYSTEM AND PROGRESS UPSTREAM. WATER AND WASTEWATER LINES SHALL BE EXTENDED TO SERVICE ENTRANCE INTO BUILDING(S). CONTRACTOR SHALL PROVIDE A WATERTIGHT SLEEVE IN FOUNDATION FOR WATER LINE.
- CONTRACTOR IS RESPONSIBLE FOR TAP AT PUBLIC MAIN AND ALL LINES, FITTINGS AND APPURTENANCES SHOWN ON PLANS OR REQUIRED BY THE LOCAL UTILITY COMPANY.
- ALL MATERIALS, INSTALLATION, INSPECTION AND TESTING OF WATER METER AND RELATED PIPING AND APPURTENANCES SHALL CONFORM TO UPC STANDARDS, AWWA STANDARDS, TCEQ STANDARDS, AND THE APPLICABLE LOCAL UTILITY COMPANY REGULATIONS. ALL MATERIALS AND INSTALLATIONS REQUIRED FOR FIRE PROTECTION SHALL MEET FACTORY MUTUAL GLOBAL STANDARDS.
- TRENCH EXCAVATION SHALL BE PERFORMED AND BACKFILL MATERIAL AND PROCEDURES SHALL BE IN COMPLIANCE WITH THE TEXAS DEPARTMENT OF TRANSPORTATION 2014 STANDARD SPECIFICATION FOR CONSTRUCTION OF HIGHWAYS, STREETS AND BRIDGES, ITEM 400 - EXCAVATION AND BACKFILL FOR STRUCTURES.
- ALL PRIVATE WATER AND WASTEWATER LINES WILL COMPLY WITH THE 2012 UNIFORM PLUMBING CODE.
- SEE MECHANICAL PLANS FOR EXACT LOCATION OF WATER AND WASTEWATER CONNECTIONS TO BUILDINGS.
- PROTECT EXISTING STRUCTURES FROM DAMAGE DURING CONSTRUCTION. PRIOR TO THE FINAL ACCEPTANCE OF THE PUBLIC MAINS EXISTING STRUCTURES WILL BE INSPECTED FOR DAMAGE AND THE CONTRACTOR WILL BE RESPONSIBLE FOR REPAIRING ANY DAMAGE.
- PIPE MATERIAL SHALL BE AS FOLLOWS UNLESS OTHERWISE NOTED:

WATER (4"):

ALL WATER PIPE 4" AND LARGER SHALL BE DR 14, PVC C900

WATER (>6"):

ALL WATER PIPE 6" AND LARGER SHALL BE DR 14, PVC C900 DR14 OR DUCTILE IRON (D.I.) CLASS 150 FOR WATER LINES

WATER (4-3") PRIVATE:

ALL PRIVATE WATER PIPE LESS THEN 4" SHALL BE COPPER OR SCH. 40 PVC. IRRIGATION LINES AND DOMESTIC SERVICE LINES SHOULD BE SDR-21 RATED PIPE.

WATER (4-3") PUBLIC:

ALL PUBLIC WATER PIPE LESS THEN 4" SHALL BE COPPER TYPE K SOFT IRRIGATION SERVICE LINES WITH PUBLIC RIGHT OF WAY TO MEET CITY OF BRYAN SPECIFICATIONS.

WASTEWATER:

ALL WASTEWATER PIPE SHALL BE SDR-26 SECTION 3034, PVC SDR SERIES PIPE SHALL BE MANUFACTURED IN STRICT ACCORDANCE TO THE REQUIREMENTS OF ASTM D2241 FOR PHYSICAL DIMENSIONS AND TOLERANCES. EACH PRODUCTION RUN OF PIPE MANUFACTURED IN COMPLIANCE TO THIS STANDARD, SHALL ALSO MEET OR EXCEED THE TEST REQUIREMENTS FOR MATERIALS, WORKMANSHIP, BURST PRESSURE, IMPACT RESISTANCE, FLATTENING, AND EXTRUSION QUALITY AS DEFINED IN ASTM D2241.

- ALL BACKFLOW DEVICES WILL BE PER CITY OF BRYAN WATER UTILITY SPECIFICATIONS.
- PRESSURE TAPS WILL BE PERFORMED PER CITY OF BRYAN WATER UTILITY SPECIFICATIONS.
- ALL THRUST BLOCKING SHALL BE INSTALLED IN ACCORDANCE WITH CITY OF BRYAN WATER UTILITY SPECIFICATIONS
- EXTEND ALL EXISTING AND PROPOSED UTILITY MANHOLES, BOXES, COVERS, ETC. TO PROPOSED FINISH GRADE, UNLESS APPROVED OTHERWISE.
- INSTALL MECHANICAL JOINT (M.J.) FITTINGS ON ALL DUCTILE IRON (D.I.) PIPE OR PVC C900 DR14 PIPE.
- ALL WATER MAINS SHALL BE BURIED A MINIMUM 5 FT.
- ALL WASTEWATER MUST BE 2 FT UNDER THE WATER LINES WHEN CROSSING.
- PROTECT EXISTING STRUCTURES FROM DAMAGE DURING CONSTRUCTION. PRIOR TO THE FINAL ACCEPTANCE OF THE PUBLIC MAINS EXISTING STRUCTURES WILL BE INSPECTED FOR DAMAGE AND THE CONTRACTOR WILL BE RESPONSIBLE FOR REPAIRING ANY DAMAGE.
- EXTEND ALL EXISTING AND PROPOSED UTILITY MANHOLES, BOXES, COVERS, ETC. TO PROPOSED FINISH GRADE, UNLESS APPROVED OTHERWISE.
- ALL MAINS SHALL BE TESTED BY THE CONTRACTOR AS REQUIRED BY AUTHORITIES. THE ENGINEER OR INSPECTOR SHALL BE PRESENT DURING THE TEST.
- ALL WATER MAINS SHALL BE CHLORINATED AS REQUIRED BY AUTHORITIES.

CITY OF BRYAN APPROVAL BLOCK

DESIGN PROFESSIONAL



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 CONSTRUCTION MANAGEMENT

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WOODSON DEVELOPMENT

ISSUE/REVISION RECORD

FOR BIDDING PURPOSES ONLY

PROJECT NAME

WOODSON MIXED USE DEVELOPMENT

500-604 WOODSON DRIVE
 BRYAN, TEXAS TBD

MAP GRID # TBD
 MAPSCO # TBD

PROJECT NUMBER

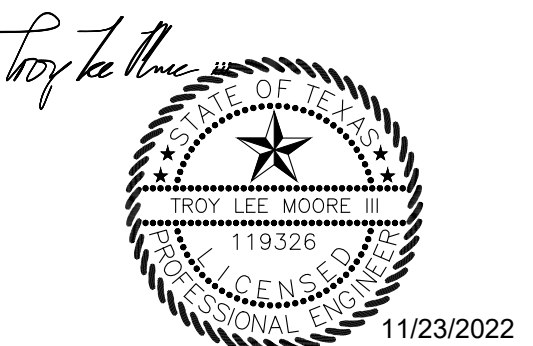
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SCALE

PROFESSIONAL SEAL



PROJECT STATUS

CONCEPT

SHEET TITLE

GENERAL NOTES

SHEET NUMBER

3 of 34

TBD

EROSION CONTROL NOTES

- CONTRACTOR SHALL REFER TO CONSTRUCTION NOTES AND DETAILS FOR SPECIFICATIONS AND REQUIREMENTS REGARDING EROSION CONTROL.
- ENVIRONMENTAL INSPECTOR HAS THE AUTHORITY TO ADD/ MODIFY EROSION/SEDIMENTATION CONTROLS ON-SITE TO KEEP PROJECT IN COMPLIANCE WITH THE CITY OF BRYAN RULES AND REGULATIONS.
- CONTRACTOR SHALL UTILIZE DUST CONTROL MEASURES DURING SITE CONSTRUCTION SUCH AS IRRIGATION TRUCKS AND MULCHING, OR AS DIRECTED BY THE ENVIRONMENTAL INSPECTOR.
- IF DISTURBED AREA IS NOT TO BE WORKED ON FOR MORE THAN 14 DAYS, DISTURBED AREA NEEDS TO BE STABILIZED BY REVEGETATION, MULCH, TARP, OR REVEGETATION MATTING.
- PRIOR TO EXCAVATION WITHIN TREE DRIP LINES, OR THE REMOVAL OF TREES ADJACENT TO OTHER TREES THAT ARE TO REMAIN, MAKE A CLEAN CUT BETWEEN THE DISTURBED AND UNDISTURBED ROOT ZONES WITH A ROCK SAW OR SIMILAR EQUIPMENT TO MINIMIZE ROOT DAMAGE.
- IN CRITICAL ROOT ZONE AREAS THAT CANNOT BE PROTECTED DURING CONSTRUCTION WITH FENCING AND WHERE HEAVY VEHICULAR TRAFFIC IS ANTICIPATED, COVER THOSE AREAS WITH A MINIMUM OF 12 INCHES OF ORGANIC MULCH TO MINIMIZE SOIL COMPACTION. IN AREAS WITH HIGH SOIL PLASTICITY, GEOTEXTILE FABRIC SHOULD BE PLACED UNDER THE MULCH TO PREVENT EXCESSIVE MIXING OF THE SOIL AND MULCH. ADDITIONALLY, MATERIAL SUCH AS PLYWOOD AND METAL SHEETS, COULD BE REQUIRED BY THE CITY ARBORIST TO MINIMIZE ROOT IMPACTS FROM HEAVY EQUIPMENT. ONCE THE PROJECT IS COMPLETED, ALL MATERIALS SHOULD BE REMOVED, AND THE MULCH SHOULD BE REDUCED TO A DEPTH OF 3 INCHES.
- PERFORM ALL GRADING WITHIN CRITICAL ROOT ZONE AREAS WITH SMALL EQUIPMENT TO MINIMIZE ROOT DAMAGE.
- WATER ALL TREES MOST HEAVILY IMPACTED BY CONSTRUCTION ACTIVITIES DEEPLY AS NECESSARY DURING PERIODS OF HOT, DRY WEATHER. SPRAY TREE CROWNS WITH WATER PERIODICALLY TO REDUCE DUST ACCUMULATION ON THE LEAVES.
- WHEN INSTALLING CONCRETE ADJACENT TO THE ROOT ZONE OF A TREE USE A PLASTIC VAPOR BARRIER BEHIND THE CONCRETE TO PROHIBIT LEACHING OF LIME INTO THE SOIL.
- SILT FENCE TYPE AND INSTALLATION SHALL COMPLY WITH CITY OF BRYAN REQUIREMENTS.
- SILT FENCE SHALL BE PLACED OUTSIDE (AWAY FROM THE TRUNK) OF THE TREE PROTECTION FENCING.
- CONTRACTOR WILL CLEAN UP SPOILS THAT MIGRATE ONTO THE ROADS AT A MINIMUM OF ONCE DAILY.
- IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO CONTRACT FOR PARKING OFF-SITE FOR THE WORKERS DURING CONSTRUCTION.
- ALL SPOILS ARE TO BE PLACED BACK IN TRENCH EVERY NIGHT, OR IF, SPOILS PILES ARE TO REMAIN OVERNIGHT, SPOILS MUST BE PLACED ON THE UPHILL SIDE OF TRENCH WITHIN THE LOC.

SEQUENCE OF CONSTRUCTION

STANDARD SEQUENCE OF CONSTRUCTION NOTES

THE FOLLOWING SEQUENCE OF CONSTRUCTION SHALL BE USED FOR ALL DEVELOPMENT. THE APPLICANT IS ENCOURAGED TO PROVIDE ANY ADDITIONAL DETAILS APPROPRIATE FOR THE PARTICULAR DEVELOPMENT.

- TEMPORARY EROSION AND SEDIMENTATION CONTROLS ARE TO BE INSTALLED AS INDICATED ON THE APPROVED SITE PLAN OR SUBDIVISION CONSTRUCTION PLAN AND IN ACCORDANCE WITH THE EROSION SEDIMENTATION CONTROL PLAN (ESCP) AND STORMWATER POLLUTION PREVENTION PLAN (SWPPP) THAT IS REQUIRED TO BE POSTED ON THE SITE. INSTALL TREE PROTECTION, INITIATE TREE MITIGATION MEASURES AND CONDUCT "PRE - CONSTRUCTION" TREE FERTILIZATION (IF APPLICABLE).
- THE ENVIRONMENTAL PROJECT MANAGER OR SITE SUPERVISOR MUST CONTACT THE DEVELOPMENT SERVICES DEPARTMENT, ENVIRONMENTAL INSPECTION, 72 HOURS PRIOR TO THE SCHEDULED DATE OF THE REQUIRED ON-SITE PRECONSTRUCTION MEETING.
- THE ENVIRONMENTAL PROJECT MANAGER, AND/OR SITE SUPERVISOR, AND/OR DESIGNATED RESPONSIBLE PARTY, AND THE GENERAL CONTRACTOR WILL FOLLOW THE EROSION SEDIMENTATION CONTROL PLAN (ESCP) AND STORM WATER POLLUTION PREVENTION PLAN (SWPPP) POSTED ON THE SITE. TEMPORARY EROSION AND SEDIMENTATION CONTROLS WILL BE REVISED, IF NEEDED, TO COMPLY WITH CITY INSPECTORS' DIRECTIVES, AND REVISED CONSTRUCTION SCHEDULE RELATIVE TO THE WATER QUALITY PLAN REQUIREMENTS AND THE EROSION PLAN.
- ROUGH GRADE THE POND(S) AT 100% PROPOSED CAPACITY. EITHER THE PERMANENT OUTLET STRUCTURE OR A TEMPORARY OUTLET MUST BE CONSTRUCTED PRIOR TO DEVELOPMENT OR EMBANKMENT OR EXCAVATION THAT LEADS TO PONDING CONDITIONS. THE OUTLET SYSTEM MUST CONSIST OF A SUMP PIT OUTLET AND AN EMERGENCY SPILLWAY MEETING THE REQUIREMENTS OF THE DRAINAGE CRITERIA MANUAL AND/OR THE ENVIRONMENTAL CRITERIA MANUAL, AS REQUIRED. THE OUTLET SYSTEM SHALL BE PROTECTED FROM EROSION AND SHALL BE MAINTAINED THROUGHOUT THE COURSE OF CONSTRUCTION UNTIL INSTALLATION OF THE PERMANENT WATER QUALITY POND(S).
- TEMPORARY EROSION AND SEDIMENTATION CONTROLS WILL BE INSPECTED AND MAINTAINED IN ACCORDANCE WITH THE EROSION SEDIMENTATION CONTROL PLAN (ESCP) AND STORM WATER POLLUTION PREVENTION PLAN (SWPPP) POSTED ON THE SITE.
- BEGIN SITE CLEARING/CONSTRUCTION (OR DEMOLITION) ACTIVITIES.
- PERMANENT WATER QUALITY PONDS OR CONTROLS WILL BE CLEANED OUT AND FILTER MEDIA WILL BE INSTALLED PRIOR TO CONCURRENTLY WITH REVEGETATION OF SITE.
- COMPLETE CONSTRUCTION AND START REVEGETATION OF THE SITE AND INSTALLATION OF LANDSCAPING.
- UPON COMPLETION OF THE SITE CONSTRUCTION AND REVEGETATION OF A PROJECT SITE, THE DESIGN ENGINEER SHALL SUBMIT AN ENGINEER'S LETTER OF CONCURRENCE BEARING THE ENGINEER'S SEAL, SIGNATURE, AND DATE TO THE DEVELOPMENT SERVICES DEPARTMENT INDICATING THAT CONSTRUCTION, INCLUDING REVEGETATION, IS COMPLETE AND IN SUBSTANTIAL COMPLIANCE WITH THE APPROVED PLANS. AFTER RECEIVING THIS LETTER, A FINAL INSPECTION WILL BE SCHEDULED BY THE APPROPRIATE CITY INSPECTOR.
- UPON COMPLETION OF LANDSCAPE INSTALLATION OF A PROJECT SITE, THE LANDSCAPE ARCHITECT SHALL SUBMIT A LETTER OF CONCURRENCE TO THE DEVELOPMENT SERVICES DEPARTMENT INDICATING THAT THE REQUIRED LANDSCAPING IS COMPLETE AND IN SUBSTANTIAL CONFORMITY WITH THE APPROVED PLANS. AFTER RECEIVING THIS LETTER, A FINAL INSPECTION WILL BE SCHEDULED BY THE APPROPRIATE CITY INSPECTOR.
- AFTER A FINAL INSPECTION HAS BEEN CONDUCTED BY THE CITY INSPECTOR AND WITH APPROVAL FROM THE CITY INSPECTOR, REMOVE THE TEMPORARY EROSION AND SEDIMENTATION CONTROLS AND COMPLETE ANY NECESSARY FINAL REVEGETATION RESULTING FROM REMOVAL OF THE CONTROLS. CONDUCT ANY MAINTENANCE AND REHABILITATION OF THE WATER QUALITY PONDS OR CONTROLS.

EROSION CONTROL NOTES

- THE CONTRACTOR SHALL INSTALL EROSION/SEDIMENTATION CONTROLS, TREE/NATURAL AREA PROTECTIVE FENCING, AND CONDUCT "PRE-CONSTRUCTION" TREE FERTILIZATION (IF APPLICABLE) PRIOR TO ANY SITE PREPARATION WORK (CLEARING, GRUBBING OR EXCAVATION).
- THE PLACEMENT OF EROSION/SEDIMENTATION CONTROLS SHALL BE IN ACCORDANCE WITH THE ENVIRONMENTAL CRITERIA MANUAL AND THE APPROVED EROSION AND SEDIMENTATION CONTROL PLAN. THE CITY OF BRYAN ESC PLAN SHALL BE CONSULTED AND USED AS THE BASIS FOR A TPDES REQUIRED SWPPP. IF A SWPPP IS REQUIRED, IT SHALL BE AVAILABLE FOR REVIEW BY THE CITY OF BRYAN ENVIRONMENTAL INSPECTOR AT ALL TIMES DURING CONSTRUCTION, INCLUDING AT THE PRE-CONSTRUCTION MEETING. THE CHECKLIST BELOW CONTAINS THE BASIC ELEMENTS THAT SHALL BE REVIEWED FOR PERMIT APPROVAL BY CITY OF BRYAN EV PLAN REVIEWERS AS WELL AS CITY OF BRYAN EV INSPECTORS.
 - PLAN SHEETS SUBMITTED TO THE CITY OF BRYAN MUST SHOW THE FOLLOWING:
 - DIRECTION OF FLOW DURING GRADING OPERATIONS.
 - LOCATION, DESCRIPTION, AND CALCULATIONS FOR OFF-SITE FLOW DIVERSION STRUCTURES.
 - AREAS THAT WILL NOT BE DISTURBED, NATURAL FEATURES TO BE PRESERVED.
 - DELINEATION OF CONTRIBUTING DRAINAGE AREA TO EACH PROPOSED BMP (E.G., SILT FENCE, SEDIMENT BASIN, ETC.).
 - LOCATION AND TYPE OF EAS BMPs FOR EACH PHASE OF DISTURBANCE.
 - CALCULATIONS FOR BMPs AS REQUIRED.
 - LOCATION AND DESCRIPTION OF TEMPORARY STABILIZATION MEASURES.
 - LOCATION OF ON-SITE SPOILS, DESCRIPTION OF HANDLING AND DISPOSAL OF BORROW MATERIALS, AND DESCRIPTION OF ON-SITE PERMANENT SPOILS DISPOSAL AREAS, INCLUDING SIZE, DEPTH OF FILL AND REVEGETATION PROCEDURES.
 - DESCRIBE SEQUENCE OF CONSTRUCTION AS IT PERTAINS TO ESC INCLUDING THE FOLLOWING ELEMENTS:
 - INSTALLATION SEQUENCE OF CONTROLS (E.G. PERIMETER CONTROL, THEN SEDIMENT BASINS, THEN TEMPORARY STABILIZATION, THEN PERMANENT, ETC.)
 - PROJECT PHASING IF REQUIRED (LOC GREATER THAN 25 ACRES).
 - SEQUENCE OF GRADING OPERATIONS AND NOTATION OF TEMPORARY STABILIZATION MEASURES TO BE USED
 - SCHEDULE FOR CONVERTING TEMPORARY BASINS TO PERMANENT WQ CONTROLS
 - SCHEDULE FOR REMOVAL OF TEMPORARY CONTROLS
 - ANTICIPATED MAINTENANCE SCHEDULE FOR TEMPORARY CONTROLS

CATEGORIZE EACH BMP UNDER ONE OF THE FOLLOWING AREAS OF BMP ACTIVITY AS DESCRIBED BELOW:

- MINIMIZE DISTURBED AREA AND PROTECT NATURAL FEATURES AND SOIL
- CONTROL STORMWATER FLOWING ONTO AND THROUGH THE PROJECT
- STABILIZE SOILS
- PROTECT SLOPES
- PROTECT STORM DRAIN INLETS
- ESTABLISH PERIMETER CONTROLS AND SEDIMENT BARRIERS
- RETAIN SEDIMENT ON-SITE AND CONTROL DEWATERING PRACTICES
- ESTABLISH STABILIZED CONSTRUCTION EXITS
- ANY ADDITIONAL BMPs

- NOTE THE LOCATION OF EACH BMP ON YOUR SITE MAP(S).
 - FOR ANY STRUCTURAL BMPs, YOU SHOULD PROVIDE DESIGN SPECIFICATIONS AND DETAILS AND REFER TO THEM.
 - FOR MORE INFORMATION, SEE CITY OF BRYAN ENVIRONMENTAL CRITERIA MANUAL 1.4.
- THE PLACEMENT OF TREE/NATURAL AREA PROTECTIVE FENCING SHALL BE IN ACCORDANCE WITH THE CITY OF BRYAN STANDARD NOTES FOR TREE AND NATURAL AREA PROTECTION AND THE APPROVED GRADING/TREE AND NATURAL AREA PLAN.
 - A PRE-CONSTRUCTION CONFERENCE SHALL BE HELD ON-SITE WITH THE CONTRACTOR, DESIGN ENGINEER, ENVIRONMENTAL INSPECTOR AND ENVIRONMENTAL PROJECT MANAGER PRIOR TO THE EROSION/SEDIMENTATION CONTROLS, TREE/NATURAL AREA PROTECTION MEASURES AND "PRE-CONSTRUCTION" TREE FERTILIZATION (IF APPLICABLE) PRIOR TO BEGINNING ANY SITE PREPARATION WORK. THE OWNER OR OWNER'S REPRESENTATIVE SHALL NOTIFY THE DEVELOPMENT SERVICES DEPARTMENT, 979-209-5900 OR BY EMAIL AT ENVIRONMENTAL_INSPECTIONS@BRYANTEXAS.GOV, AT LEAST THREE DAYS PRIOR TO THE MEETING DATE. CITY OF BRYAN APPROVED ESC PLAN AND TPDES SWPPP (IF REQUIRED) SHOULD BE REVIEWED BY CITY OF BRYAN EV INSPECTOR AT THIS TIME.

- ANY MAJOR VARIATION IN MATERIALS OR LOCATIONS OF CONTROLS OR FENCES FROM THOSE SHOWN ON THE APPROVED PLANS WILL REQUIRE A REVISION AND MUST BE APPROVED BY THE REVIEWING ENGINEER, ENVIRONMENTAL SPECIALIST OR CITY ARBORIST AS APPROPRIATE. MAJOR REVISIONS MUST BE APPROVED BY AUTHORIZED CITY OF BRYAN STAFF. MINOR CHANGES TO BE MADE AS FIELD REVISIONS TO THE EROSION AND SEDIMENTATION CONTROL PLAN MAY BE REQUIRED BY THE ENVIRONMENTAL INSPECTOR DURING THE COURSE OF CONSTRUCTION TO CORRECT CONTROL INADEQUACIES.
- THE CONTRACTOR IS REQUIRED TO PROVIDE A CERTIFIED INSPECTOR THAT IS EITHER A LICENSED ENGINEER (OR PERSON DIRECTLY SUPERVISED BY THE LICENSED ENGINEER) OR CERTIFIED PROFESSIONAL IN EROSION AND SEDIMENT CONTROL (CPESC OR CPESC - IT), CERTIFIED EROSION, SEDIMENT AND STORMWATER INSPECTOR (CESSWI OR CESSWI - IT) OR CERTIFIED INSPECTOR OF SEDIMENTATION AND EROSION CONTROLS (CISEC OR CISEC - IT) CERTIFICATION TO INSPECT THE CONTROLS AND FENCES AT WEEKLY OR BI-WEEKLY INTERVALS AND AFTER ONE-HALF (1/2) INCH OR GREATER RAINFALL EVENTS TO INSURE THAT THEY ARE FUNCTIONING PROPERLY. THE PERSON(S) RESPONSIBLE FOR MAINTENANCE OF CONTROLS AND FENCES SHALL IMMEDIATELY MAKE ANY NECESSARY REPAIRS TO DAMAGED AREAS. SILT ACCUMULATION AT CONTROLS MUST BE REMOVED WHEN THE DEPTH REACHES SIX (6) INCHES OR ONE-THIRD (1/3) OF THE INSTALLED HEIGHT OF THE CONTROL WHICHEVER IS LESS.
- PRIOR TO FINAL ACCEPTANCE BY THE CITY, HAUL ROADS AND WATERWAY CROSSINGS CONSTRUCTED FOR TEMPORARY CONTRACTOR ACCESS MUST BE REMOVED, ACCUMULATED SEDIMENT REMOVED FROM THE WATERWAY AND THE AREA RESTORED TO THE ORIGINAL GRADE AND REVEGETATED. ALL LAND CLEARING DEBRIS SHALL BE DISPOSED OF IN APPROVED SPOIL DISPOSAL SITES.
- ALL WORK MUST STOP IF A VOID IN THE ROCK SUBSTRATE IS DISCOVERED WHICH IS ONE SQUARE FOOT IN TOTAL AREA; BLOWS AIR FROM WITHIN THE SUBSTRATE AND/OR CONSISTENTLY RECEIVES WATER DURING ANY RAIN EVENT. AT THIS TIME IT IS THE RESPONSIBILITY OF THE PROJECT MANAGER TO IMMEDIATELY CONTACT A CITY OF BRYAN ENVIRONMENTAL INSPECTOR FOR FURTHER INVESTIGATION.
- TEMPORARY AND PERMANENT EROSION CONTROL ALL DISTURBED AREAS SHALL BE RESTORED AS NOTED BELOW:
 - ALL DISTURBED AREAS TO BE REVEGETATED ARE REQUIRED TO PLACE A MINIMUM OF SIX (6) INCHES OF TOPSOIL. DO NOT ADD TOPSOIL WITHIN THE CRITICAL ROOT ZONE OF EXISTING TREES.
 - TOPSOIL SALVAGED FROM THE EXISTING SITE IS ENCOURAGED FOR USE.
 - AN OWNER/ENGINEER MAY PROPOSE USE OF ONSITE SALVAGED TOPSOIL BY PROVIDING A SOIL ANALYSIS AND A WRITTEN STATEMENT FROM A QUALIFIED PROFESSIONAL IN SOILS, LANDSCAPE ARCHITECTURE, OR AGRONOMY INDICATING THE ONSITE TOPSOIL WILL PROVIDE AN EQUIVALENT GROWTH MEDIA AND SPECIFYING WHAT, IF ANY, SOIL AMENDMENTS ARE REQUIRED.
 - SOIL AMENDMENTS SHALL BE WORKED INTO THE EXISTING ONSITE TOPSOIL WITH A DISC OR TILLER TO CREATE A WELL-BLENDED MATERIAL.

STABILIZATION NOTES

TEMPORARY VEGETATIVE STABILIZATION:

THE VEGETATIVE STABILIZATION OF AREAS DISTURBED BY CONSTRUCTION SHALL BE AS FOLLOWS:

- FROM SEPTEMBER 15 TO MARCH 1, SEEDING SHALL BE WITH OR INCLUDE A COOL SEASON COVER CROP. (WESTERN WHEATGRASS (PASCOPYRUM SMITHI) AT 5.6 POUNDS PER ACRE, OATS (AENA SATIVA) AT 4.0 POUNDS PER ACRE, CEREAL RYE GRAM (SECALE CEREALE) AT 45 POUNDS PER ACRE. CONTRACTOR MUST ENSURE THAT ANY SEED APPLICATION REQUIRING A COOL SEASON COVER CROP DOES NOT UTILIZE ANNUAL RYEGRASS (LOLIUM MULTIFLORUM) OR PERENNIAL RYEGRASS (LOLIUM PERENNE). COOL SEASON COVER CROPS ARE NOT PERMANENT EROSION CONTROL.
- FROM MARCH 2 TO SEPTEMBER 14, SEEDING SHALL BE WITH HULLED BERMUDA AT A RATE OF 45 POUNDS PER ACRE OR A NATIVE PLANT SEED MIX.
 - FERTILIZER SHALL BE APPLIED ONLY IF WARRANTED BY A SOIL TEST. FERTILIZATION SHOULD NOT OCCUR WHEN RAINFALL IS EXPECTED OR DURING SLOW PLANT GROWTH OR DORMANCY. CHEMICAL FERTILIZER MAY NOT BE APPLIED IN THE CRITICAL WATER QUALITY ZONE.
 - HYDROMULCH SHALL COMPLY WITH TABLE 1, BELOW.
 - TEMPORARY EROSION CONTROL SHALL BE ACCEPTABLE WHEN THE GRASS HAS GROWN AT LEAST 1 1/2 INCHES HIGH WITH A MINIMUM OF 95% TOTAL COVERAGE SO THAT ALL AREAS OF A SITE THAT RELY ON VEGETATION FOR TEMPORARY STABILIZATION ARE UNIFORMLY VEGETATED, AND PROVIDED THERE ARE NO BARE SPOTS LARGER THAN 10 SQUARE FEET.
 - WHEN REQUIRED, NATIVE PLANT SEEDING SHALL COMPLY WITH THE REQUIREMENTS OF THE CITY OF BRYAN ENVIRONMENTAL CRITERIA MANUAL.

TABLE 1: HYDRO MULCHING FOR TEMP. VEGETATIVE STABILIZATION

MATERIAL	DESCRIPTION	LONGEVITY TYP.	APPLICATIONS	APPLICATION RATES
100% OR ANY BLEND OF WOOD, CELLULOSE, STRAW, AND/OR COTTON PLANT MATERIAL, EXCEPT NO MULCH SHALL EXCEED 9% PAPER)	70% OR GREATER WOOD/STRAW OR LESS PAPER OR NATURAL FIBER	0-3 MONTHS	MODERATE SLOPES, FROM FLAT TO 3:1	1,500 TO 2,000 LBS PER ACRE

PERMANENT VEGETATIVE STABILIZATION:

- FROM SEPTEMBER 15 TO MARCH 1, SEEDING IS CONSIDERED TO BE TEMPORARY STABILIZATION ONLY. IF COOL SEASON COVER CROPS EXIST WHERE PERMANENT VEGETATIVE STABILIZATION IS DESIRED, THE GRASSES SHALL BE MOVED TO A HEIGHT OF LESS THAN ONE-HALF (1/2) INCH AND THE AREA SHALL BE RE-SEEDING IN ACCORDANCE WITH TABLE 2 BELOW. ALTERNATIVELY, THE COOL SEASON COVER CROP CAN BE MIXED WITH BERMUDAGRASS OR NATIVE SEED AND INSTALLED TOGETHER, UNDERSTANDING THAT GERMINATION OF WARM-SEASON SEED TYPICALLY REQUIRES SOIL TEMPERATURES OF 60 TO 70 DEGREES.
- FROM MARCH 2 TO SEPTEMBER 14, SEEDING SHALL BE WITH HULLED BERMUDA AT A RATE OF 45 POUNDS PER ACRE WITH A PURITY OF 95% AND A MINIMUM PURE LIVE SEED (PLS) OF 0.83. BERMUDA GRASS IS A WARM SEASON GRASS AND IS CONSIDERED PERMANENT EROSION CONTROL.
 - FERTILIZER SHALL FOLLOW THE RECOMMENDATION OF A SOIL TEST. APPLICATIONS OF FERTILIZER (AND PESTICIDE) ON CITY-OWNED AND MANAGED PROPERTY REQUIRES THE YEARLY SUBMITTAL OF A PESTICIDE AND FERTILIZER APPLICATION RECORD, ALONG WITH A CURRENT COPY OF THE APPLICATOR'S LICENSE. FOR CURRENT COPY OF THE RECORD TEMPLATE CONTACT THE CITY OF BRYAN'S IPM COORDINATOR.
 - HYDROMULCH SHALL COMPLY WITH TABLE 2, BELOW.
 - WATER THE SEEDED AREAS IMMEDIATELY AFTER INSTALLATION TO ACHIEVE GERMINATION AND A HEALTHY STAND OF PLANTS THAT CAN ULTIMATELY SURVIVE WITHOUT SUPPLEMENTAL WATER. APPLY THE WATER UNIFORMLY TO THE PLANTED AREAS WITHOUT CAUSING DISPLACEMENT OR EROSION OF THE MATERIALS OR SOIL. MAINTAIN THE SEEDBED IN A MOIST CONDITION FAVORABLE FOR PLANT GROWTH. ALL WATERING SHALL COMPLY WITH CITY CODE CHAPTER 6-4 (WATER CONSERVATION), AT RATES AND FREQUENCIES DETERMINED BY A LICENSED IRRIGATOR OR OTHER QUALIFIED PROFESSIONAL, AND AS ALLOWED BY THE WATER UTILITY DEPARTMENT AND CURRENT WATER RESTRICTIONS AND WATER CONSERVATION INITIATIVES.
 - PERMANENT EROSION CONTROL SHALL BE ACCEPTABLE WHEN THE GRASS HAS GROWN AT LEAST 1 1/2 INCHES HIGH WITH A MINIMUM OF 95 PERCENT FOR THE NON-HAY MIX, AND 95 PERCENT COVERAGE FOR THE NATIVE MIX SO THAT ALL AREAS OF A SITE THAT RELY ON VEGETATION FOR STABILITY MUST BE UNIFORMLY VEGETATED, AND PROVIDED THERE ARE NO BARE SPOTS LARGER THAN 10 SQUARE FEET.

TABLE 2: HYDRO MULCHING FOR PERM. VEGETATIVE STABILIZATION

MATERIAL	DESCRIPTION	LONGEVITY TYP.	APPLICATIONS	APPLICATION RATES
BONDED FIBER MATRIX (BFM)	80% ORGANIC DEBRIBATED FIBERS			
10% TACKIFIER	6 MONTHS	ON SLOPES UP TO 2:1 AND ERODIVE SOIL CONDITIONS	2,500 TO 4,000 LBS PER ACRE (SEE MANUFACTURERS RECOMMENDATIONS)	
FIBER REINFORCED MATRIX (FRM)	65% ORGANIC DEBRIBATED FIBERS 25% REINFORCING FIBERS OR LESS 10% TACKIFIER	UP TO 12 MONTHS	ON SLOPES UP TO 1:1 AND ERODIVE SOIL CONDITIONS	3,000 TO 4,500 LBS PER ACRE (SEE MANUFACTURERS RECOMMENDATIONS)

- DEVELOPER INFORMATION
 - OWNER: WOODSON DEVELOPMENT LLC
4464 LEONARD ROAD
BRYAN, TEXAS 77807
 - OWNERS REPRESENTATIVE RESPONSIBLE FOR PLAN ALTERATIONS:
ENGINEER: M3 ENGINEERING - TROY MOORE, PE
PHONE # 512-920-3265
 - PERSON OR FIRM RESPONSIBLE FOR EROSION/SEDIMENTATION CONTROL MAINTENANCE:
CONTRACTOR
PHONE # _____
 - PERSON OR FIRM RESPONSIBLE FOR TREE/NATURAL PROTECTION AREA CONTROL:
CONTRACTOR
PHONE # _____
- THE CONTRACTOR SHALL NOT DISPOSE OF SURPLUS EXCAVATED MATERIAL FROM THE SITE WITHOUT NOTIFYING THE DEVELOPMENT SERVICES DEPARTMENT AT 979-209-5900 AT LEAST 48 HOURS PRIOR WITH THE LOCATION AND A COPY OF THE PERMIT ISSUED TO RECEIVE THE MATERIAL.

REMEDIAL TREE CARE

- ALL TREES AND NATURAL AREAS SHOWN ON PLAN TO BE PRESERVED SHALL BE PROTECTED DURING CONSTRUCTION WITH TEMPORARY FENCING.
- PROTECTIVE FENCES SHALL BE ERECTED ACCORDING TO CITY OF BRYAN STANDARDS FOR TREE PROTECTION.
- PROTECTIVE FENCES SHALL BE INSTALLED PRIOR TO THE START OF ANY SITE PREPARATION WORK (CLEARING, GRUBBING OR GRADING), AND SHALL BE MAINTAINED THROUGHOUT ALL PHASES OF THE CONSTRUCTION PROJECT.
- EROSION AND SEDIMENTATION CONTROL BARRIERS SHALL BE INSTALLED OR MAINTAINED IN A MANNER WHICH DOES NOT RESULT IN SOIL BUILD-UP WITHIN TREE DRIP LINES.
 - SOIL COMPACTION IN THE ROOT ZONE AREA RESULTING FROM VEHICULAR TRAFFIC OR STORAGE OF EQUIPMENT OR MATERIALS.
 - ROOT ZONE DISTURBANCES DUE TO GRADE CHANGES (GREATER THAN 6 INCHES CUT OR FILL).
 - WOUNDS TO EXPOSED ROOTS, TRUNK OR LIMBS BY MECHANICAL EQUIPMENT.
 - OTHER ACTIVITIES DETRIMENTAL TO TREES SUCH AS CHEMICAL STORAGE, CEMENT TRUCK CLEANING, AND FIRES.
- EXCEPTIONS TO INSTALLING FENCES AT TREE DRIP LINES MAY BE PERMITTED IN THE FOLLOWING CASES:
 - WHERE THERE IS TO BE AN APPROVED GRADE CHANGE, IMPERMEABLE PAVING SURFACE, TREE WELL, OR OTHER SUCH SITE DEVELOPMENT, ERECT THE FENCE APPROXIMATELY 2 TO 4 FEET BEYOND THE AREA DISTURBED.
 - WHERE PERMEABLE PAVING IS TO BE INSTALLED WITHIN A TREE'S DRIP LINE, ERECT THE FENCE AT THE OUTER LIMITS OF THE PERMEABLE PAVING AREA (PRIOR TO SITE GRADING SO THAT THIS AREA IS GRADED SEPARATELY PRIOR TO PAVING INSTALLATION TO MINIMIZED ROOT DAMAGE).
 - WHERE TREES ARE CLOSE TO PROPOSED BUILDINGS, ERECT THE FENCE TO ALLOW 6 TO 10 FEET OF WORK SPACE BETWEEN THE FENCE AND THE BUILDING.
 - SPECIAL NOTE: FOR THE PROTECTION OF NATURAL AREAS, NO EXCEPTIONS TO INSTALLING FENCES AT THE LIMIT OF CONSTRUCTION LINE WILL BE PERMITTED.
- WHERE ANY OF THE ABOVE EXCEPTIONS RESULT IN A FENCE BEING CLOSER THAN 4 FEET TO A TREE TRUNK, PROTECT THE TRUNK WITH STRAPPED-ON PLANKING TO A HEIGHT OF 8 FT (OR TO THE LIMITS OF LOWER BRANCHING) IN ADDITION TO THE REDUCED FENCING PROVIDED.
- TREES APPROVED FOR REMOVAL SHALL BE REMOVED IN A MANNER WHICH DOES NOT IMPACT TREES TO BE PRESERVED.
- ANY ROOTS EXPOSED BY CONSTRUCTION ACTIVITY SHALL BE PRUNED FLUSH WITH THE SOIL. BACKFILL ROOT AREAS WITH GOOD QUALITY TOP SOIL AS SOON AS POSSIBLE. IF EXPOSED ROOT AREAS ARE NOT BACKFILLED WITHIN 2 DAYS, COVER THEM WITH ORGANIC MATERIAL IN A MANNER WHICH REDUCES SOIL TEMPERATURE AND MINIMIZES WATER LOSS DUE TO EVAPORATION.
- ANY TRENCING REQUIRED FOR THE INSTALLATION OF LANDSCAPE IRRIGATION SHALL BE PLACED AS FAR FROM EXISTING TREE TRUNKS AS POSSIBLE.
- NO LANDSCAPE TOPSOIL DRESSING GREATER THAN 4 INCHES SHALL BE PERMITTED WITHIN THE DRIP LINE OF TREES. NO SOIL IS PERMITTED ON THE ROOT FLARE OF ANY TREE.
- PRUNING TO PROVIDE CLEARANCE FOR STRUCTURES, VEHICULAR TRAFFIC AND EQUIPMENT SHALL TAKE PLACE BEFORE DAMAGE OCCURS (RIPPING OF BRANCHES, ETC.).
- ALL FINISHED PRUNING SHALL BE DONE ACCORDING TO RECOGNIZED, APPROVED STANDARDS OF THE INDUSTRY (REFERENCE THE NATIONAL ARBORIST ASSOCIATION PRUNING STANDARDS FOR SHADE TREES).
- DEVIATIONS FROM THE ABOVE NOTES MAY BE CONSIDERED ORDINANCE VIOLATIONS IF THERE IS SUBSTANTIAL NON-COMPLIANCE OR IF A TREE SUSTAINS DAMAGE AS A RESULT.
- PRE-CONSTRUCTION TREATMENT SHOULD BE APPLIED IN THE APPROPRIATE SEASON, IDEALLY THE SEASON PRECEDING THE PROPOSED CONSTRUCTION. MINIMALLY, AREAS TO BE TREATED INCLUDE THE ENTIRE CRITICAL ROOT ZONE OF TREES AS DEPICTED ON THE CITY APPROVED PLANS. TREATMENT SHOULD INCLUDE, BUT NOT LIMITED TO, FERTILIZATION, SOIL TREATMENT, MULCHING, AND PROPER PRUNING.

SPECIAL CONSTRUCTION TECHNIQUES:

- PRIOR TO EXCAVATION WITHIN TREE DRIP LINES OR THE REMOVAL OF TREES ADJACENT TO OTHER TREES THAT ARE TO REMAIN, MAKE A CLEAN CUT BETWEEN THE DISTURBED AND UNDISTURBED ROOT ZONES WITH A ROCK SAW OR SIMILAR EQUIPMENT TO MINIMIZE ROOT DAMAGE.
- IN CRITICAL ROOT ZONE AREAS THAT CANNOT BE PROTECTED DURING CONSTRUCTION WITH FENCING AND WHERE HEAVY VEHICULAR TRAFFIC IS ANTICIPATED, COVER THOSE AREAS WITH A MINIMUM OF 12 INCHES OF ORGANIC MULCH TO MINIMIZE SOIL COMPACTION. IN AREAS WITH HIGH SOIL PLASTICITY GEOTEXTILE FABRIC SHOULD BE PLACED UNDER THE MULCH TO PREVENT EXCESSIVE MIXING OF THE SOIL AND MULCH. ONCE THE PROJECT IS COMPLETED, ALL MATERIALS SHOULD BE REMOVED, AND THE MULCH SHOULD BE REDUCED TO A DEPTH OF 3 INCHES.
- PERFORM ALL GRADING WITHIN CRITICAL ROOT ZONE AREAS BY HAND OR WITH SMALL EQUIPMENT TO MINIMIZE ROOT DAMAGE.
- WATER ALL TREES MOST HEAVILY IMPACTED BY CONSTRUCTION ACTIVITIES DEEPLY ONCE A WEEK DURING PERIODS OF HOT, DRY WEATHER. SPRAY TREE CROWNS WITH WATER PERIODICALLY TO REDUCE DUST ACCUMULATION ON THE LEAVES.
- WHEN INSTALLING CONCRETE ADJACENT TO THE ROOT ZONE OF A TREE, USE A PLASTIC VAPOR BARRIER BEHIND THE CONCRETE TO PROHIBIT LEACHING OF LIME INTO THE SOIL.

DESIGN PROFESSIONAL



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CONSTRUCTION MANAGEMENT

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WOODSON DEVELOPMENT

ISSUE/REVISION RECORD

FOR BIDDING PURPOSES ONLY

PROJECT NAME

WOODSON MIXED USE DEVELOPMENT

500-604 WOODSON DRIVE
BRYAN, TEXAS TBD

GREAT ESCAPES AT BRYAN SUBDIVISION,
LOT 1, BLOCK 1, 84.936 ACRES

PROJECT NUMBER

20006

DRAWING FILE

20006-DETL.DWG

SCALE N.T.S.

PROFESSIONAL SEAL



PROJECT STATUS

CONCEPT

SHEET TITLE

EROSION CONTROL NOTES

SHEET NUMBER

4 of 33

TBD

CITY OF BRYAN APPROVAL BLOCK

EXISTING	DESCRIPTION
○ IPS	SURVEY FEATURES
● IPF	IRON PIN SET
△ TP	IRON PIN FOUND
□ BM	CONTROL POINT
⊕ S 15°58'12"	BENCHMARK
585.10	RIGHT OF WAY MARKER
	BEARING & DISTANCE
	SITE
	CURB & GUTTER
	EDGE OF PAVEMENT
	SIDEWALK
	CENTERLINE
	FIRE LANE
	TREELINE
	SIGN
	PRKG. COUNT-REGULAR
	PRKG. COUNT-LARGE
	TRAFFIC FLOW ARROWS
	H/C SYMBOL
	ADA RAMP
	ADA ROUTE
	BICYCLE PARKING
	BOLLARDS
	WHEEL STOPS
	LIGHT POLE
	RETAINING WALL
	FENCE W/TYPE
	STORM
	STORM PIPE
	GRATE INLET
	CURB INLET
	SANITARY SEWER
	WASTEWATER & MANHOLE
	CLEAN-OUT
	FORCE MAIN
	WATER DISTRIBUTION
	WATER MAIN
	IRRIGATION LINE
	FIRE HYDRANT
	FIRE DEPT. CONNECTION
	METER BOX
	WATER FITTINGS & BENDS
	GATE VALVE & REDUCER
	POWER, GAS, TV
	ELECTRIC
	ELEC. MANHOLE & METER
	TELEPHONE
	TELEPHONE RISER
	CABLE
	CABLE TV RISER
	FIBER OPTIC
	UTILITY POLE & GUY WIRE
	LIGHT POLE
	GAS LINE
	GAS VALVE & METER
	TREE
○ 975	TREE TO BE REMOVED
○ 975	TREE TO BE SAVED

TEXAS ONE CALL SYSTEM
1-800-245-454
CALL BEFORE YOU DIG.
 TEXAS ONE CALL PARTICIPANTS SHALL REQUEST 72 HOURS BEFORE YOUR DIG, DRILL, OR BLAST.

THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. HE AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MAY OCCUR BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

DESIGN PROFESSIONAL



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WOODSON DEVELOPMENT

ISSUE/REVISION RECORD

FOR BIDDING PURPOSES ONLY

PROJECT NAME
WOODSON MIXED USE DEVELOPMENT

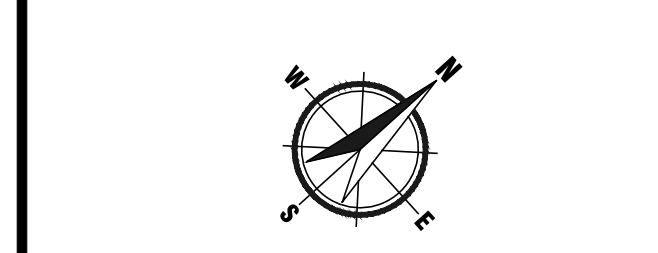
500-604 WOODSON DRIVE
 BRYAN, TEXAS 77801

MAP GRID # TBD
 MAPSCO # TBD

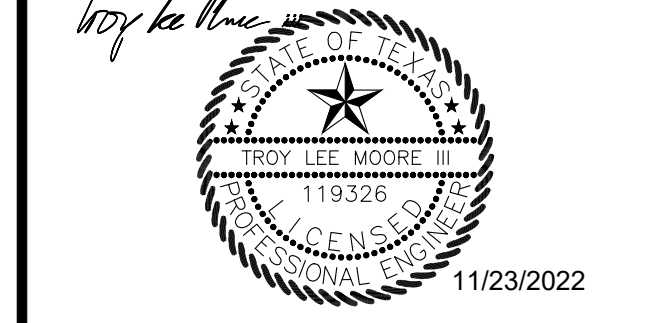
PROJECT NUMBER
20006

DRAWING FILE
 20006-EXCD.DWG

SCALE 1" = 20'



PROFESSIONAL SEAL



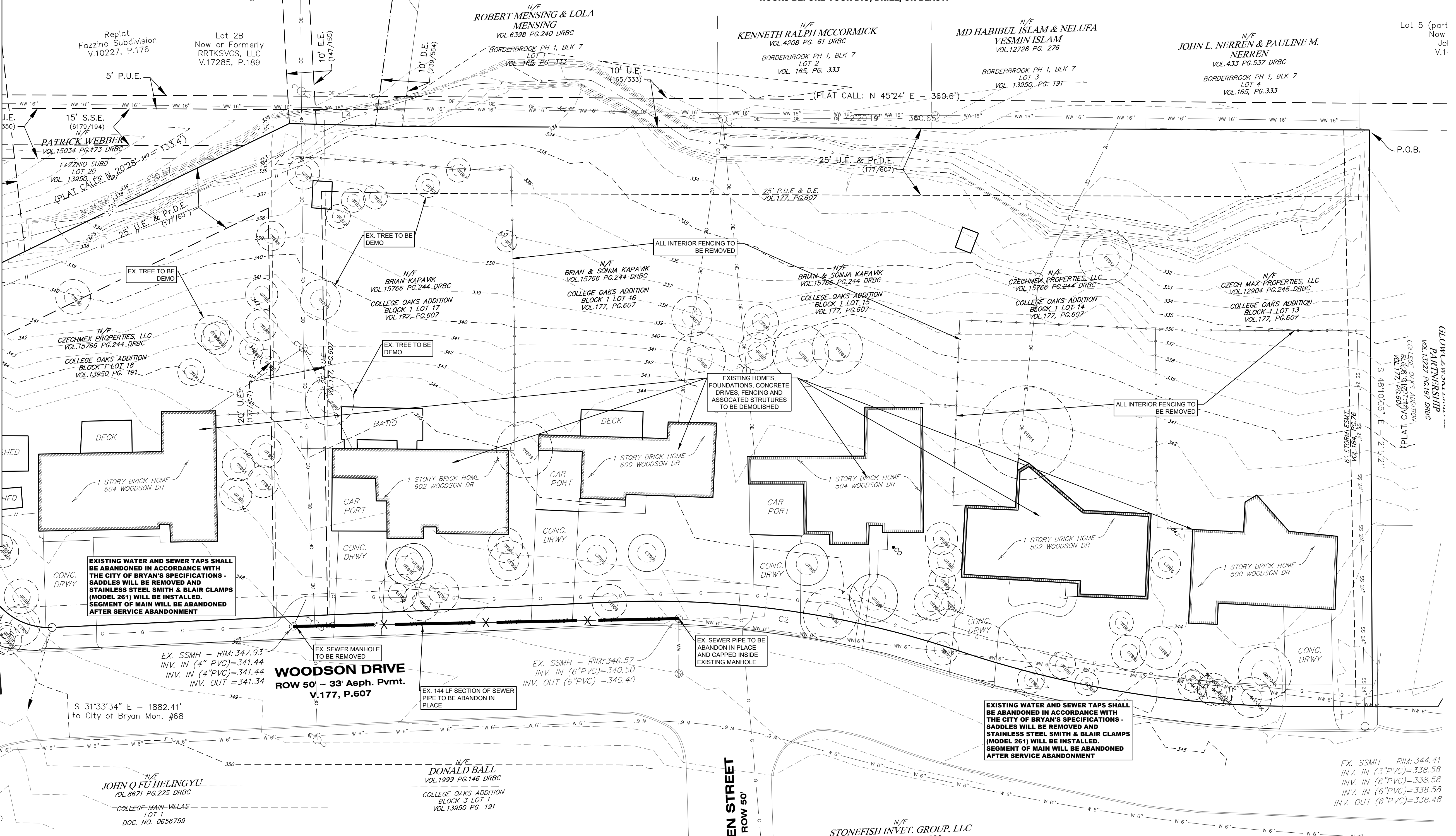
PROJECT STATUS
 CONCEPT

SHEET TITLE
EXISTING CONDITIONS & DEMOLITION PLANS

SHEET NUMBER

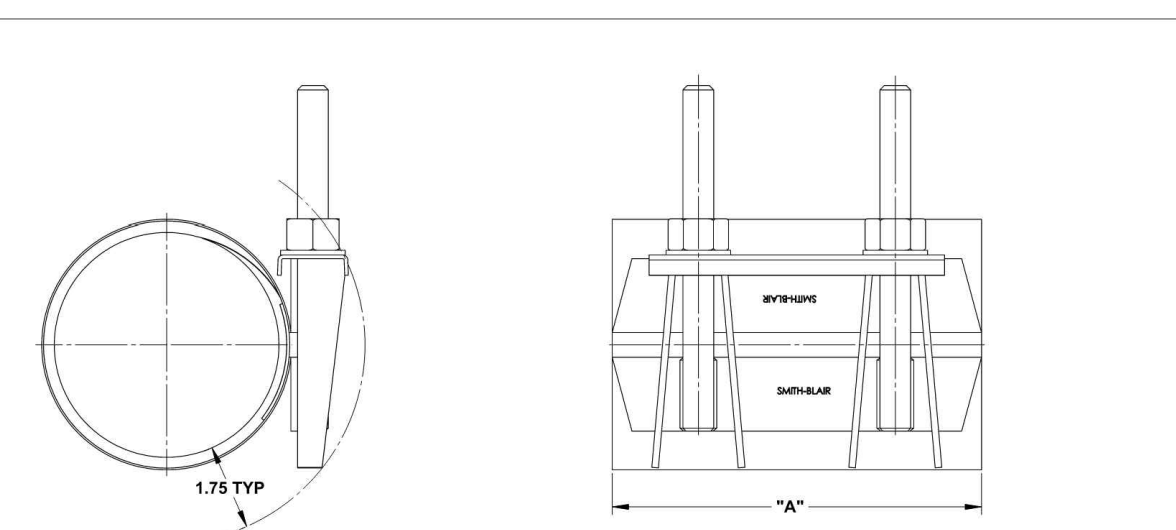
5 of 34

TBD



EXISTING WATER AND SEWER TAPS SHALL BE ABANDONED IN ACCORDANCE WITH THE CITY OF BRYAN'S SPECIFICATIONS - SADDLES WILL BE REMOVED AND STAINLESS STEEL SMITH & BLAIR CLAMPS (MODEL 261) WILL BE INSTALLED. SEGMENT OF MAIN WILL BE ABANDONED AFTER SERVICE ABANDONMENT

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NOTES:
 1. SEE SMITH-BLAIR CATALOG FOR AVAILABLE PIPE DIAMETER AND WIDTH COMBINATIONS AS SOME COMBINATIONS ARE NOT AVAILABLE.
 2. 7.50" WIDE CLAMP SHOWN OTHER SIZES SIMILAR.

PIPE DIA.	QUANTITY	SIZE	QUANTITY	STUD SIZE	WASHER SIZE	SOCKET SIZE
7.50	1	6.00	3			
10.00	1	8.00	3			
12.50	1	10.00	3			
15.00	2	8.00	4			
20.00	2	10.00	5	5/8" X 7.00"	5/8"	1-1/16"
25.00	2	12.00	8			
30.00	2	14.00	10			

CERTIFIED TO NSF/ANSI 61-G & 372

ITEM	DESCRIPTION	QTY	UNIT	PRICE	TOTAL
1	SMITH-BLAIR, Inc.				
2	SMITH-BLAIR, Inc.				

CONTACT CITY OF BRYAN PUBLIC WORKS DEPARTMENT AT 979-209-5900 TO COMPLETE SERVICE ABANDONMENT

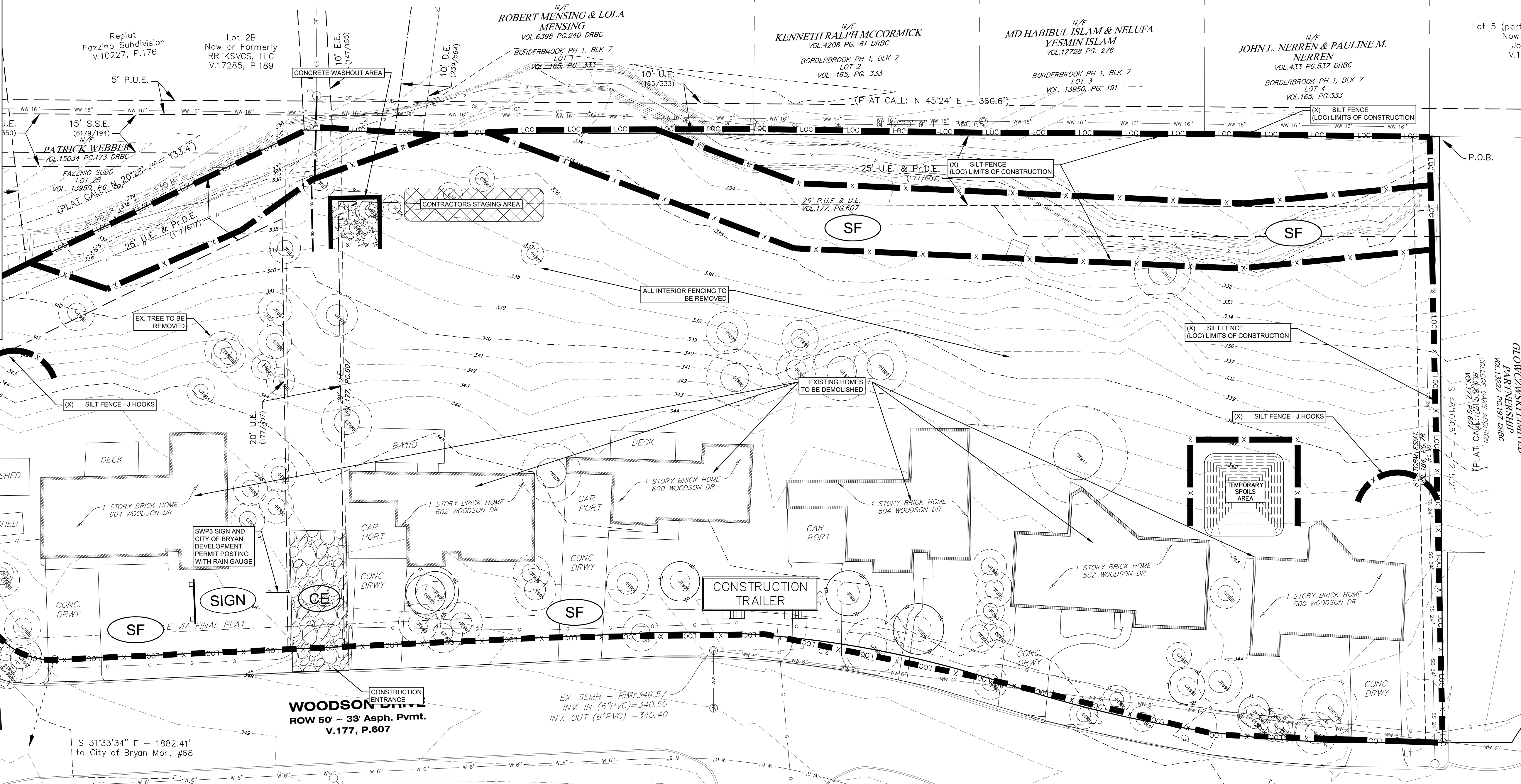
CITY OF BRYAN APPROVAL BLOCK

EROSION CONTROL LEGEND

LINETYPES / SYMBOLS	DESCRIPTION
LOC	LIMITS OF CONSTRUCTION
LOX	LIMITS OF CLEARING
CE	STABILIZED CONSTRUCTION ENTRANCE
SIGN	SIGNAGE
SF	SILT FENCE
SF-H	SILT FENCE W/ J HOOKS
SF-O	SILT FENCE W/ STONE OVERFLOW
IP	INLET PROTECTION (IP)
IP CB	CURB INLET
IP FB	FILTER BARRIER
IP GC	GRATE COVERING
RP	RIP RAP APRON (RP)
TP	TREE PROTECTION
MULCH	MULCH BERM
MULCH S	MULCH SOCK
SW/B	DIVERSION SWALE / BERM
STA	STAGING AREA
SPA	TEMPORARY SPOILS AREA
SM/B	SOIL MATTING / BLANKETS
CA	CONCRETE WASHOUT AREA
DP	DRAINAGE PATTERN
TR	TREE TO REMAIN
TR (R)	TREE TO BE REMOVED (R)
CT	CONSTRUCTION TRAILER

THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. HE AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MAY OCCUR BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

TEXAS ONE CALL SYSTEM
1-800-245-454
CALL BEFORE YOU DIG.
 TEXAS ONE CALL PARTICIPANTS SHALL REQUEST 72 HOURS BEFORE YOUR DIG, DRILL, OR BLAST.



EROSION CONTROL NOTES

- CONTRACTOR SHALL REFER TO GENERAL NOTES AND DETAILS FOR SPECIFICATIONS AND REQUIREMENTS REGARDING EROSION CONTROL.
- ALL REQUIRED NOTICES AND PERMITS MUST BE PLACED IN A HIGHLY VISIBLE LOCATION ONSITE BEFORE THE COMMENCEMENT OF CONSTRUCTION.
- ALL EROSION AND SEDIMENTATION CONTROLS (ESC) MUST BE INSTALLED PRIOR TO ANY DISTURBANCE TO THE PROJECT SITE.
- INSTALL SILT FENCE ACCORDINGLY FOR RUN-ON DIVERSION OR OFFSITE SEDIMENT CONTROL DEPENDING ON UP OR DOWN SLOPE, FACING POST SIDE ON THE DOWN GRADIENT SIDE.
- ALL ESC USED ONSITE MUST BE REGULARLY MONITORED AND MAINTAINED AS NEEDED.
- MUD AND OR DIRT TRACKED INTO THE ROADWAY MUST BE IMMEDIATELY REMOVED UPON DISCOVERY.
- EXCESS MATERIALS THAT WILL BE TRANSPORTED TO AN OFFSITE LOCATION MUST HAVE THAT LOCATION CLEARED BY CITY OF BRYAN INSPECTOR.
- LOOSE TRASH AND DEBRIS MUST BE DISPOSED OF PROPERLY ONSITE.
- CONTRACTOR SHALL MAINTAIN AND UTILIZE DUST CONTROL FOR THE DURATION OF THE PROJECT.
- THE STABILIZED CONSTRUCTION ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT PREVENTS TRACKING ONTO THE PUBLIC ROADWAY ON AN ONGOING/REGULAR BASIS.
- INLET PROTECTION SHALL BE INSTALLED IMMEDIATELY UPON INLET INSTALLATION.
- INITIATE TEMPORARY STABILIZATION WHEN CONSTRUCTION CEASES IN A DISTURBED AREA FOR 14 DAYS.
- INITIATE PERMANENT STABILIZATION IMMEDIATELY ONCE WORK HAS CEASED AND FINAL GRADE HAS BEEN ACHIEVED.
- ALL DISTURBED/BARE AREAS WILL REQUIRE PERMANENT STABILIZATION BEFORE FINAL ACCEPTANCE CAN BE ACHIEVED. AVOID DISTURBING AREAS OF THE PROJECT THAT ARE NOT NECESSARY FOR CONSTRUCTION.
- CITY OF BRYAN INSPECTOR MAY REQUEST ADDITIONAL CONTROLS BE INSTALLED ONSITE AS NEEDED.
- TEMPORARY ESC'S SHALL REMAIN IN PLACE IN ALL DISTURBED AREAS UNTIL ADEQUATE STABILIZATION HAS BEEN ACHIEVED.
- CONTRACTOR MUST REMOVE SEDIMENT FROM ALL STORM SEWER INLET BOXES, LINES, PIPES AND CULVERTS BEFORE CONDITIONAL/FINAL ACCEPTANCE CAN OBTAINED.
- CITY OF BRYAN REQUIRES CERTIFIED SWP3 INSPECTORS TO CONDUCT SWP3 INSPECTIONS AND REPORTING ON ALL PROJECTS WITH ONE ACRE OF DISTURBANCE AND LARGER.
- PERMITTEE SHALL INSPECT ALL INLET PROTECTION DEVICES AS PART OF THE WEEKLY SWP3 REPORT. UPON RECEIVING A FORECAST CALLING FOR A RAIN EVENT FOR AN EXTENDED PERIOD, MODIFICATION OF INLET PROTECTION SHOULD BE MADE TO PREVENT FLOODING OR PONDING OF WATER IF TRAFFIC OR PROPERTY CONCERNS ARISE.

EXISTING CONDITIONS NOTES

- THE CONTRACTOR SHALL REFER TO GENERAL NOTES AND DETAILS FOR SPECIFICATIONS AND REQUIREMENTS REGARDING DEMOLITION.
- A PRECONSTRUCTION MEETING IS REQUIRED PRIOR TO ANY SITE DISTURBANCE. NO DEMOLITION ACTIVITIES WILL OCCUR PRIOR TO THE PRE-CONSTRUCTION MEETING.
- THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. HE AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MAY OCCUR BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

DESIGN PROFESSIONAL



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WOODSON DEVELOPMENT

ISSUE/REVISION RECORD

FOR BIDDING PURPOSES ONLY

PROJECT NAME
WOODSON MIXED USE DEVELOPMENT

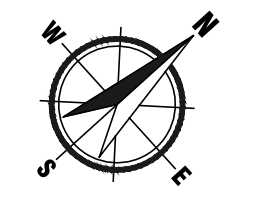
500-604 WOODSON DRIVE
 BRYAN, TEXAS TBD

MAP GRID # TBD
 MAPSCO # TBD

PROJECT NUMBER
20006

DRAWING FILE
 20006-ESCP.DWG

SCALE 1" = 20'



PROFESSIONAL SEAL



PROJECT STATUS
CONCEPT

SHEET TITLE
INITIAL EROSION CONTROL PLAN

SHEET NUMBER
6 of 34

TBD

CITY OF BRYAN APPROVAL BLOCK

EROSION CONTROL LEGEND

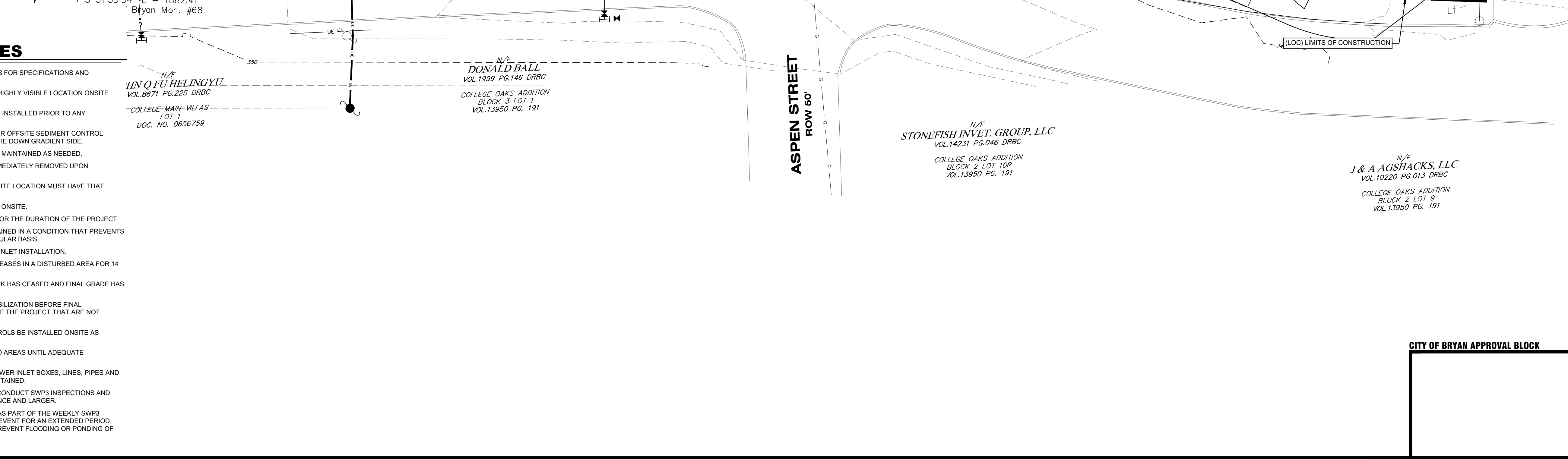
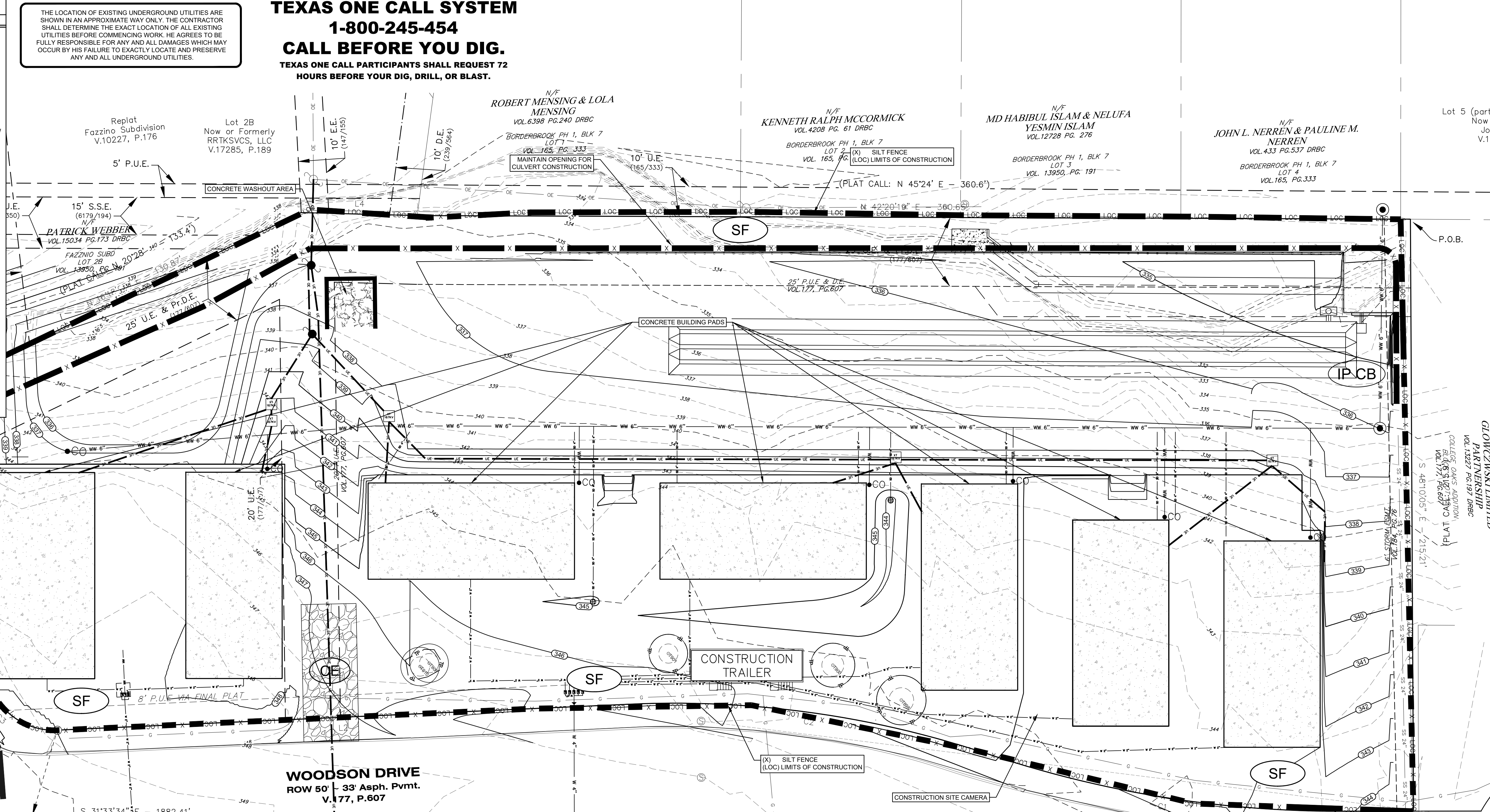
LINETYPES / SYMBOLS	DESCRIPTION
LOC	LIMITS OF CONSTRUCTION
LOX	LIMITS OF CLEARING
CE	STABILIZED CONSTRUCTION ENTRANCE
SIGN	SIGNAGE
SF	SILT FENCE W/ J HOOKS
SF-O	SILT FENCE W/ STONE OVERFLOW
IP	INLET PROTECTION (IP)
IP CB	CURB INLET
IP FB	FILTER BARRIER
IP GC	GRATE COVERING
RP	RIP RAP APRON (RP)
TP	TREE PROTECTION
MULCH	MULCH BERM
MULCH SOCK	MULCH SOCK
SW/B	DIVERSION SWALE / BERM
STA	STAGING AREA
SPA	TEMPORARY SPOILS AREA
SM/B	SOIL MATTING / BLANKETS
CWA	CONCRETE WASHOUT AREA
DP	DRAINAGE PATTERN
TR	TREE TO REMAIN
TR(R)	TREE TO BE REMOVED (R)
CT	CONSTRUCTION TRAILER

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WOODSON DEVELOPMENT

ISSUE/REVISION RECORD

FOR BIDDING PURPOSES ONLY

PROJECT NAME
WOODSON MIXED USE DEVELOPMENT

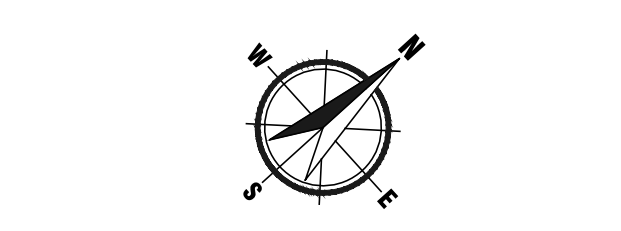
500-604 WOODSON DRIVE
 BRYAN, TEXAS TBD

MAP GRID # TBD
 MAPSCO # TBD

PROJECT NUMBER
20006

DRAWING FILE
 20006-ESCP.DWG

SCALE 1" = 50'



PROFESSIONAL SEAL



PROJECT STATUS
CONCEPT

SHEET TITLE
MID CONSTRUCTION EROSION CONTROL PLAN

SHEET NUMBER
7 of 34

TBD

CITY OF BRYAN APPROVAL BLOCK



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WOODSON DEVELOPMENT

ISSUE/REVISION RECORD

FOR BIDDING PURPOSES ONLY

PROJECT NAME
WOODSON MIXED USE DEVELOPMENT

500-604 WOODSON DRIVE
 BRYAN, TEXAS 77804

GREAT ESCAPES AT BRYAN SUBDIVISION,
 LOT 1, BLOCK 1, 84.936 ACRES

PROJECT NUMBER
20006

DRAWING FILE
 20006-DETL.DWG

SCALE N.T.S.

PROFESSIONAL SEAL



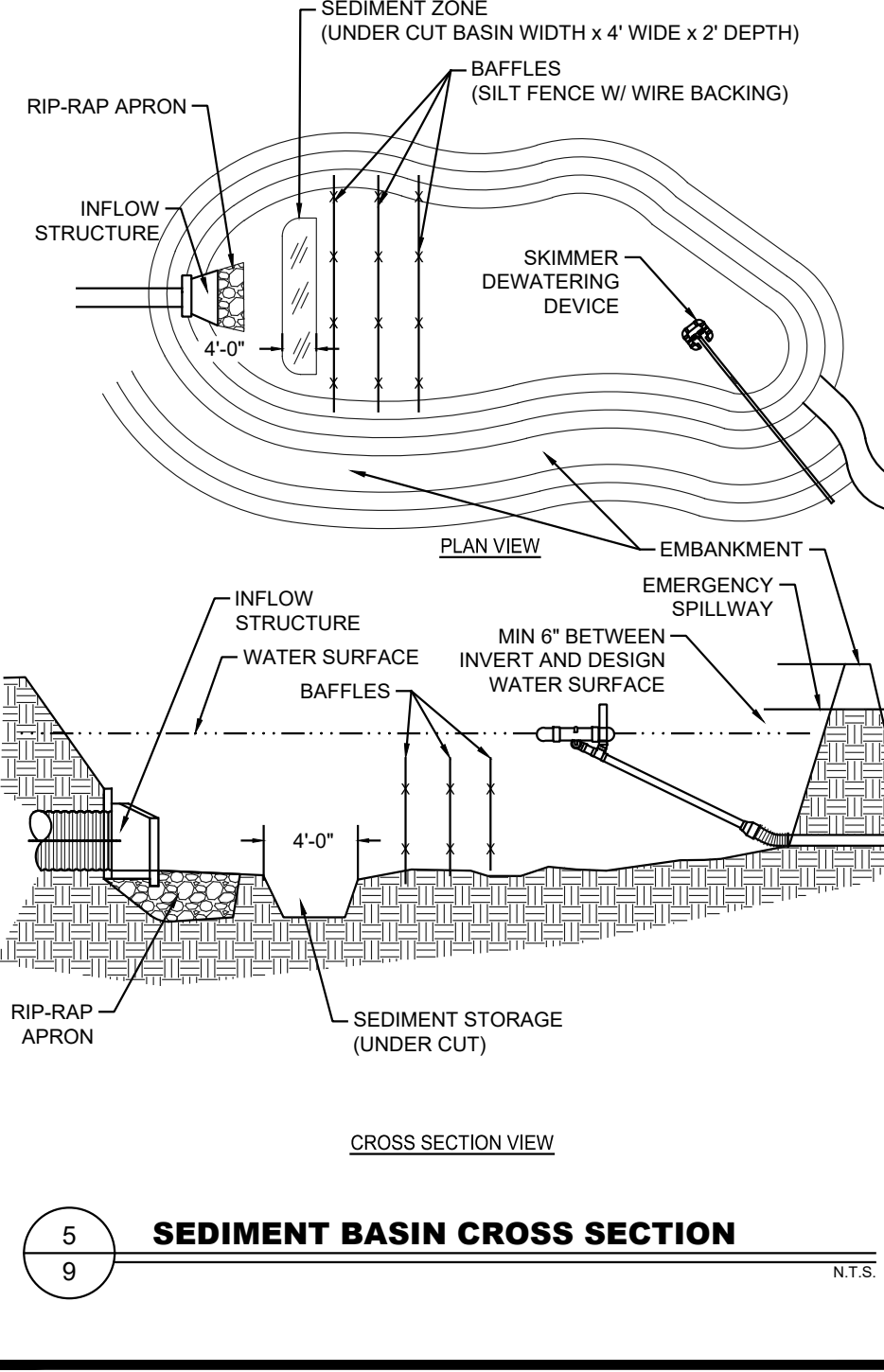
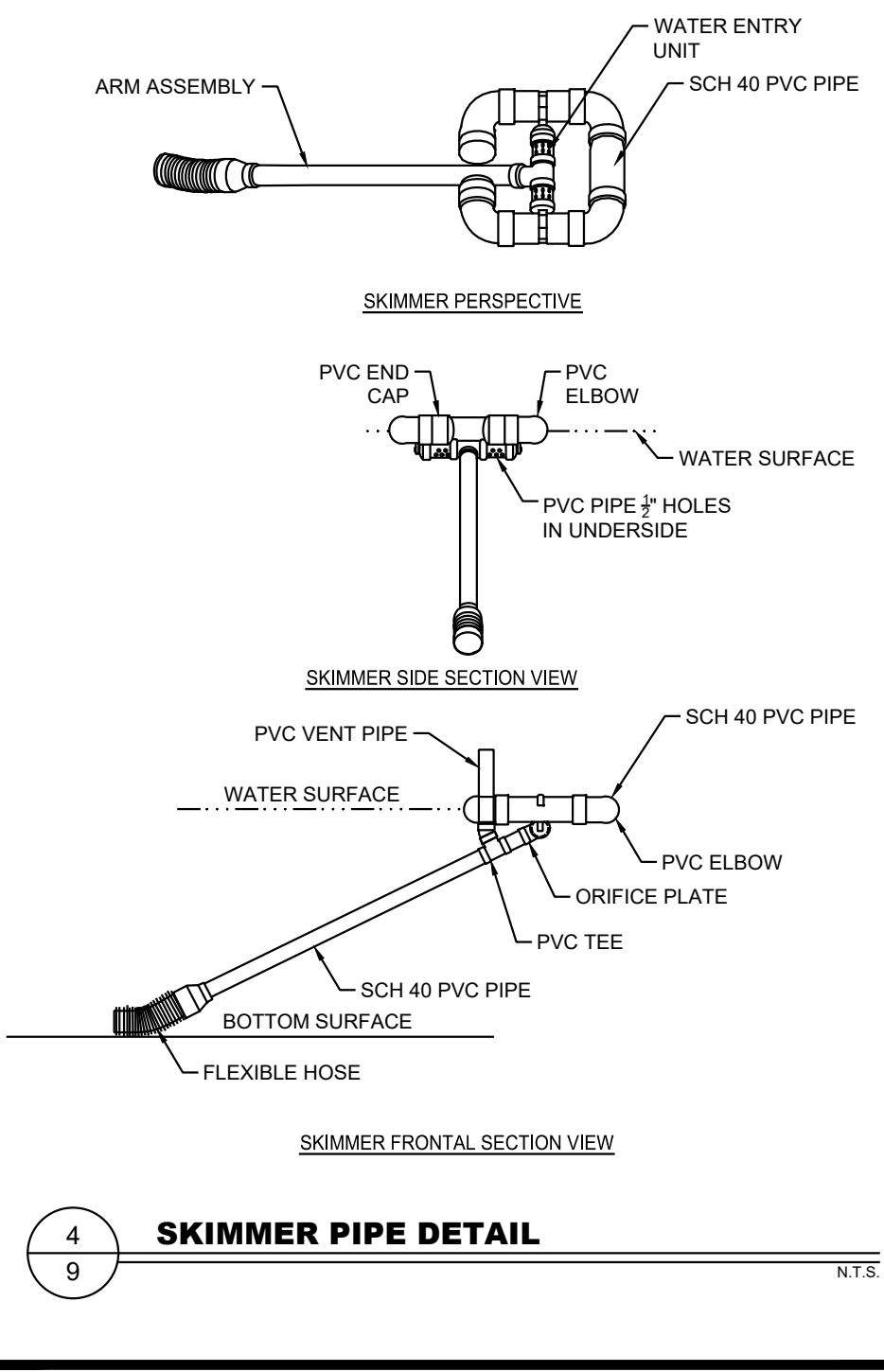
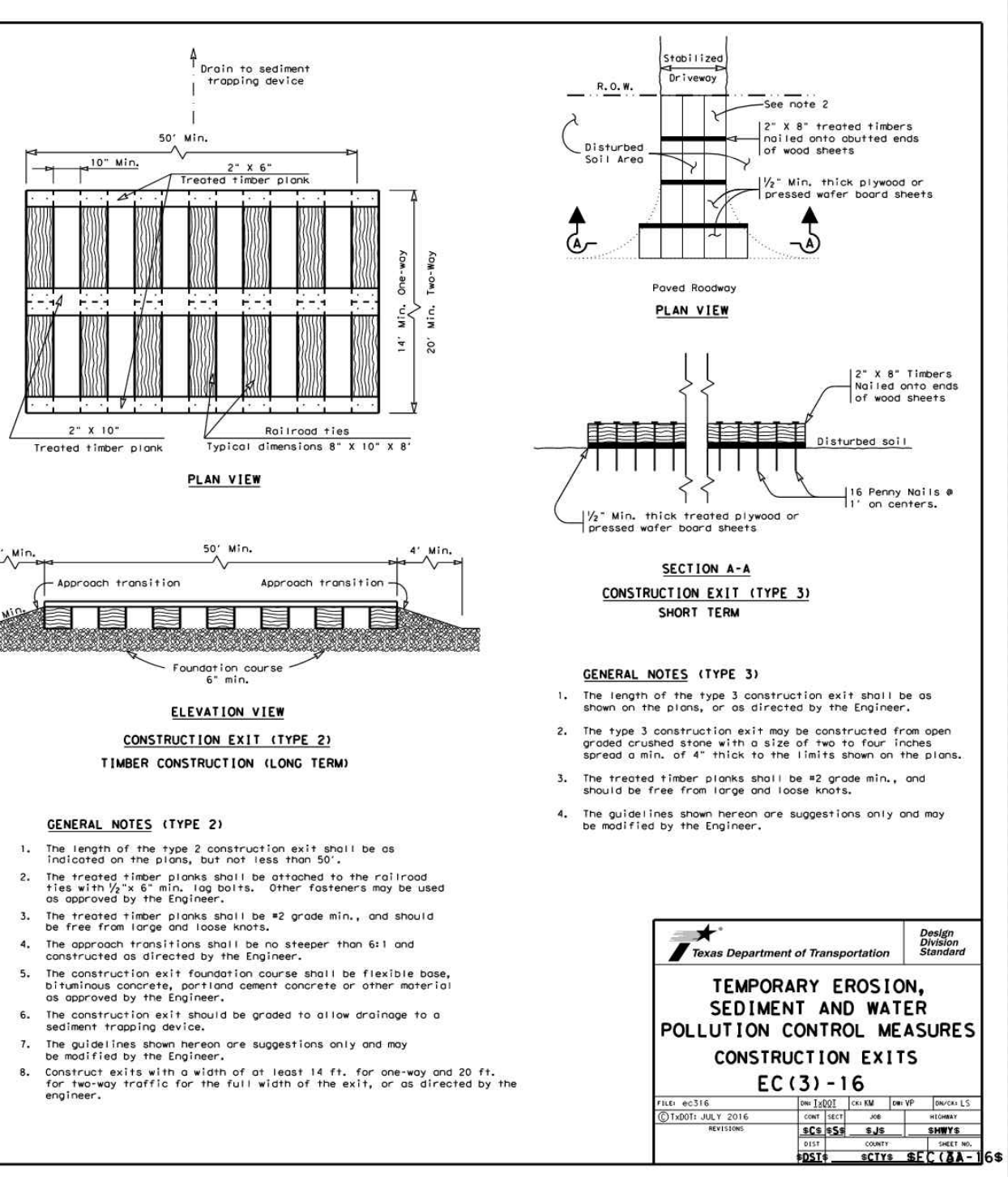
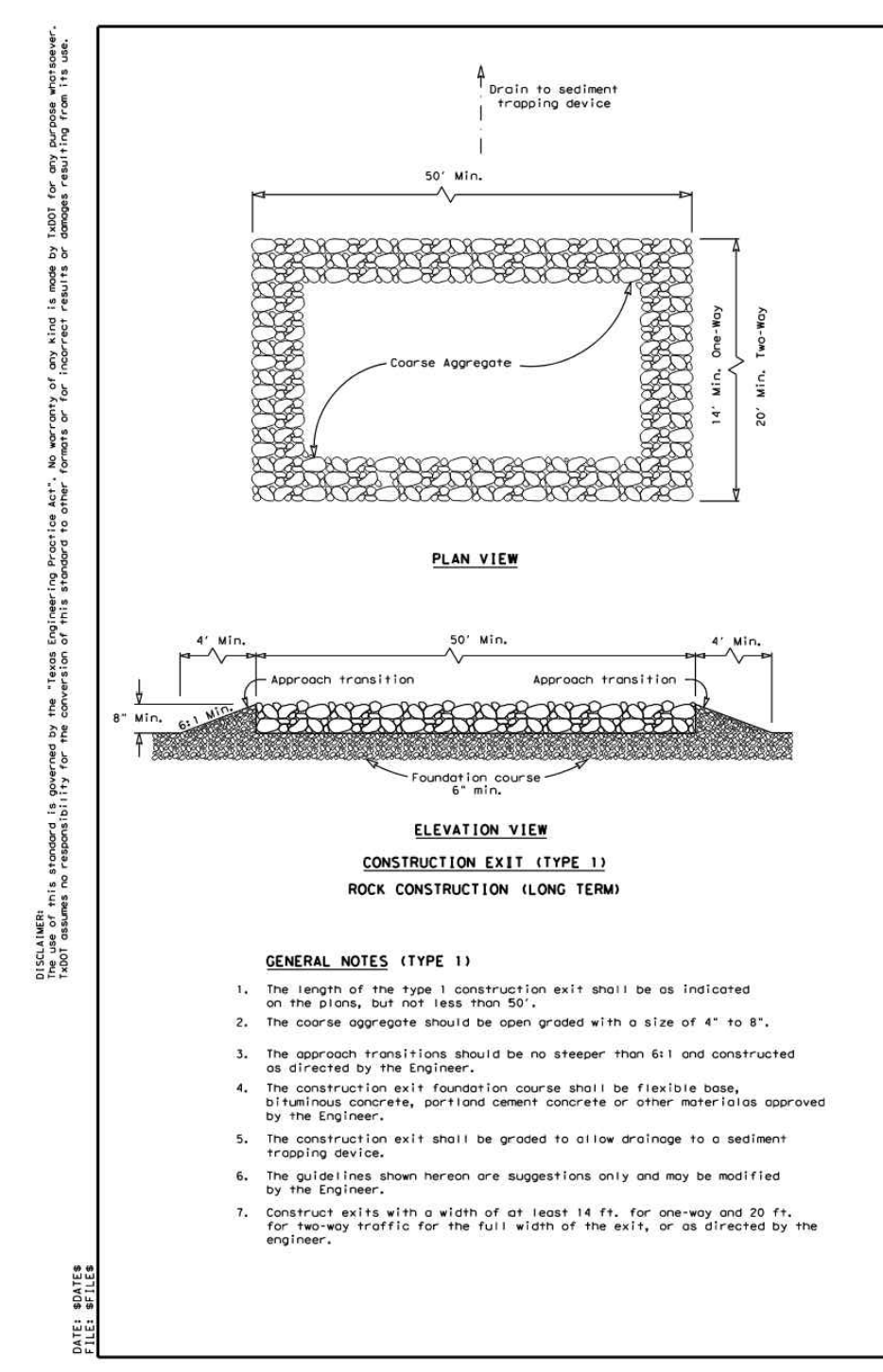
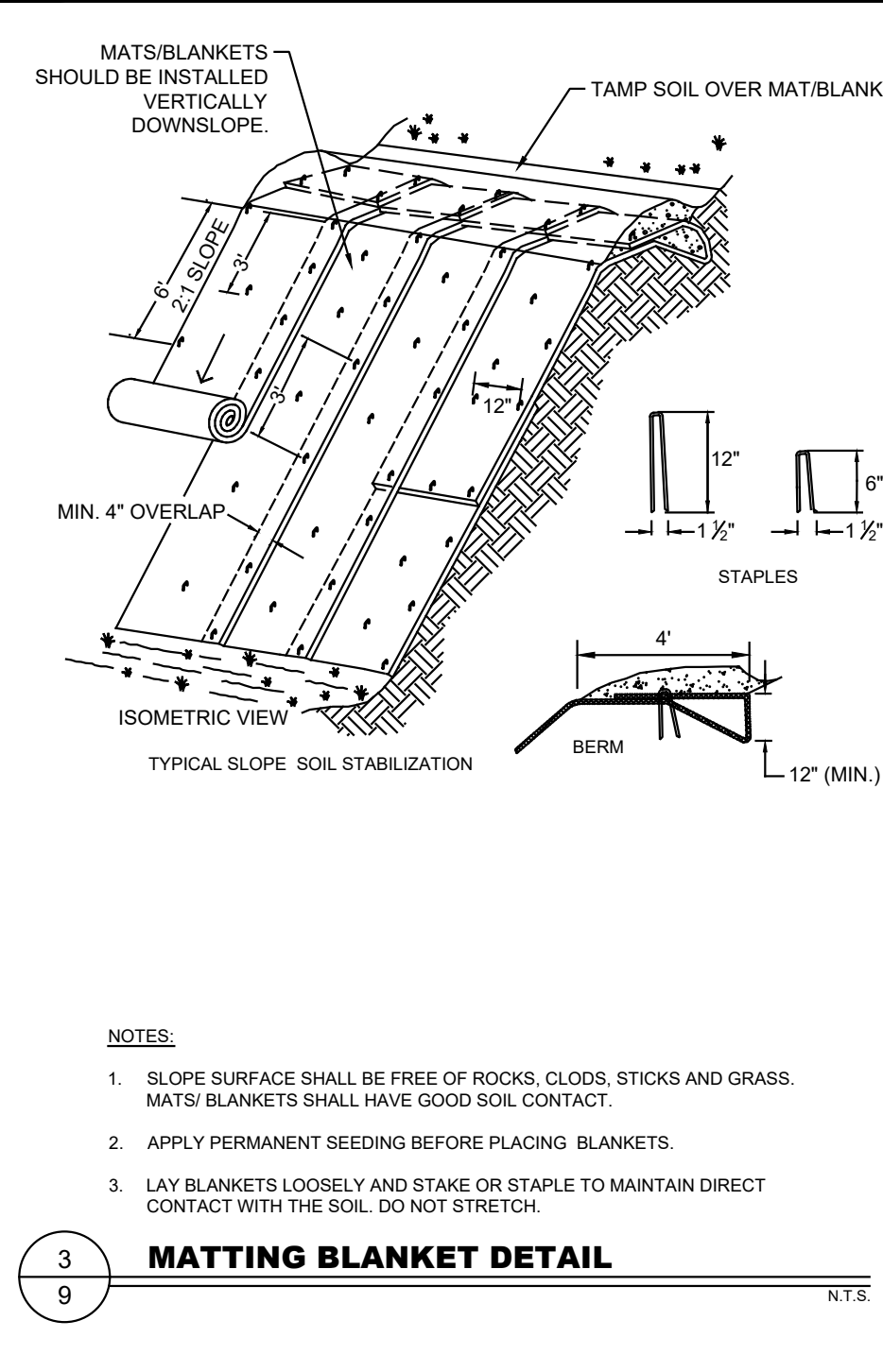
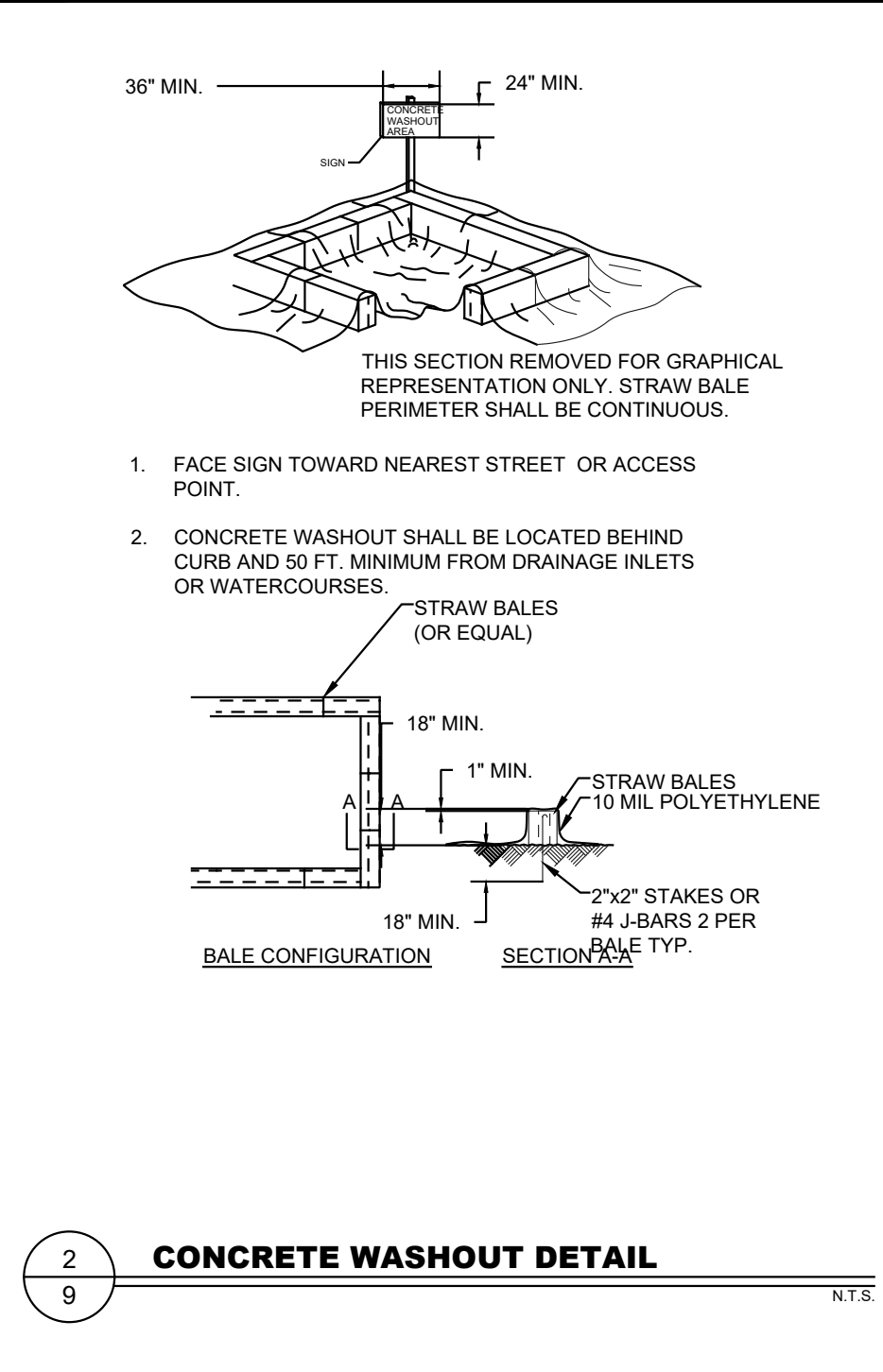
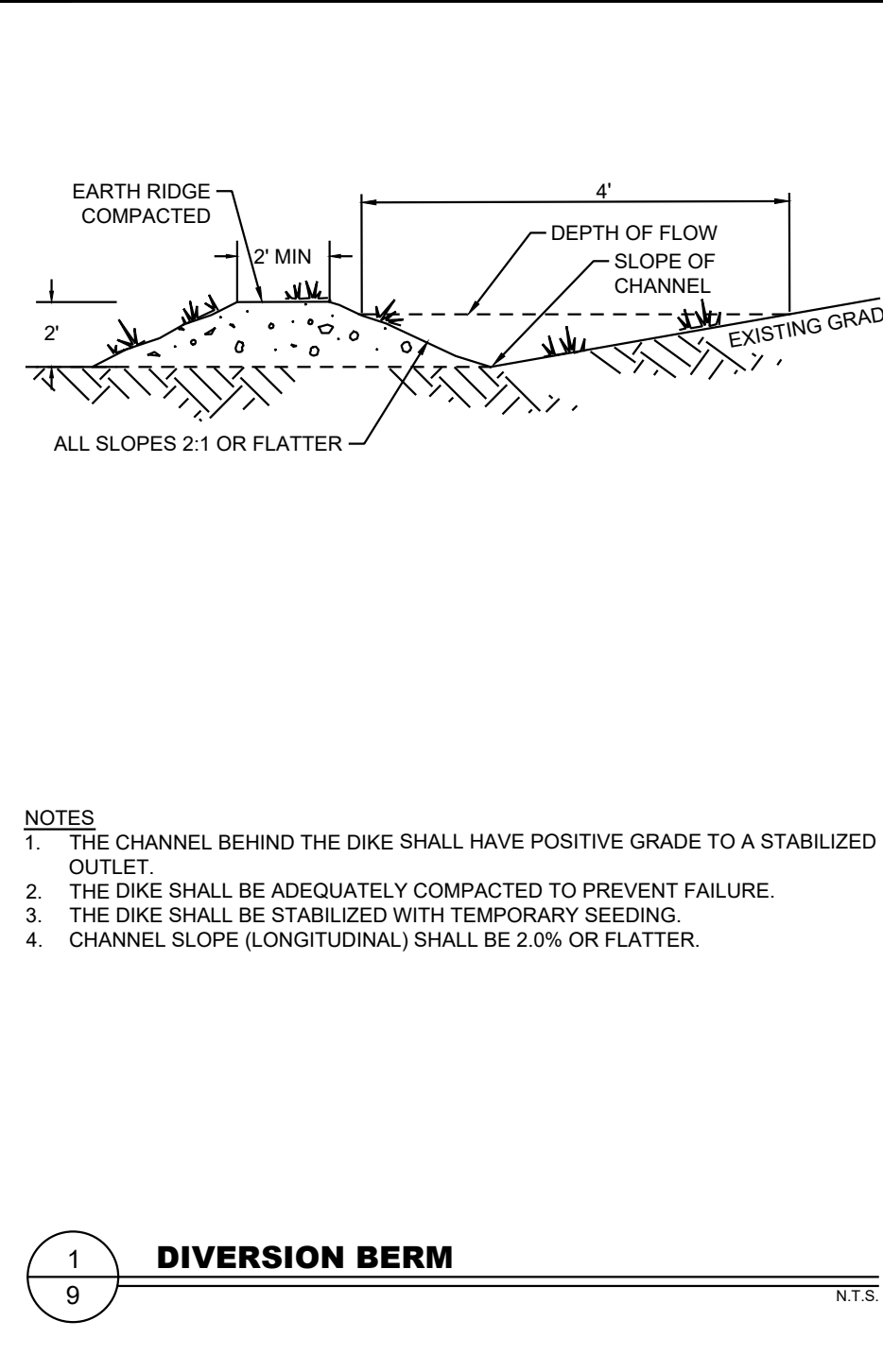
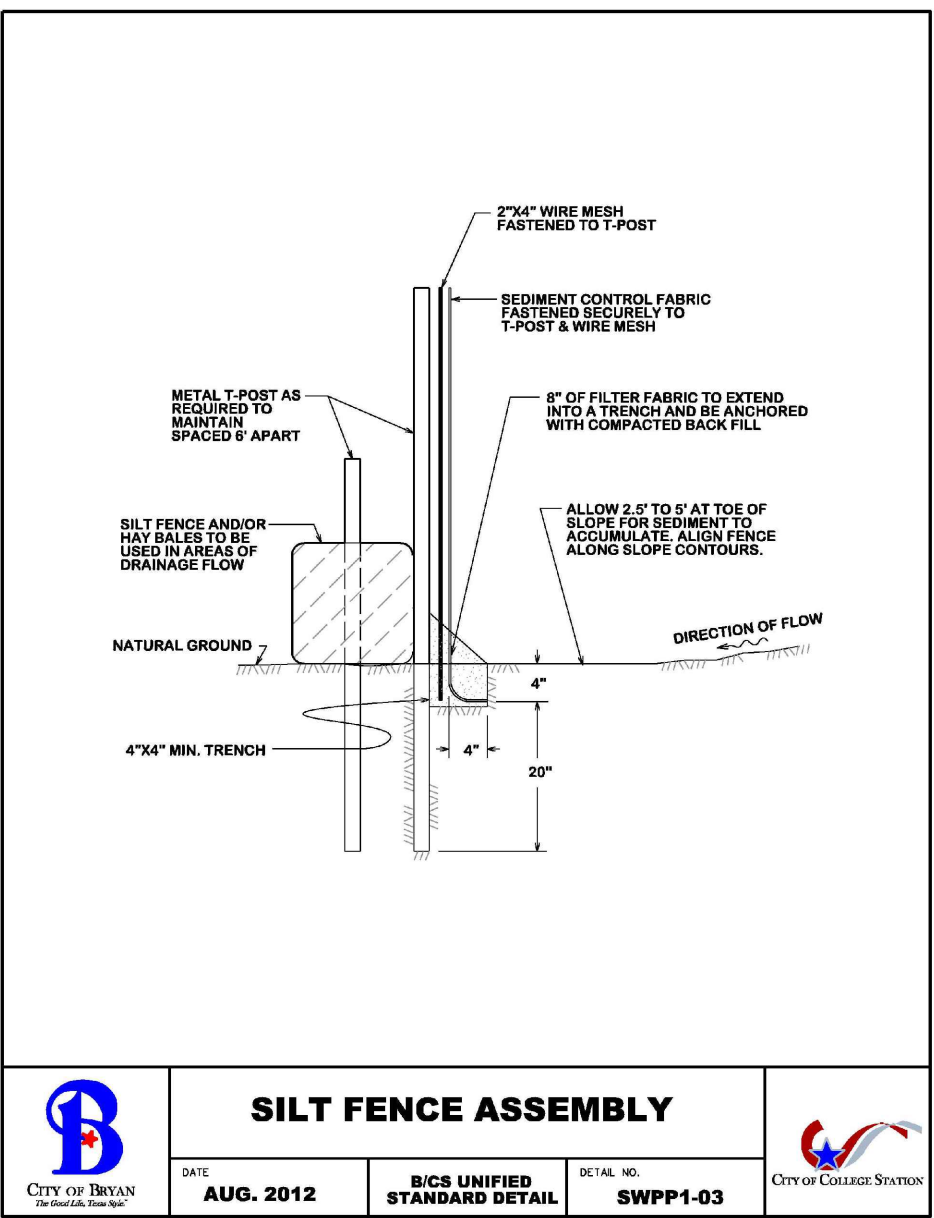
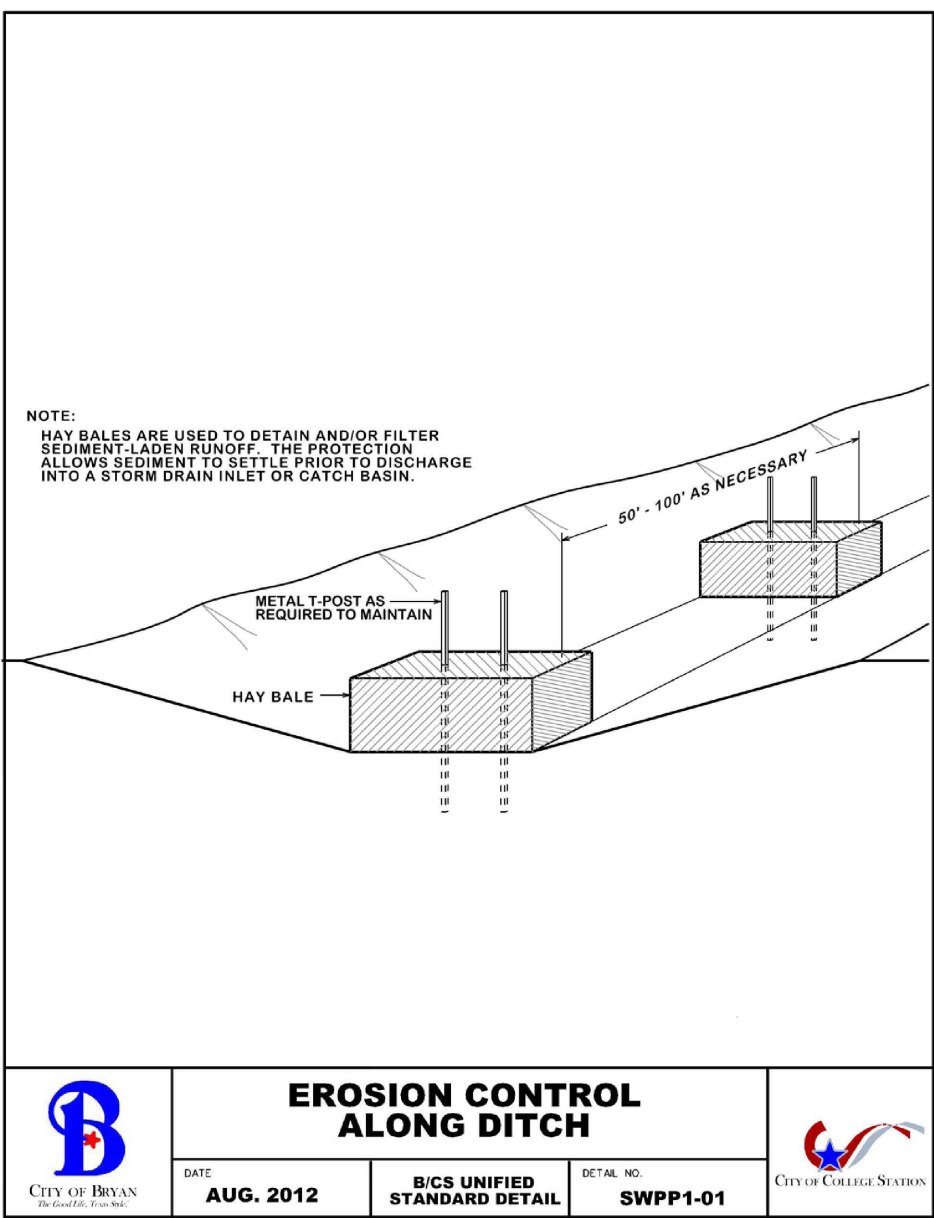
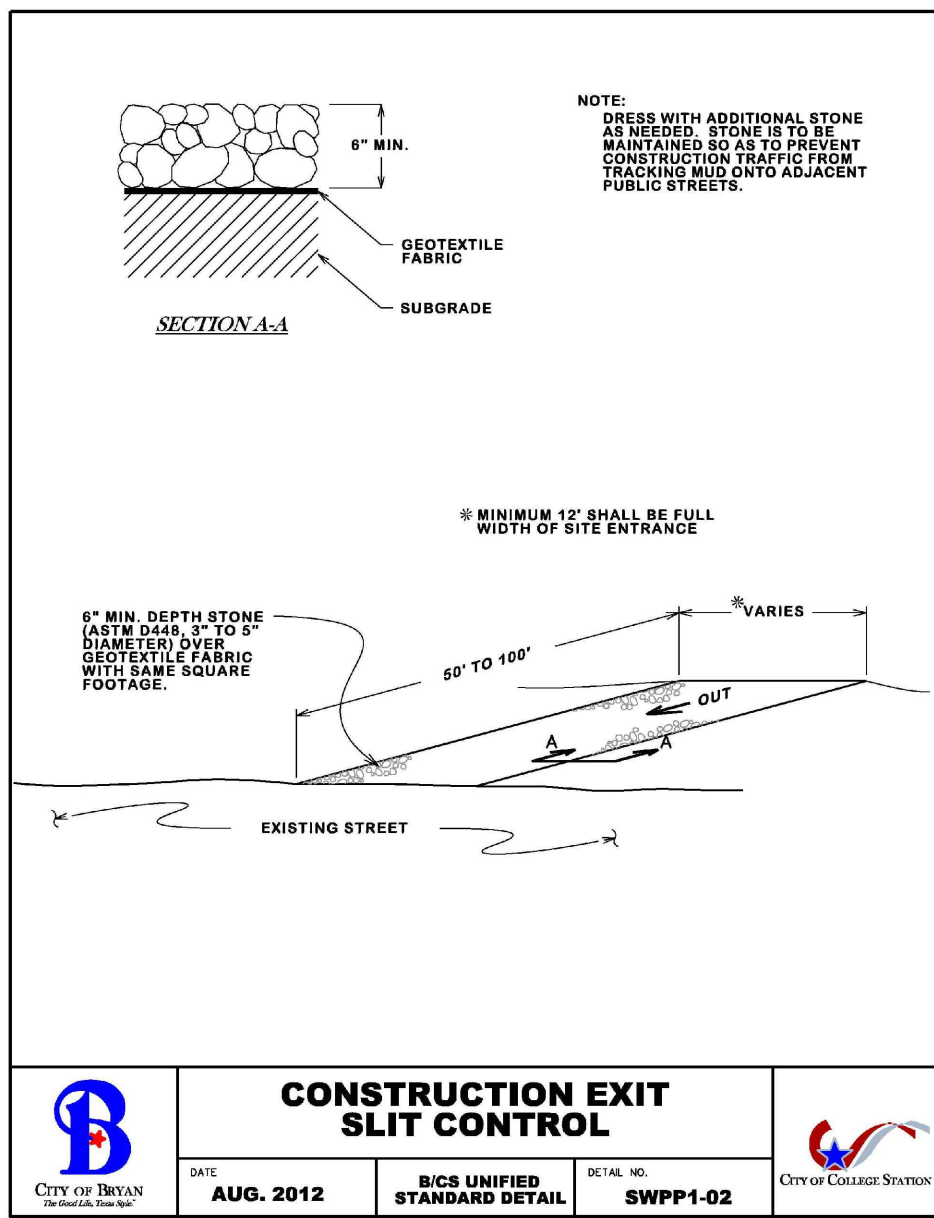
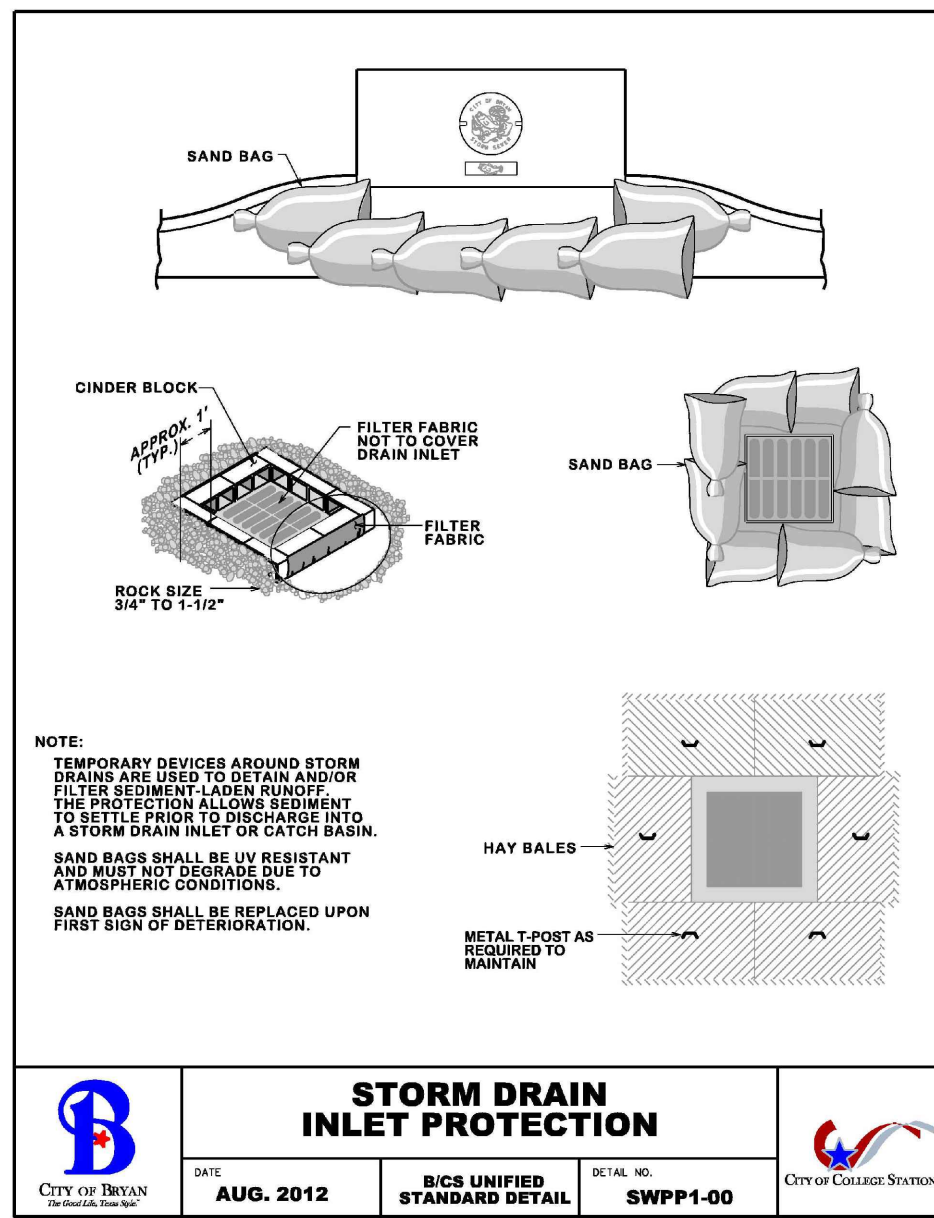
PROJECT STATUS
CONCEPT

SHEET TITLE
EROSION CONTROL DETAILS

SHEET NUMBER

9 of 33

TBD



ROCK RIP-RAP GRADATION TABLE

CLASS	D ₅₀ (in)	D ₃₀ (in)		D ₁₀ (in)	
		MIN	MAX	MIN	MAX
I	6.0	3.7	5.2	5.7	6.9
II	9.0	5.5	7.8	8.5	10.5
III	12.0	7.3	10.5	11.5	14.0
IV	15.0	9.2	13.0	14.5	17.5
V	18.0	11.0	15.5	17.0	20.5
VI	21.0	13.0	18.5	20.0	23.5
VII	24.0	14.5	21.0	23.0	27.5
VIII	30.0	18.5	26.0	28.5	39.0
IX	36.0	22.0	31.5	34.0	47.0
X	42.0	25.5	36.5	40.0	48.5



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CONSTRUCTION MANAGEMENT

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WOODSON DEVELOPMENT

ISSUE/REVISION RECORD

FOR BIDDING PURPOSES ONLY

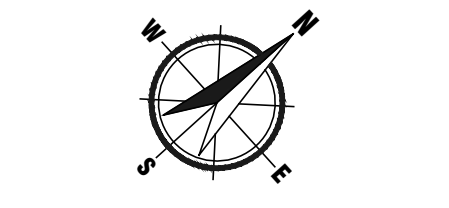
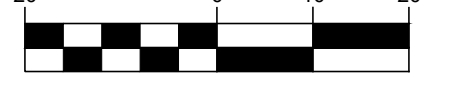
PROJECT NAME
WOODSON MIXED USE DEVELOPMENT

500-604 WOODSON DRIVE
BRYAN, TEXAS 77801

PROJECT NUMBER
20006

DRAWING FILE
20006-SITE.DWG

SCALE 1" = 20'



PROFESSIONAL SEAL



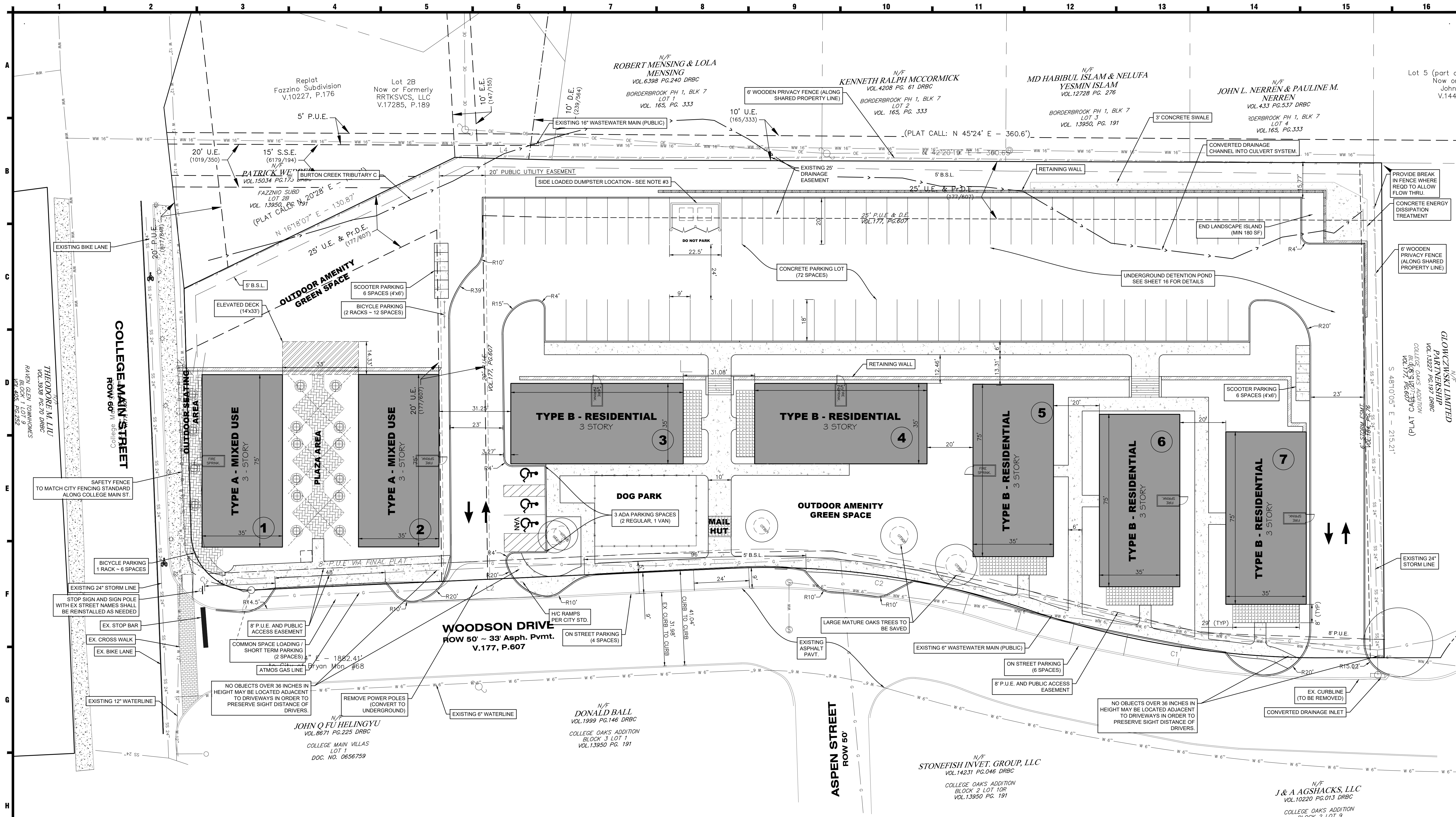
PROJECT STATUS
CONCEPT

SHEET TITLE
SITE & DIMENSIONAL CONTROL PLAN

SHEET NUMBER

10 of 34

TBD
DRAWING FILE: 20006-SITE.DWG



PARKING SUMMARY

UNIT	UNIT COUNT	REQ'D RATIO	REQ'D PARKING
COMMERCIAL (3000 SF)	4280	1 SP / 375 SF	12
BEDROOMS	76	1 SP / 1 BED	76
GROSS PARKING SPACES REQUIRED			88
REDUCTION IN PARKING			
TRANSIT STOPS			2
SCOOTER PARKING			2
BICYCLE PARKING			2
TOTAL REDUCTION			6
NET PARKING REQUIRED			82
PROVIDED PARKING			
SPACE TYPE	DIMENSIONS	#	
PARALLEL PARKING	9' x 24'	12	
REGULAR SPACES	9' x 18'	71	
ADA SPACES (REGULAR)	9' x 18'	3	
PROVIDED PARKING	TOTAL	86	

SITE PLAN NOTES

- SIGNAGE USED TO PREVENT NON-CUSTOMERS OR NON-RESIDENTS FROM PARKING IN ANY ON-STREET PARKING SPACES IS PROHIBITED.
- THE PROPERTY IS ZONED PLANNED DEVELOPMENT - MIXED USE (PD-M) PER CITY OF BRYAN ORDINANCE NO. 2490, APPROVED BY CITY COUNCIL ON 6/8/2021.
- CONTAINMENT AREA PAD FOR DUMPSTER SHALL BE LEVEL W/ APPROACH TO ENCLOSURE -2% SLOPE. CONTAINMENT AREA SHALL USE 8" CONCRETE, REINFORCED WITH #5 BARS AT 12" OCEW AND THE PAD SHALL EXTEND AN ADDITIONAL 10' IN FRONT OF THE CONTAINMENT AREA. CONTAINMENT DOOR MUST OPEN AT LEAST 10 FEET WIDE FOR EACH SIDE OF LOAD CONTAINER. CONTAINMENT AREA MUST BE SURROUNDED ON THREE SIDES WITH A SCREEN CONSTRUCTED TO A HEIGHT OF SIX FEET. THE PAD, SCREENING, AND DOORS WILL BE MAINTAINED AT THE PROPERTY OWNER'S EXPENSE.
- ANY EXISTING SEWER TAPS FOR EXISTING HOMES TO THE EXISTING MAIN WILL NEED TO BE CAPPED OFF AT THE MAIN AS DIRECTED BY THE CITY.
- PLEASE CALL STREETS & DRAINAGE SERVICES AT (979) 209-5900 AT LEAST 48 HOURS PRIOR TO POURING CONCRETE, TO SCHEDULE A DRIVEWAY INSPECTION.
- DRIVEWAYS MUST COMPLY WITH B/C'S UNIFIED STANDARD CONSTRUCTION DETAIL ST2-03.
- THE DEVELOPER WILL BE RESPONSIBLE FOR PROPERLY TYING DRIVEWAY(S) INTO (AND/OR PATCHING) EXISTING ROADWAY. STREET REPAIRS, WHEN REQUIRED, SHALL BE AS DETAILED IN B/C'S UNIFIED STANDARD CONSTRUCTION DETAIL ST4-01 OR ST4-02.
- PER ORDINANCE NO. 2490, FRONT, REAR, AND SITE SETBACKS FROM STRUCTURES TO PROPERTY LINES ARE 5 FEET.
- CITY OF BRYAN WILL MAKE THE PROPOSED WATER TAPS. DEVELOPER WILL BE RESPONSIBLE FOR PAYING TAP FEES.
- FDCS ARE LOCATED DIRECTLY OUTSIDE THE FIRE RISER ROOM.
- ALL SIDEWALKS SHALL BE CONCRETE. ALL ROADWAY / PARKING PAVEMENT SHOULD BE LIGHT-DUTY.

BUILDING & SITE SUMMARY

BLDG #	BLDG. TYPE	UNIT COUNT	BLDG. DESCRIPTION	AREA (SF) (GFA)	STORY / HEIGHT
1	TYPE A	5	8 BEDROOM BLDG W/ GROUND LEVEL COMMERCIAL SPACE	7875	3 STORY / 40'
2	TYPE A	5	8 BEDROOM BLDG W/ GROUND LEVEL COMMERCIAL SPACE	7875	3 STORY / 40'
3	TYPE B	7	12 BEDROOM BLDG	7875	3 STORY / 40'
4	TYPE B	7	12 BEDROOM BLDG	7875	3 STORY / 40'
5	TYPE B	7	12 BEDROOM BLDG	7875	3 STORY / 40'
6	TYPE B	7	12 BEDROOM BLDG	7875	3 STORY / 40'
7	TYPE B	7	12 BEDROOM BLDG	7875	3 STORY / 40'
TOTAL BLDG. AREA				55125.00	
TOTAL SITE AREA, AC				2.27	98.881
BUILDABLE SITE AREA, AC				1.80	
FAR				0.56	
FAR, BUILDABLE				0.70	
TOTAL UNIT COUNT				45	IMPERVIOUS AREA, AC 1.41
TOTAL BEDROOM COUNT				76	IMPERVIOUS AREA, % 62.1

CITY OF BRYAN APPROVAL BLOCK



GRADING LEGEND		
EXISTING	PROPOSED	DESCRIPTION
---	---	CONTOUR
---	---	GRADE BREAK / RIDGE
---	---	BERM
---	---	SWALE
---	---	DRAINAGE SLOPE
x EG-905.25	---	EXISTING SPOT GRADE
x MEG-905.25	---	MATCH EXISTING GRADE
---	x FG	FINISH SPOT GRADE
---	x	SOIL BORING
TC: 509.25	---	TOP OF CURB
TP: 508.75	---	TOP OF PAVEMENT
TC: 509.25	---	TOP OF CURB
TG: 508.75	---	TOP OF GRATE
TW: 509.25	---	TOP OF WALL
BW: 508.75	---	BOTTOM OF WALL
TG: 507.50	---	TOP OF GRATE

TEXAS ONE CALL SYSTEM
1-800-245-454
CALL BEFORE YOU DIG.
 TEXAS ONE CALL PARTICIPANTS SHALL REQUEST 72 HOURS BEFORE YOUR DIG, DRILL, OR BLAST.

THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. HE AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MAY OCCUR BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

DESIGN PROFESSIONAL



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WOODSON DEVELOPMENT

ISSUE/REVISION RECORD

FOR BIDDING PURPOSES ONLY

PROJECT NAME
WOODSON MIXED USE DEVELOPMENT


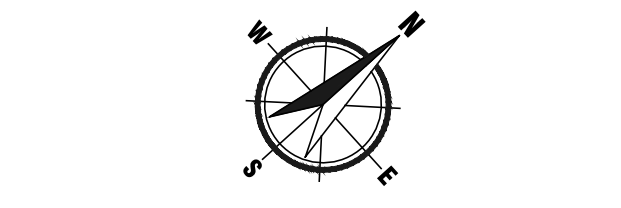
500-604 WOODSON DRIVE
 BRYAN, TEXAS TBD

MAP GRID # TBD
 MAPSCO # TBD

PROJECT NUMBER
20006

DRAWING FILE
 20006-GRAD.DWG

SCALE 1" = 20'

PROFESSIONAL SEAL



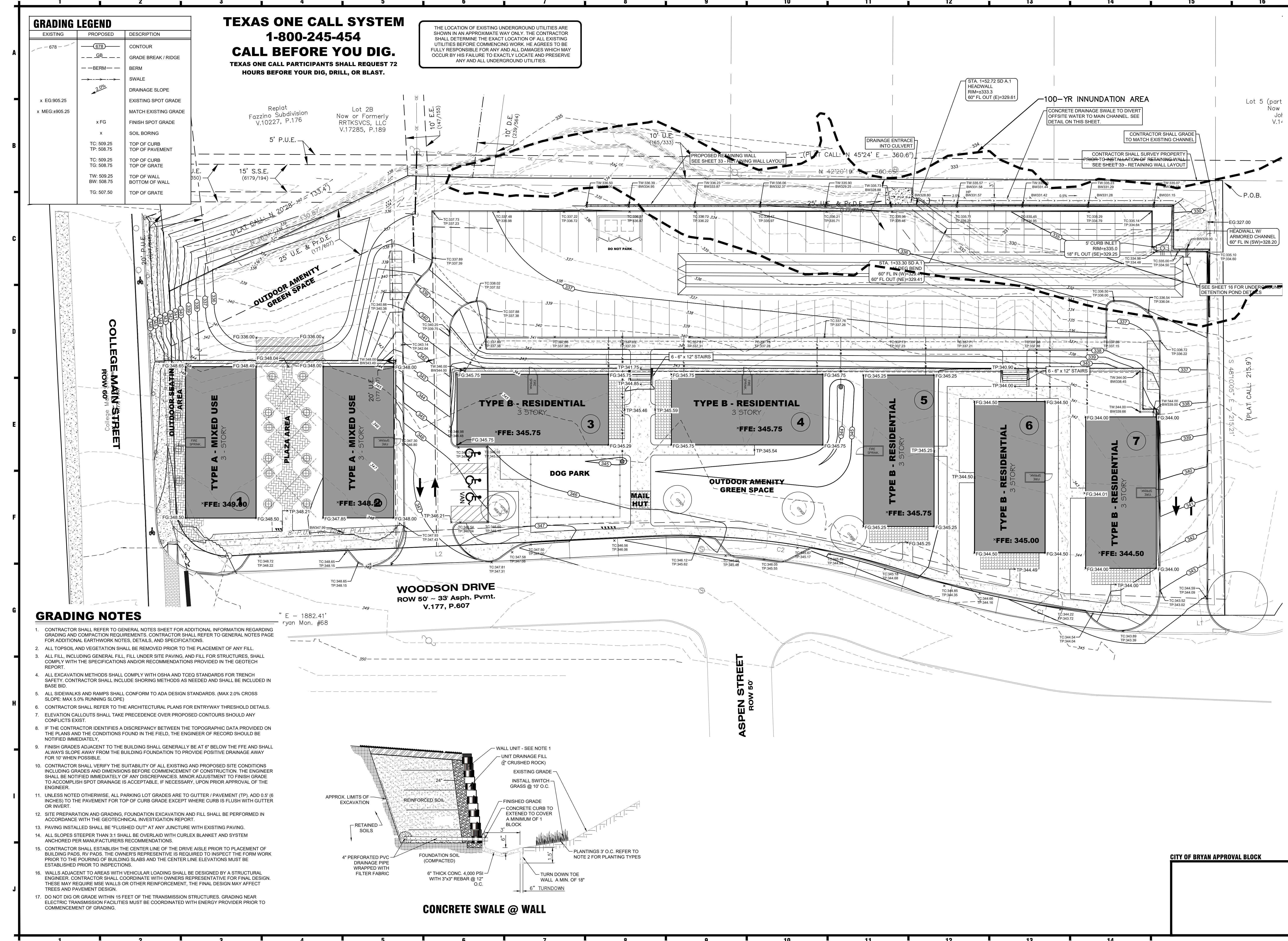
PROJECT STATUS
CONCEPT

SHEET TITLE
GRADING & DRAINAGE PLAN SHEET

SHEET NUMBER

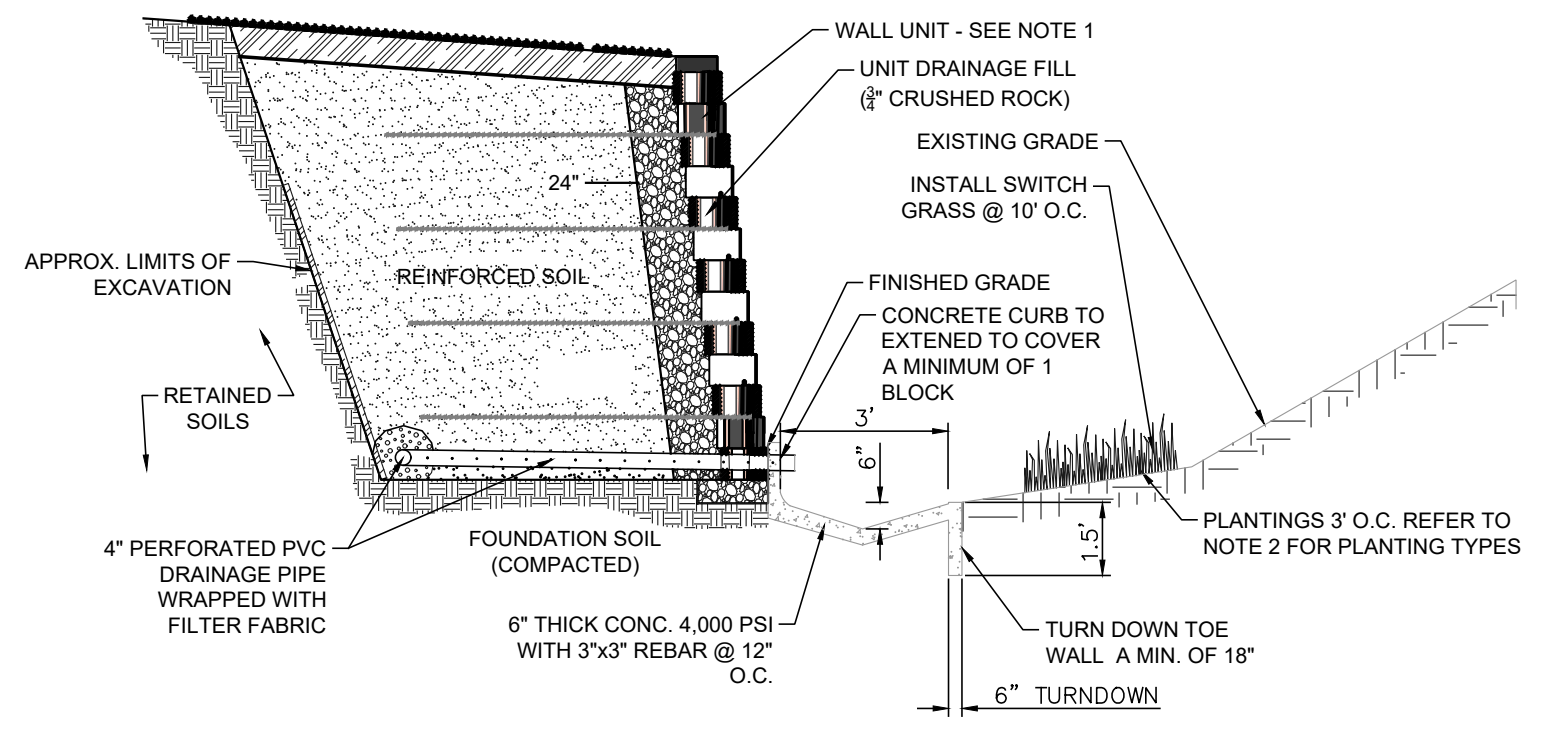
11 of 34

TBD



GRADING NOTES

- CONTRACTOR SHALL REFER TO GENERAL NOTES SHEET FOR ADDITIONAL INFORMATION REGARDING GRADING AND COMPACTION REQUIREMENTS. CONTRACTOR SHALL REFER TO GENERAL NOTES PAGE FOR ADDITIONAL EARTHWORK NOTES, DETAILS, AND SPECIFICATIONS.
- ALL TOPSOIL AND VEGETATION SHALL BE REMOVED PRIOR TO THE PLACEMENT OF ANY FILL.
- ALL FILL, INCLUDING GENERAL FILL, FILL UNDER SITE PAVING, AND FILL FOR STRUCTURES, SHALL COMPLY WITH THE SPECIFICATIONS AND/OR RECOMMENDATIONS PROVIDED IN THE GEOTECH REPORT.
- ALL EXCAVATION METHODS SHALL COMPLY WITH OSHA AND TCEQ STANDARDS FOR TRENCH SAFETY. CONTRACTOR SHALL INCLUDE SHORING METHODS AS NEEDED AND SHALL BE INCLUDED IN BASE BID.
- ALL SIDEWALKS AND RAMPS SHALL CONFORM TO ADA DESIGN STANDARDS. (MAX 2.0% CROSS SLOPE; MAX 5.0% RUNNING SLOPE)
- CONTRACTOR SHALL REFER TO THE ARCHITECTURAL PLANS FOR ENTRYWAY THRESHOLD DETAILS.
- ELEVATION CALLOUTS SHALL TAKE PRECEDENCE OVER PROPOSED CONTOURS SHOULD ANY CONFLICTS EXIST.
- IF THE CONTRACTOR IDENTIFIES A DISCREPANCY BETWEEN THE TOPOGRAPHIC DATA PROVIDED ON THE PLANS AND THE CONDITIONS FOUND IN THE FIELD, THE ENGINEER OF RECORD SHOULD BE NOTIFIED IMMEDIATELY.
- FINISH GRADES ADJACENT TO THE BUILDING SHALL GENERALLY BE AT 6" BELOW THE FFE AND SHALL ALWAYS SLOPE AWAY FROM THE BUILDING FOUNDATION TO PROVIDE POSITIVE DRAINAGE AWAY FOR 10' WHEN POSSIBLE.
- CONTRACTOR SHALL VERIFY THE SUITABILITY OF ALL EXISTING AND PROPOSED SITE CONDITIONS INCLUDING GRADES AND DIMENSIONS BEFORE COMMENCEMENT OF CONSTRUCTION. THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY OF ANY DISCREPANCIES. MINOR ADJUSTMENT TO FINISH GRADE TO ACCOMPLISH SPOT DRAINAGE IS ACCEPTABLE. IF NECESSARY, UPON PRIOR APPROVAL OF THE ENGINEER.
- UNLESS NOTED OTHERWISE, ALL PARKING LOT GRADES ARE TO GUTTER / PAVEMENT (TP), ADD 0.5" (6 INCHES) TO THE PAVEMENT FOR TOP OF CURB GRADE EXCEPT WHERE CURB IS FLUSH WITH GUTTER OR INVERT.
- SITE PREPARATION AND GRADING, FOUNDATION EXCAVATION AND FILL SHALL BE PERFORMED IN ACCORDANCE WITH THE GEOTECHNICAL INVESTIGATION REPORT.
- PAVING INSTALLED SHALL BE "FLUSHED OUT" AT ANY JUNCTURE WITH EXISTING PAVING.
- ALL SLOPES STEEPER THAN 3:1 SHALL BE OVERLID WITH CURLEX BLANKET AND SYSTEM ANCHORED PER MANUFACTURERS RECOMMENDATIONS.
- CONTRACTOR SHALL ESTABLISH THE CENTER LINE OF THE DRIVE AISLE PRIOR TO PLACEMENT OF BUILDING PADS, RV PADS. THE OWNER'S REPRESENTATIVE IS REQUIRED TO INSPECT THE FORM WORK PRIOR TO THE POURING OF BUILDING SLABS AND THE CENTER LINE ELEVATIONS MUST BE ESTABLISHED PRIOR TO INSPECTIONS.
- WALLS ADJACENT TO AREAS WITH VEHICULAR LOADING SHALL BE DESIGNED BY A STRUCTURAL ENGINEER. CONTRACTOR SHALL COORDINATE WITH OWNERS REPRESENTATIVE FOR FINAL DESIGN. THESE MAY REQUIRE MSE WALLS OR OTHER REINFORCEMENT, THE FINAL DESIGN MAY AFFECT TREES AND PAVEMENT DESIGN.
- DO NOT DIG OR GRADE WITHIN 15 FEET OF THE TRANSMISSION STRUCTURES. GRADING NEAR ELECTRIC TRANSMISSION FACILITIES MUST BE COORDINATED WITH ENERGY PROVIDER PRIOR TO COMMENCEMENT OF GRADING.



CONCRETE SWALE @ WALL



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WOODSON DEVELOPMENT

ISSUE/REVISION RECORD

FOR BIDDING PURPOSES ONLY

PROJECT NAME

WOODSON MIXED USE DEVELOPMENT

500-604 WOODSON DRIVE
BRYAN, TEXAS TBD

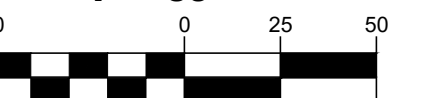
MAP GRID # TBD
MAPSCO # TBD

PROJECT NUMBER

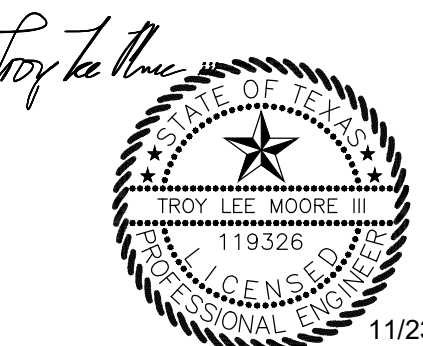
20006

DRAWING FILE
20006-EWRK.DWG

SCALE 1" = 50'



PROFESSIONAL SEAL



PROJECT STATUS

CONCEPT

SHEET TITLE

EARTHWORK CROSS SECTIONS

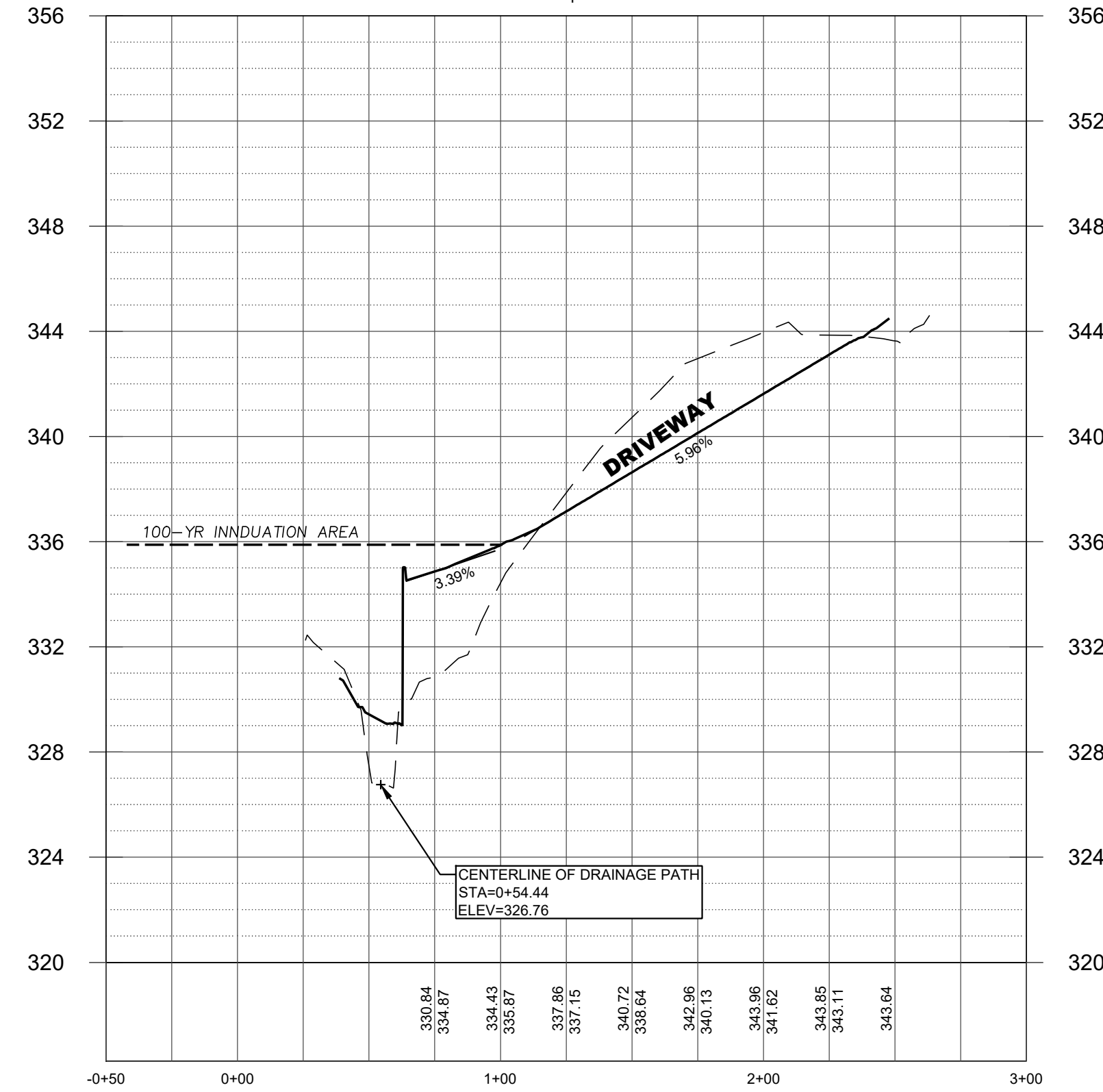
SHEET NUMBER

13 of 34

TBD

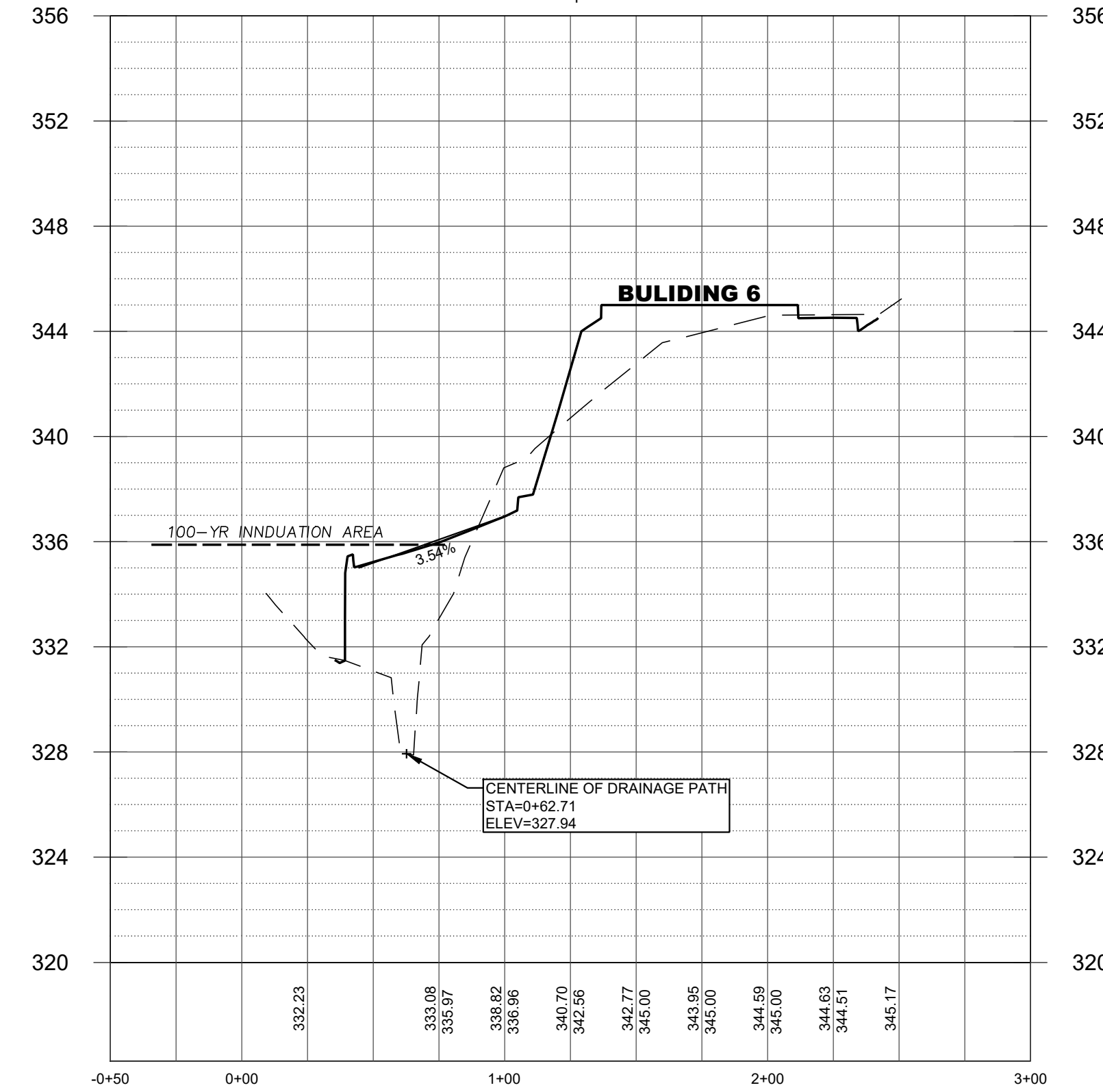
CROSS SECTION A

START: 0+50 | END: 3+00
HORZ: 1"=40' | VERT: 1"=4'



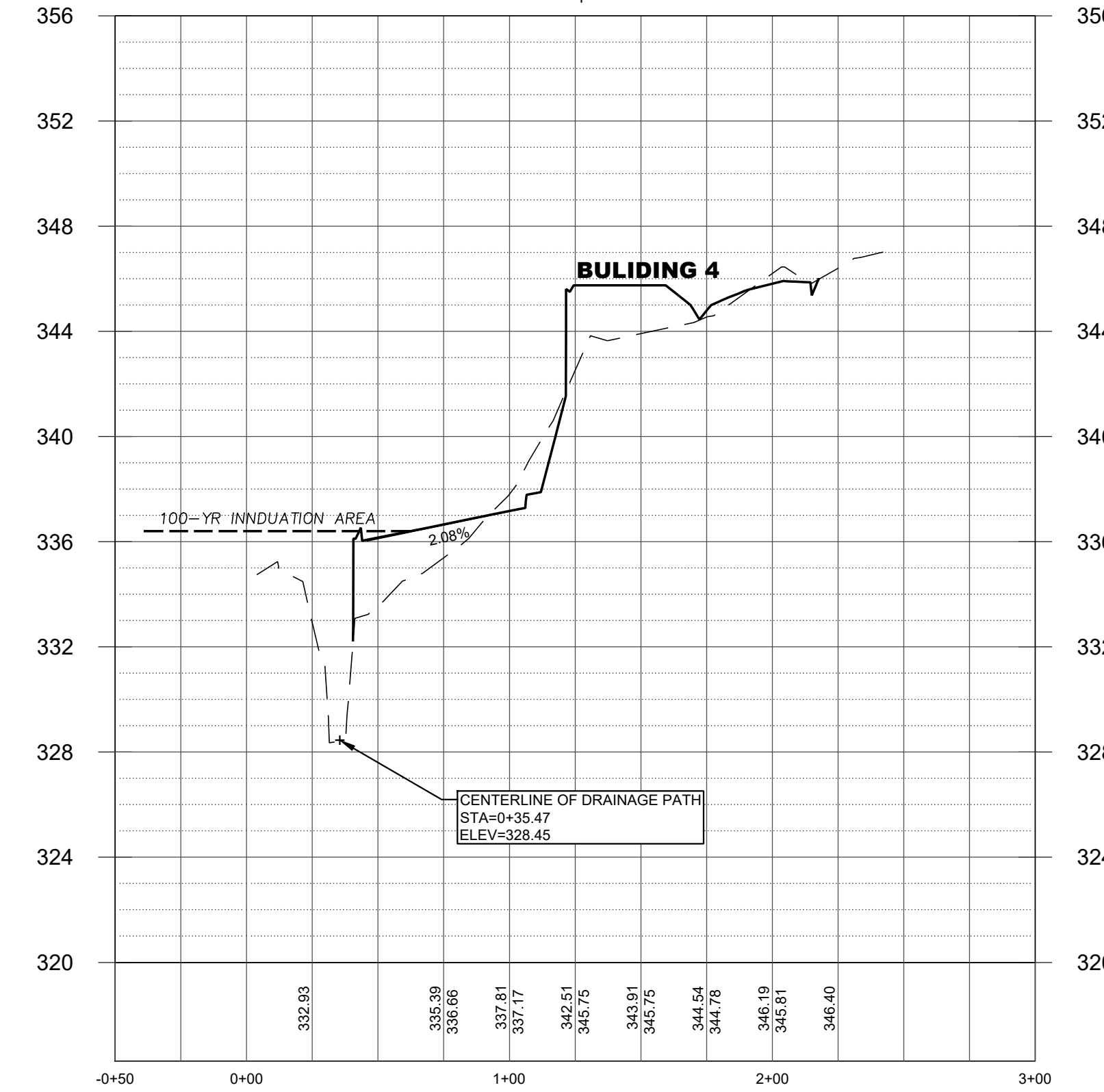
CROSS SECTION B

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HORZ: 1"=40' | VERT: 1"=4'



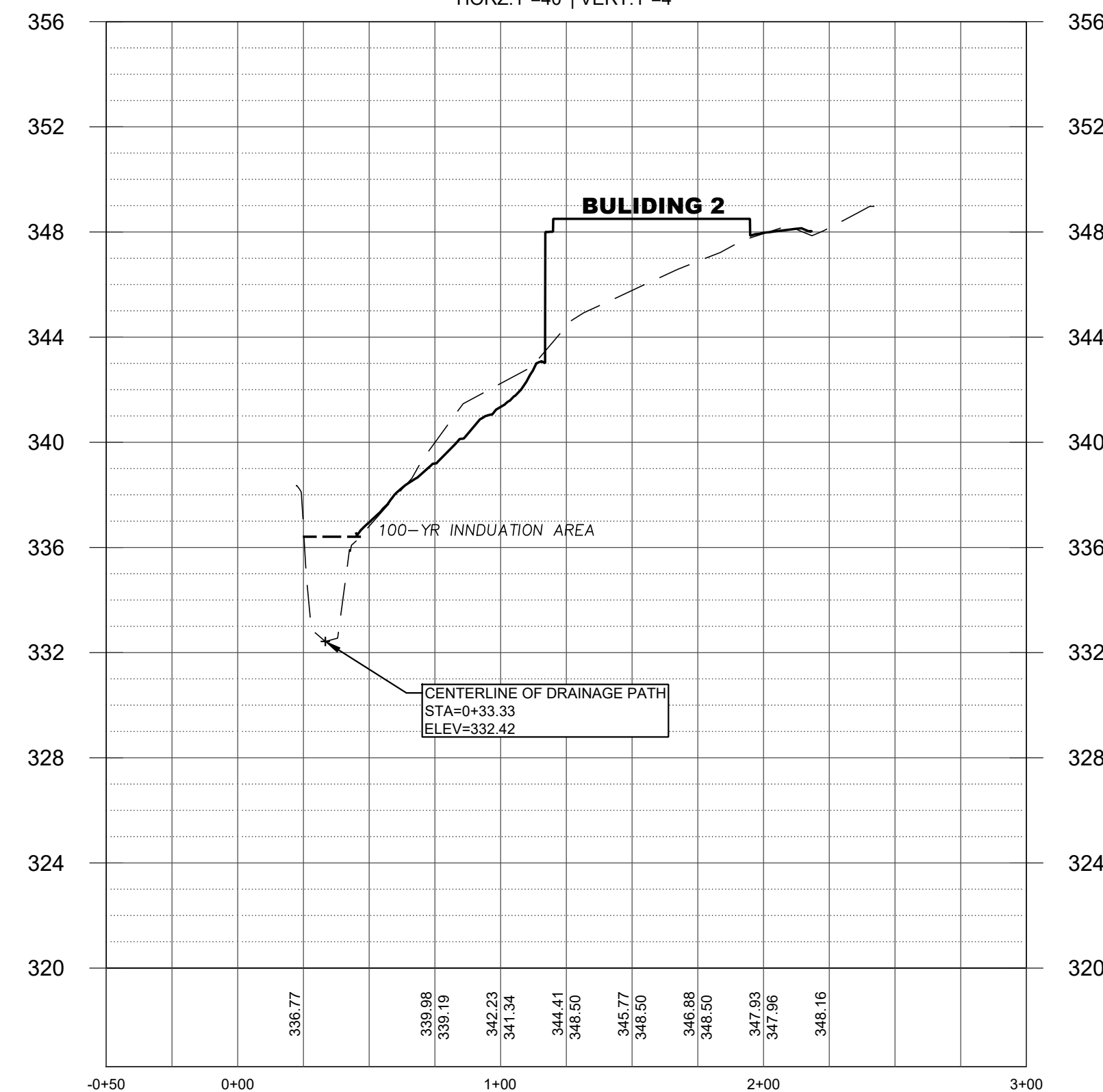
CROSS SECTION C

START: 0+50 | END: 3+00
HORZ: 1"=40' | VERT: 1"=4'



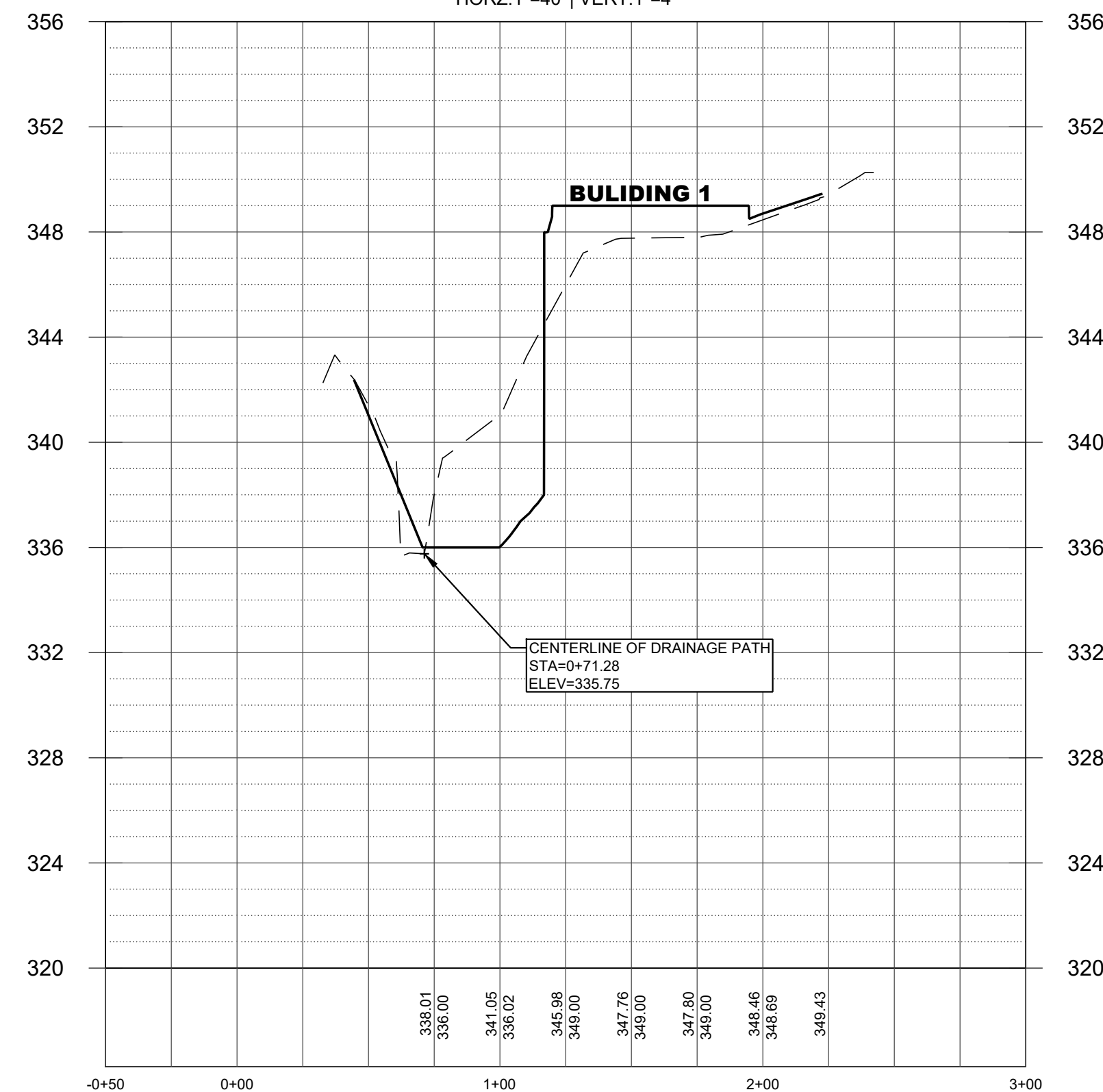
CROSS SECTION D

START: 0+50 | END: 3+00
HORZ: 1"=40' | VERT: 1"=4'



CROSS SECTION E

START: 0+50 | END: 3+00
HORZ: 1"=40' | VERT: 1"=4'



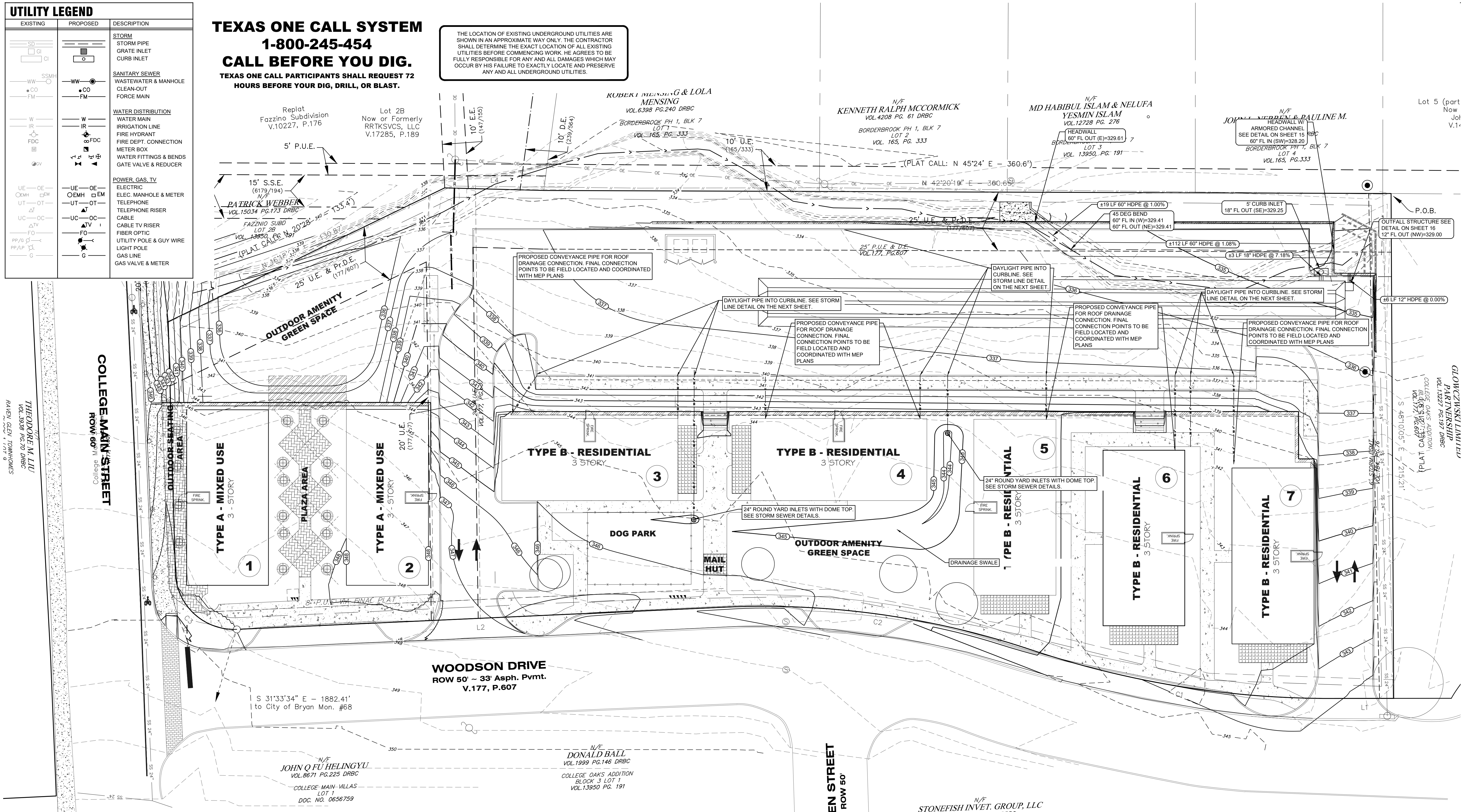
CITY OF BRYAN APPROVAL BLOCK



UTILITY LEGEND		
EXISTING	PROPOSED	DESCRIPTION
SD	SD	STORM PIPE
GI	GI	GRATE INLET
CI	CI	CURB INLET
SSMH	SSMH	SANITARY SEWER
WW	WW	WASTEWATER & MANHOLE
CO	CO	CLEAN-OUT
FM	FM	FORCE MAIN
W	W	WATER DISTRIBUTION
IR	IR	IRRIGATION LINE
FDC	FDC	FIRE HYDRANT
FD	FD	FIRE DEPT. CONNECTION
MB	MB	METER BOX
WF	WF	WATER FITTINGS & BENDS
GV	GV	GATE VALVE & REDUCER
UE	UE	POWER, GAS, TV
OE	OE	ELECTRIC
OMH	OMH	ELEC. MANHOLE & METER
OT	OT	TELEPHONE
UT	UT	TELEPHONE RISER
UC	UC	CABLE
OC	OC	CABLE TV RISER
FO	FO	FIBER OPTIC
PP/PO	PP/PO	UTILITY POLE & GUY WIRE
PP/AP	PP/AP	LIGHT POLE
G	G	GAS LINE
		GAS VALVE & METER

TEXAS ONE CALL SYSTEM
1-800-245-454
CALL BEFORE YOU DIG.
TEXAS ONE CALL PARTICIPANTS SHALL REQUEST 72 HOURS BEFORE YOUR DIG, DRILL, OR BLAST.

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STORM SEWER NOTES

1. THE CONTRACTOR SHALL REFER TO GENERAL NOTES PAGE FOR ADDITIONAL NOTES, DETAILS, SPECIFICATIONS REGARDING STORM SEWER.
2. THE LOCATION OF UNDERGROUND UTILITIES SHOWN ON THIS PLAN ARE BASED ON FIELD SURVEYS AND LOCAL UTILITY COMPANY RECORDS. IT SHALL BE THE CONTRACTOR'S FULL RESPONSIBILITY TO CONTACT THE VARIOUS UTILITY COMPANIES TO LOCATE THEIR UTILITIES PRIOR TO STARTING CONSTRUCTION. (SEE COVER SHEET FOR UTILITY CONTACTS)
3. CONTRACTOR SHALL VERIFY ALL EXISTING INVERTS AND RIM ELEVATIONS PRIOR TO CONSTRUCTION. CONTRACTOR SHALL VERIFY DOWNSTREAM CONNECTION POINT PRIOR TO CONSTRUCTION. CONTACT ENGINEER WITH ANY DISCREPANCIES.
4. ALL PROPOSED STORM SEWER SHALL BE FREE AND CLEAR OF SEDIMENT BUILD UP, DEBRIS, OR OTHER FOREIGN MATTER THAT MAY IMPEDE FLOW PRIOR TO A TEMPORARY CERTIFICATE OF OCCUPANCY.
5. EXISTING DRAINAGE STRUCTURES ARE TO BE INSPECTED AND REPAIRED AS NEEDED. CONTRACTOR IS RESPONSIBLE FOR CLEARING DEBRIS FROM EXISTING PIPES AND SHALL BE INCLUDED IN BASE BID.
6. COMPLETE OR COORDINATE ADJUSTMENT OF OTHER UTILITIES IN ORDER TO CONSTRUCT STORM SEWER TO ELEVATIONS PROVIDED.
7. ANY WORK DONE IN THE PUBLIC RIGHT OF WAY WILL BE COMPLETED ACCORDING TO GOVERNING SPECIFICATIONS AND REGULATIONS.
8. INSTALLATION OF THE STORM SEWER SYSTEM SHALL BEGIN AT THE OUTFALL AND PROGRESS UPSTREAM.
9. THE CONTRACTOR SHALL NOT ADJUST SLOPES OF PIPES WITHOUT PRIOR AUTHORIZATION FROM ENGINEER OF RECORD.

DESIGN PROFESSIONAL

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WOODSON DEVELOPMENT

ISSUE/REVISION RECORD

FOR BIDDING PURPOSES ONLY

PROJECT NAME
WOODSON MIXED USE DEVELOPMENT

500-604 WOODSON DRIVE
 BRYAN, TEXAS TBD

MAP GRID # TBD
 MAPSCO # TBD

PROJECT NUMBER
20006

DRAWING FILE
 20006-STRM.DWG

SCALE 1" = 20'

PROFESSIONAL SEAL

PROFESSIONAL SEAL
 TROY LEE MOORE III
 119326
 STATE OF TEXAS
 11/23/2022

PROJECT STATUS
CONCEPT

SHEET TITLE
STORM SEWER PLAN

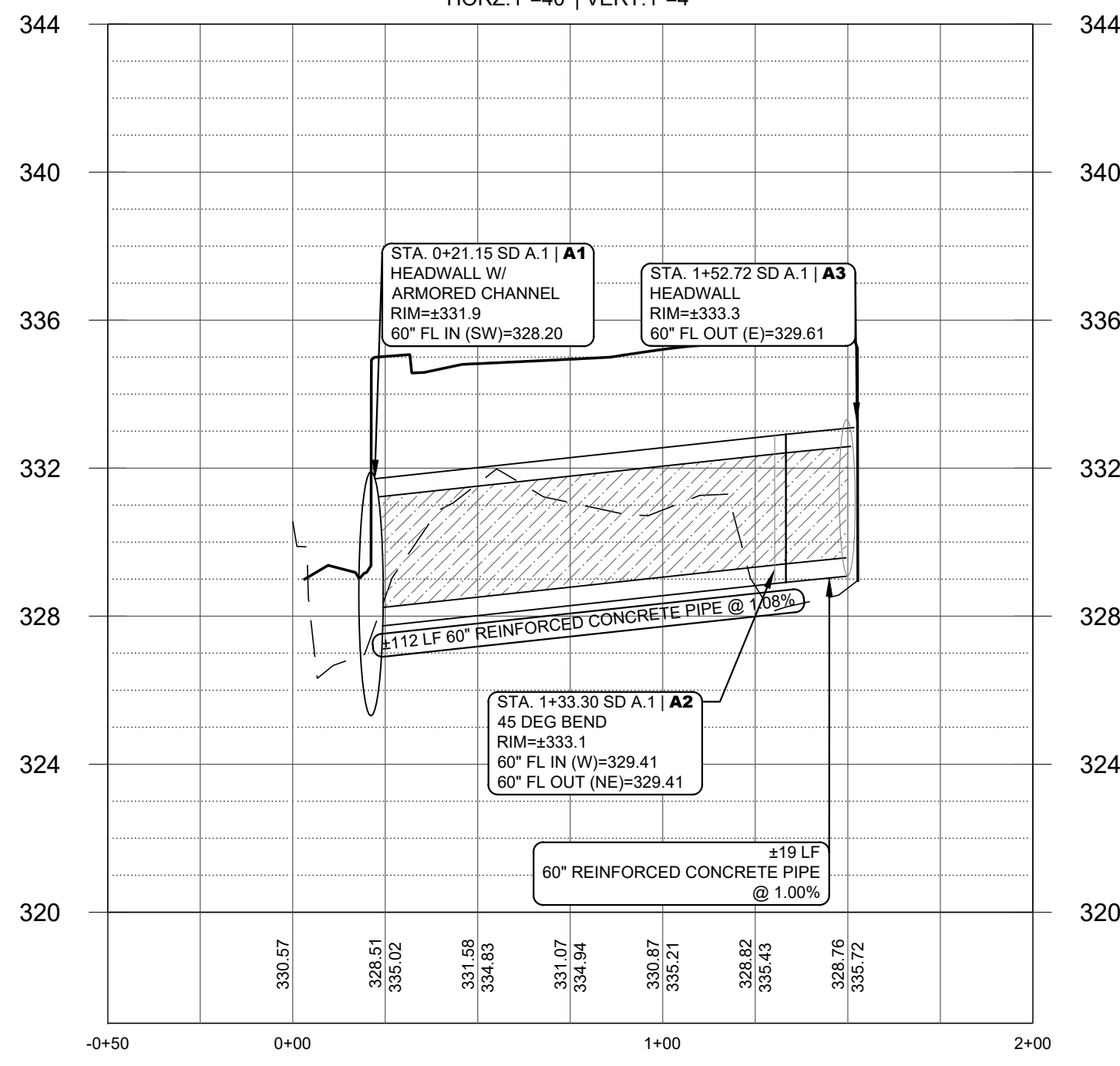
SHEET NUMBER
14 of 34

TBD

CITY OF BRYAN APPROVAL BLOCK

SD A.1

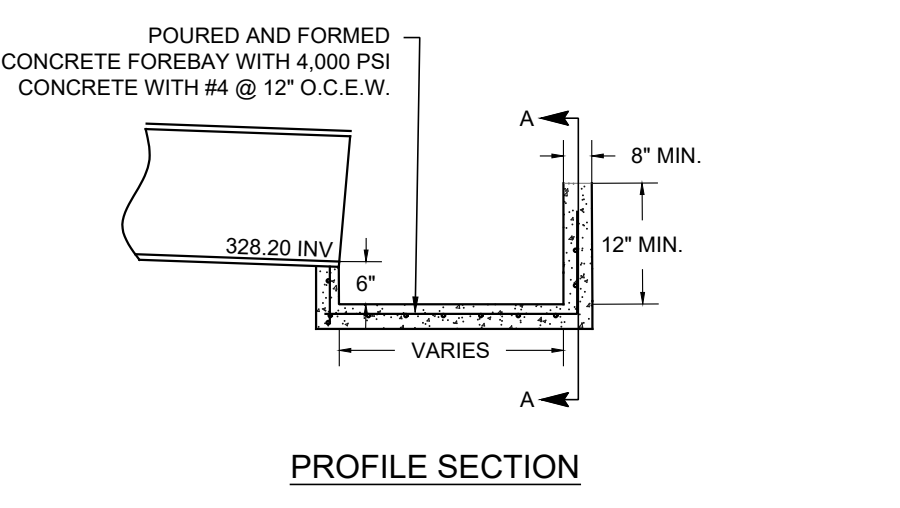
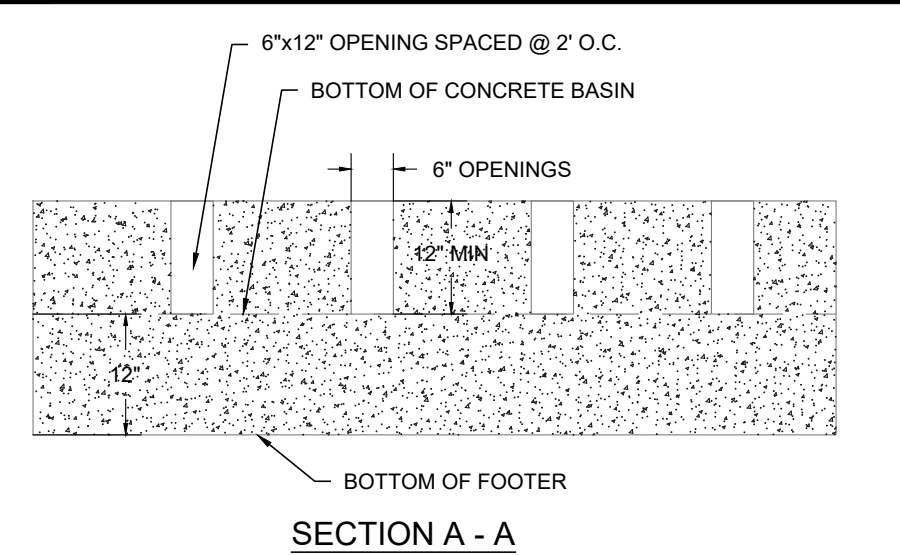
START: -0+50 | END: 2+00
 HORZ: 1"=40' | VERT: 1"=4'



UTILITY LEGEND		
EXISTING	PROPOSED	DESCRIPTION
SD	SD	STORM
GI	GI	STORM PIPE
CI	CI	GRATE INLET
		CURB INLET
SSMH	SSMH	SANITARY SEWER
WW	WW	WASTEWATER & MANHOLE
CO	CO	CLEAN-OUT
FM	FM	FORCE MAIN
W	W	WATER DISTRIBUTION
IR	IR	IRRIGATION LINE
FDC	FDC	FIRE HYDRANT
		FIRE DEPT. CONNECTION
		METER BOX
		WATER FITTINGS & BENDS
		GATE VALVE & REDUCER
UE	UE	POWER, GAS, TV
OEMH	OEMH	ELECTRIC
UT	UT	ELEC. MANHOLE & METER
UC	UC	TELEPHONE
		TELEPHONE RISER
		CABLE
		CABLE TV RISER
		FIBER OPTIC
		UTILITY POLE & GUY WIRE
		LIGHT POLE
		GAS LINE
		GAS VALVE & METER

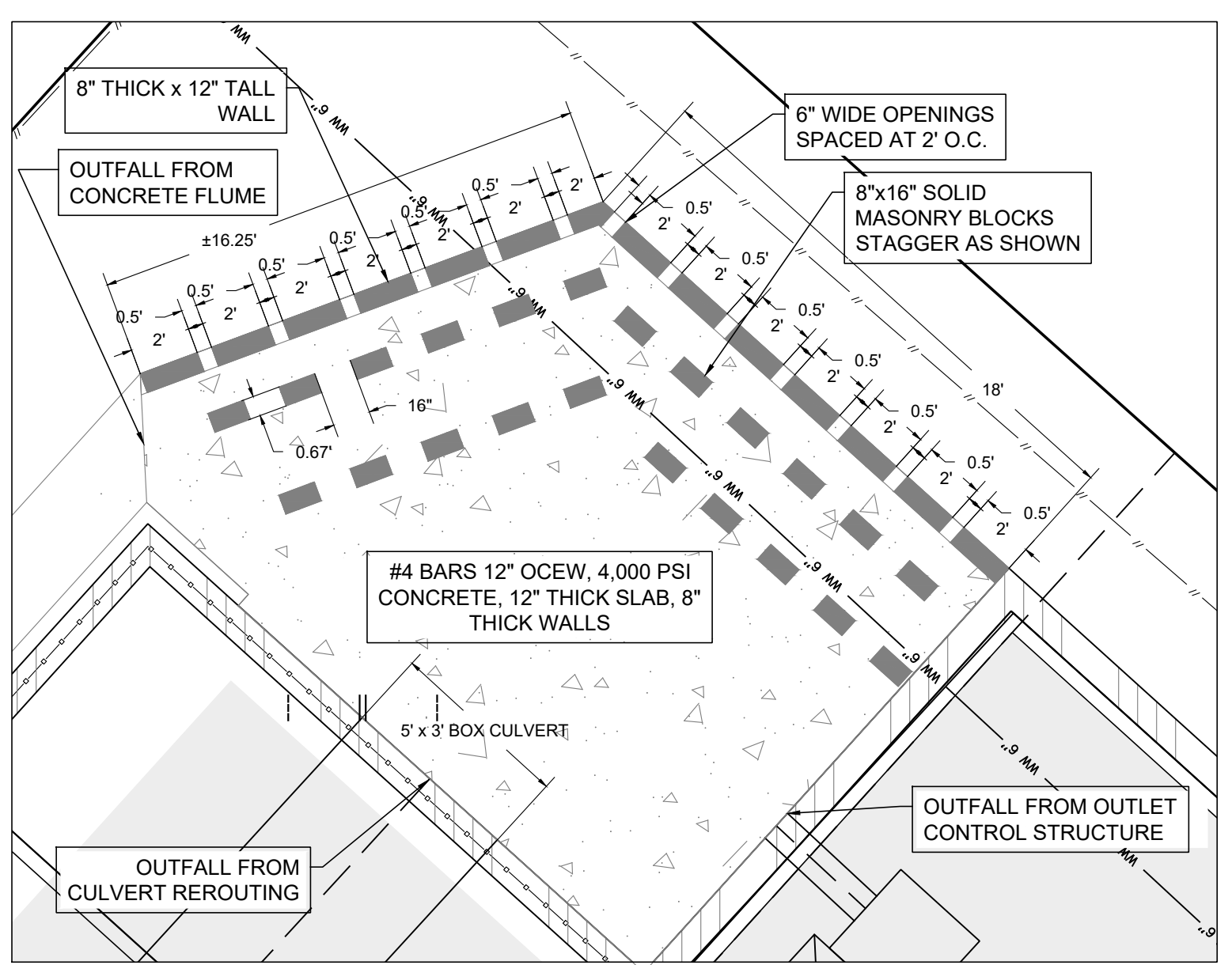
GENERAL PROFILE LEGEND		
EXISTING	PROPOSED	DESCRIPTION
		PROFILE GRADE LINE
		HYDRAULIC GRADE LINE
		PIPE
		MANHOLE / STRUCTURE

PROFILE DATA BAND	
EXISTING GROUND ELEVATION	PROPOSED GROUND ELEVATION



NOTES:
 1. CONTRACTOR SHALL EMBEDDED STRUCTURE INTO EARTHEN POND.
 2. #4 BARS 12" OCEW, 4,000 PSI CONCRETE, 12" THICK SLAB, 8" THICK WALLS

1 FOREBAY DETAIL 1 of 2 N.T.S.



2 FOREBAY DETAIL 2 of 2 N.T.S.

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**WOODSON
 DEVELOPMENT**

ISSUE/REVISION RECORD

FOR BIDDING PURPOSES ONLY

PROJECT NAME
**WOODSON MIXED
 USE DEVELOPMENT**

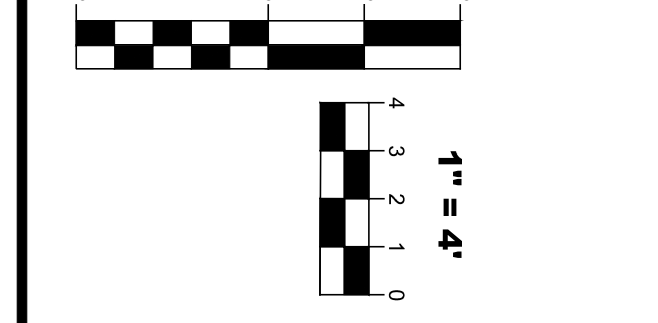
**500-604 WOODSON DRIVE
 BRYAN, TEXAS TBD**

**MAP GRID # TBD
 MAPSCO # TBD**

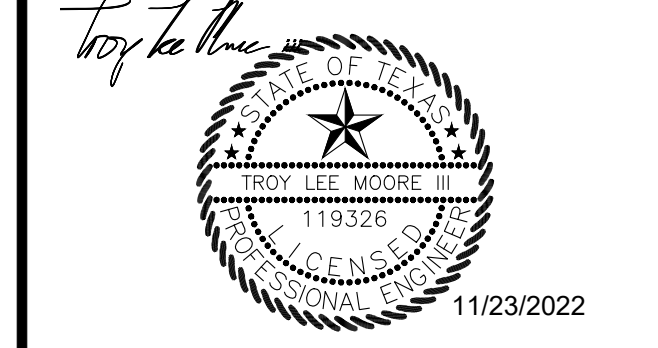
PROJECT NUMBER
20006

DRAWING FILE
20006-STRM.DWG

SCALE 1" = 40'



PROFESSIONAL SEAL



PROJECT STATUS
CONCEPT

SHEET TITLE
**STORM SEWER
 PROFILES**

SHEET NUMBER
15 of 34
 TBD

CITY OF BRYAN APPROVAL BLOCK





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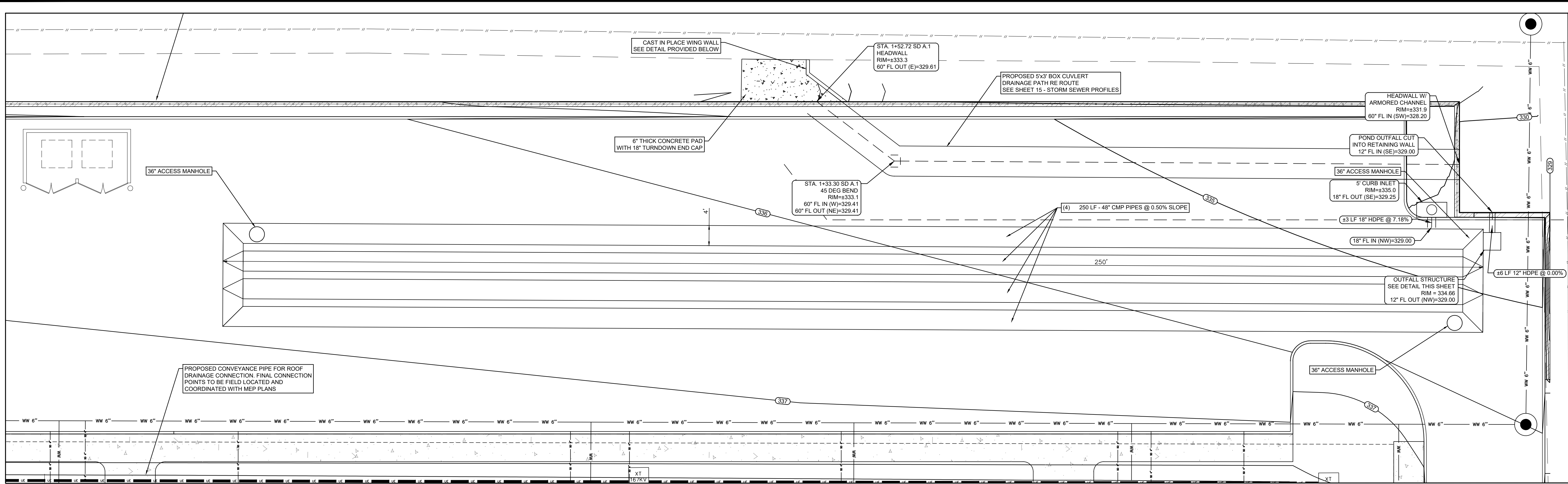
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**WOODSON
 DEVELOPMENT**

ISSUE/REVISION RECORD

FOR BIDDING PURPOSES ONLY



STAGE STORAGE TABLE

ELEV.	TOTAL VOL. (cu. ft.)
329	0.0000
329.52	0.0040
330.05	0.0220
330.58	0.0570
331.1	0.1020
331.63	0.1510
332.15	0.1990
332.67	0.2440
333.2	0.2790
333.73	0.2970
334.25	0.3010

EXISTING VERSUS PROPOSED CONDITIONS

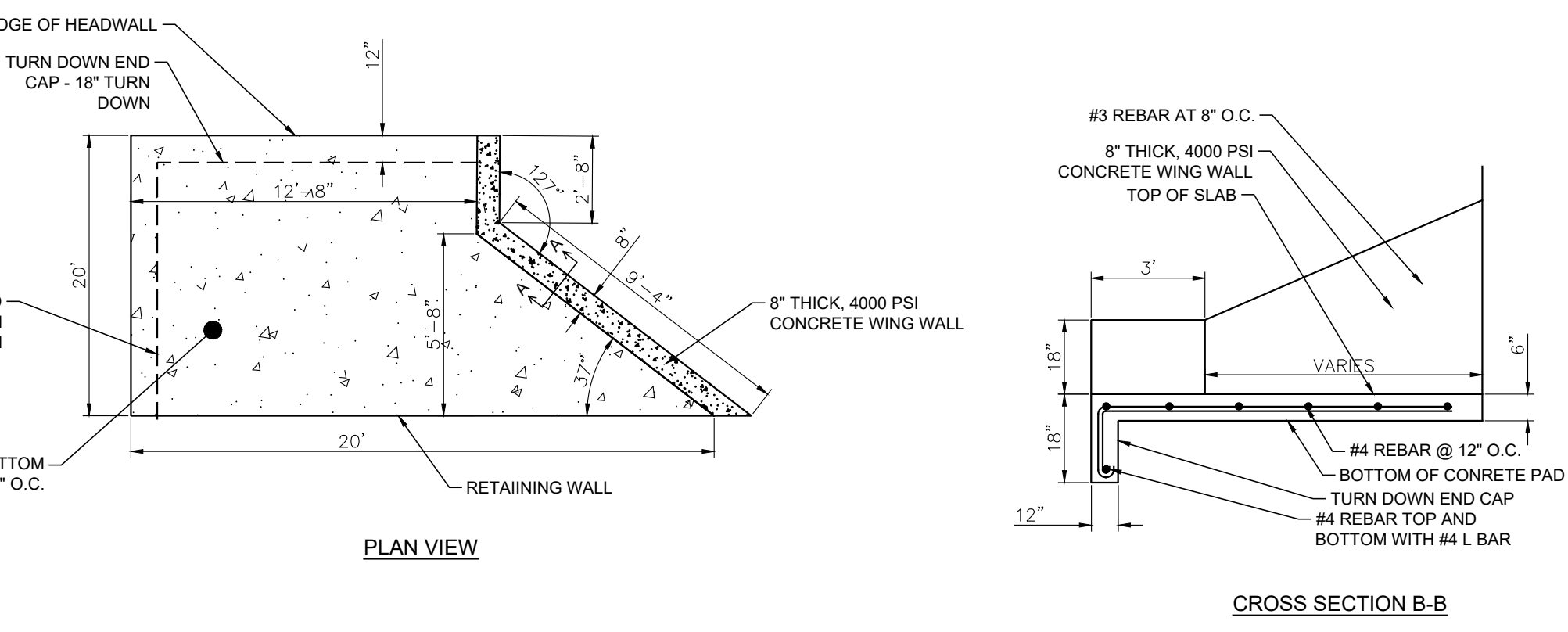
STORM EVENT	EXISTING DISCHARGE (CFS)	PROPOSED DISCHARGE (CFS)	DIFFERENCE
2-YR	158.80	157.60	-1.20
10-YR	218.8	217.30	-1.50
25-YR	261.3	256.10	-5.20
100-YR	310.0	310.00	0.00

POND DISCHARGE TABLE

STORM EVENT	ELEVATION	STORAGE, ACFT	RELEASE, CFS	DEPTH, FT.
2-YR	331.60	0.20	4.20	2.60
10-YR	332.40	0.20	6.10	3.40
25-YR	332.90	0.30	7.60	3.90
100-YR	333.70	0.30	10.70	4.70

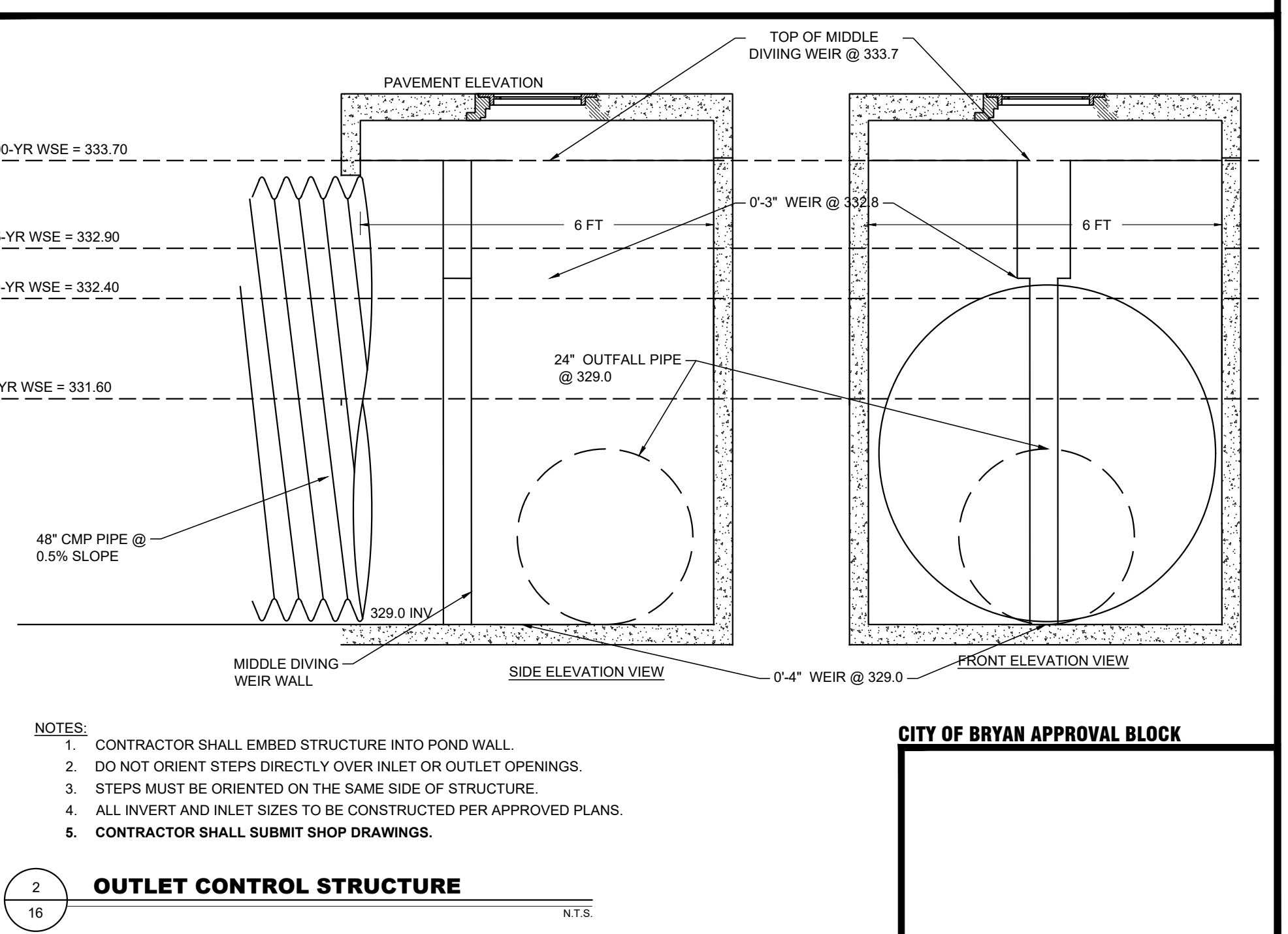
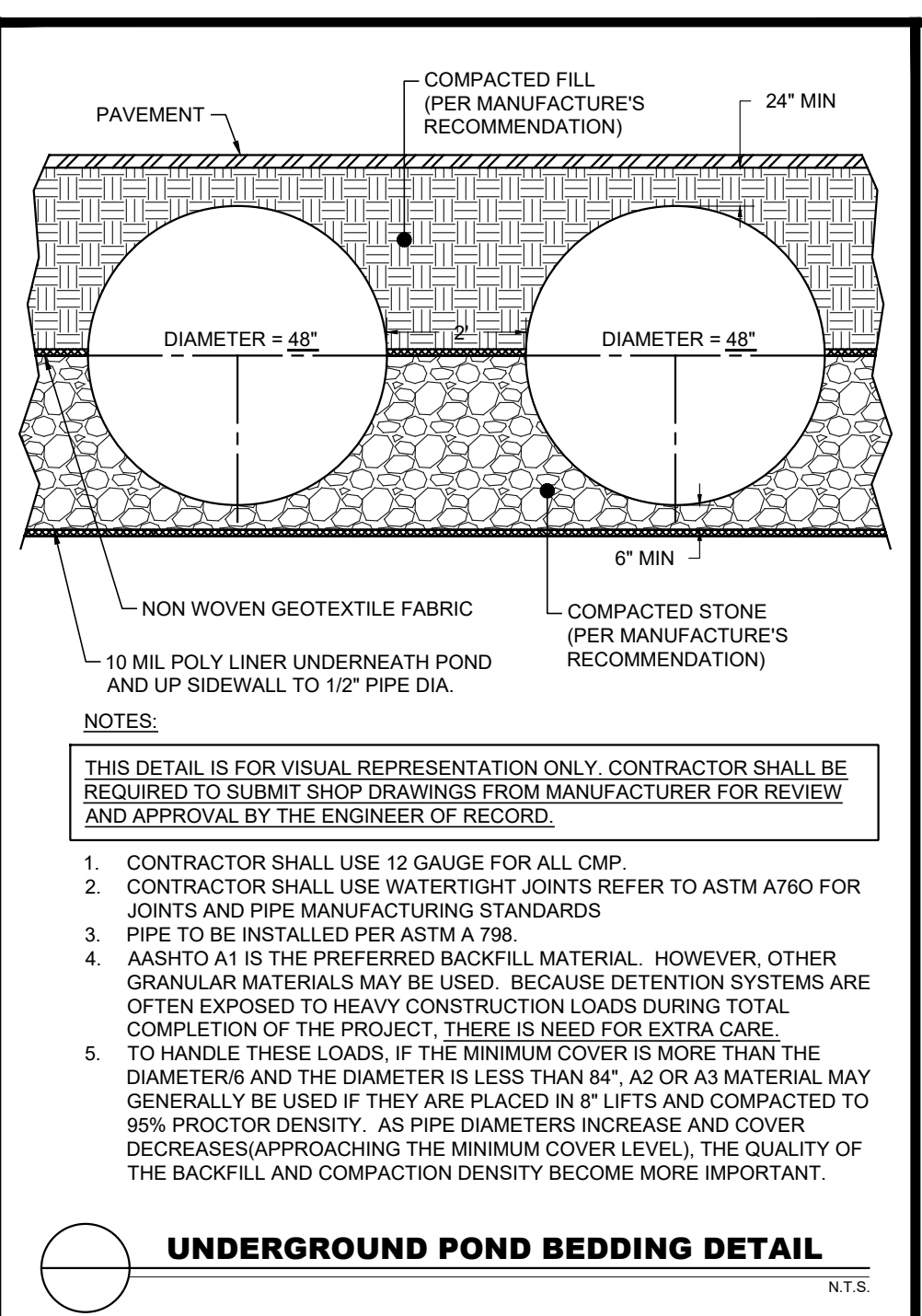
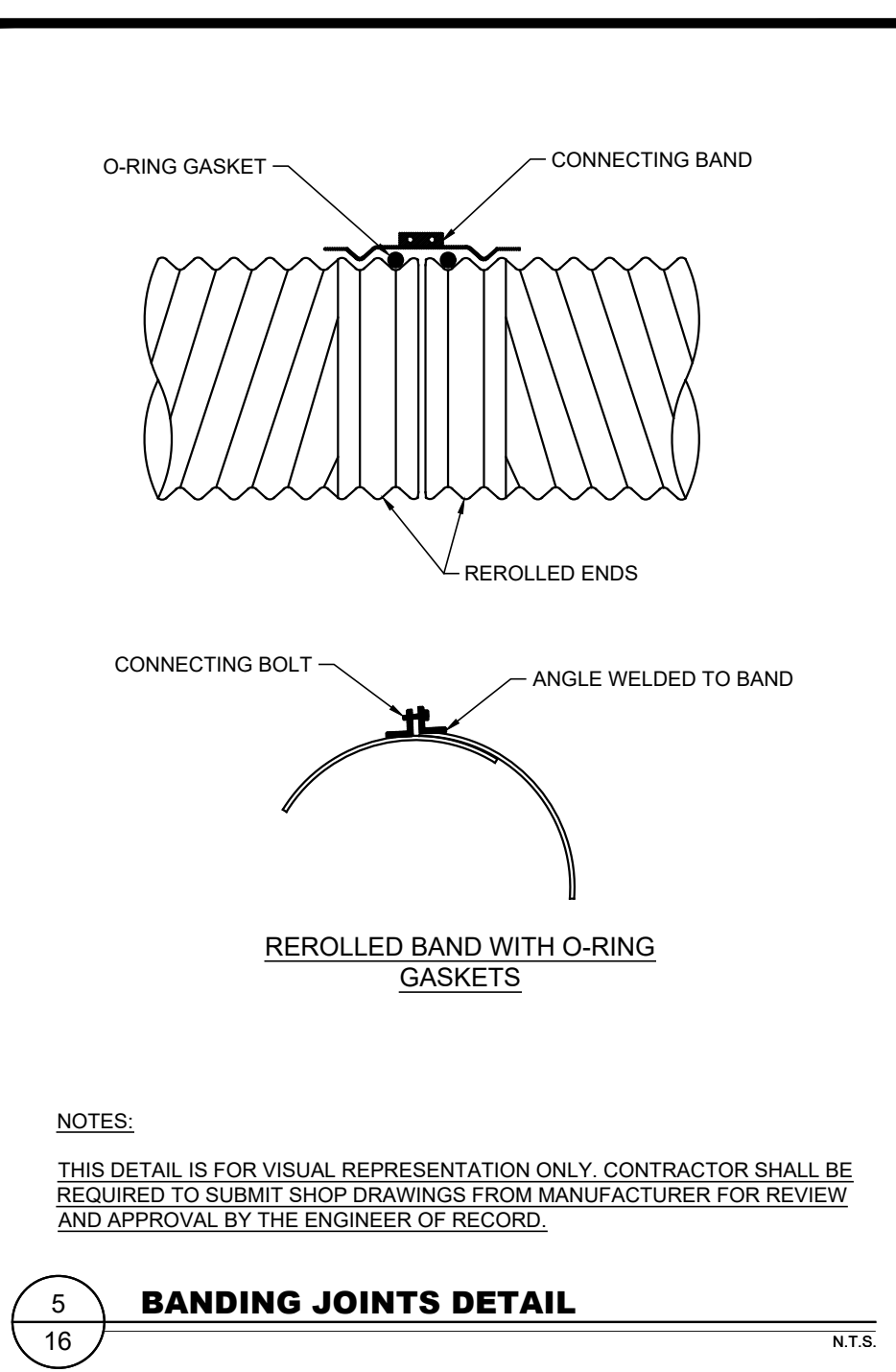
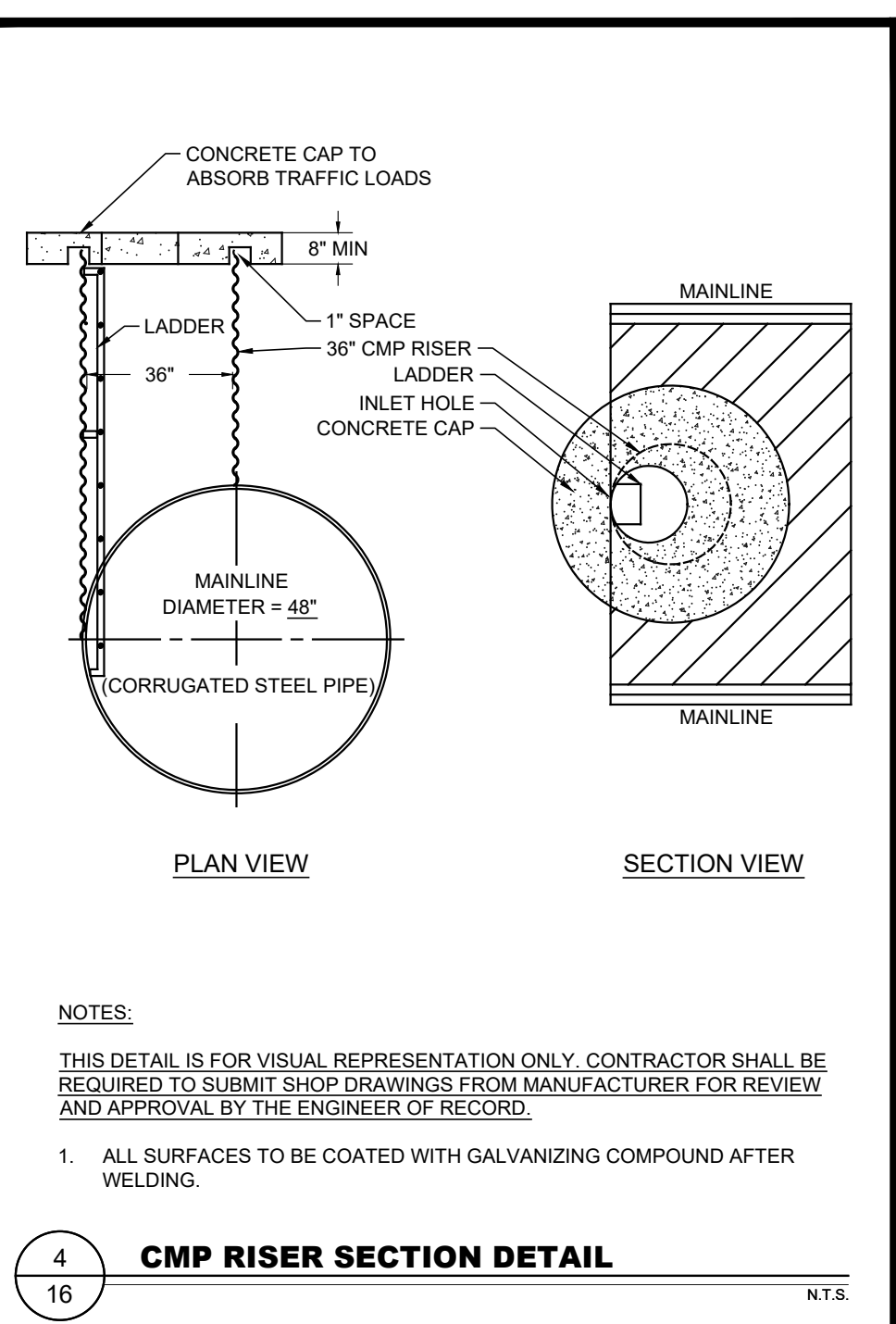
ORIFICE / WEIR TABLE

TYPE	ELEVATION	LENGTH / SIZE	#	COEFF.
RECT. WEIR	329.0	0'-4"	1	3.00
RECT. WEIR	332.8	0'-3"	1	3.00



UNDERGROUND DETENTION POND NOTES

- CONTRACTOR SHALL REFER TO GENERAL NOTES SHEET FOR ADDITIONAL INFORMATION REGARDING GRADING, STORM PIPING, AND COMPACTION REQUIREMENTS.
 - PIPE SLOPES SHALL BE SET AT 0.50%.
 - CONTRACTOR SHALL INCLUDE IN BASE BID AN AS-BUILT SURVEY FOR THE OUTLET CONTROL STRUCTURE.
 - DURING SITE CONSTRUCTION, THE SEDIMENT LOAD TO THE SEDIMENT FOREBAY SHALL BE CLOSELY MONITORED AFTER EVERY STORM EVENT. IF HEAVY SEDIMENT LOADS ARE DETECTED DURING AN INSPECTION, THE SOURCE SHOULD BE CORRECTED. SEDIMENT SHALL BE REMOVED FROM THE SEDIMENT FOREBAY WHEN ONE-THIRD OF THE FOREBAY VOLUME IS LOST.
- MAINTENANCE NOTES**
- ALL MAINTENANCE ACTIVITIES, INCLUDING REPAIRS AND INSPECTIONS SHALL BE THE RESPONSIBILITY OF THE PROPERTY OWNER.
 - PROPERTY OWNER SHALL PROVIDED MAINTENANCE RECORDS AT REQUEST OF THE REGULATORY AGENCY.
 - QUARTERLY - CLEAN AND REMOVE DEBRIS FROM INLET AND OUTLET STRUCTURES.
 - QUARTERLY - INSPECT FOR STANDING WATER INSIDE THE PIPE 72 HOURS AFTER A RAINFALL EVENT.
 - QUARTERLY - INSPECT FOR DAMAGE, PAYING PARTICULAR ATTENTION TO THE CONTROL STRUCTURE.
 - QUARTERLY - NOTE SIGNS OF HYDROCARBON BUILD-UP, AND REMOVE APPROPRIATELY.
 - ANNUALLY - MONITOR FOR SEDIMENT ACCUMULATION IN THE FACILITY AND THE OUTLET CONTROL STRUCTURE.
 - ANNUALLY - CHECK ALL CONTROL GATES, VALVES OR OTHER MECHANICAL DEVICES.



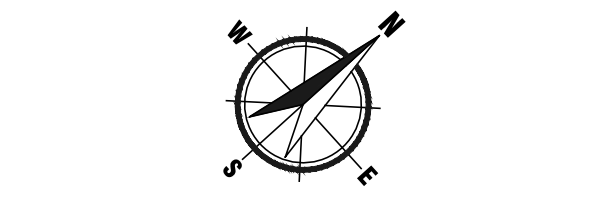
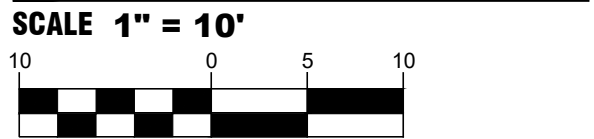
**PROJECT NAME
 WOODSON MIXED
 USE DEVELOPMENT**

500-604 WOODSON DRIVE
 BRYAN, TEXAS TBD

MAP GRID # TBD
 MAPSCO # TBD

PROJECT NUMBER
20006

DRAWING FILE
 20006-POND.DWG



PROFESSIONAL SEAL



**PROJECT STATUS
 CONCEPT**

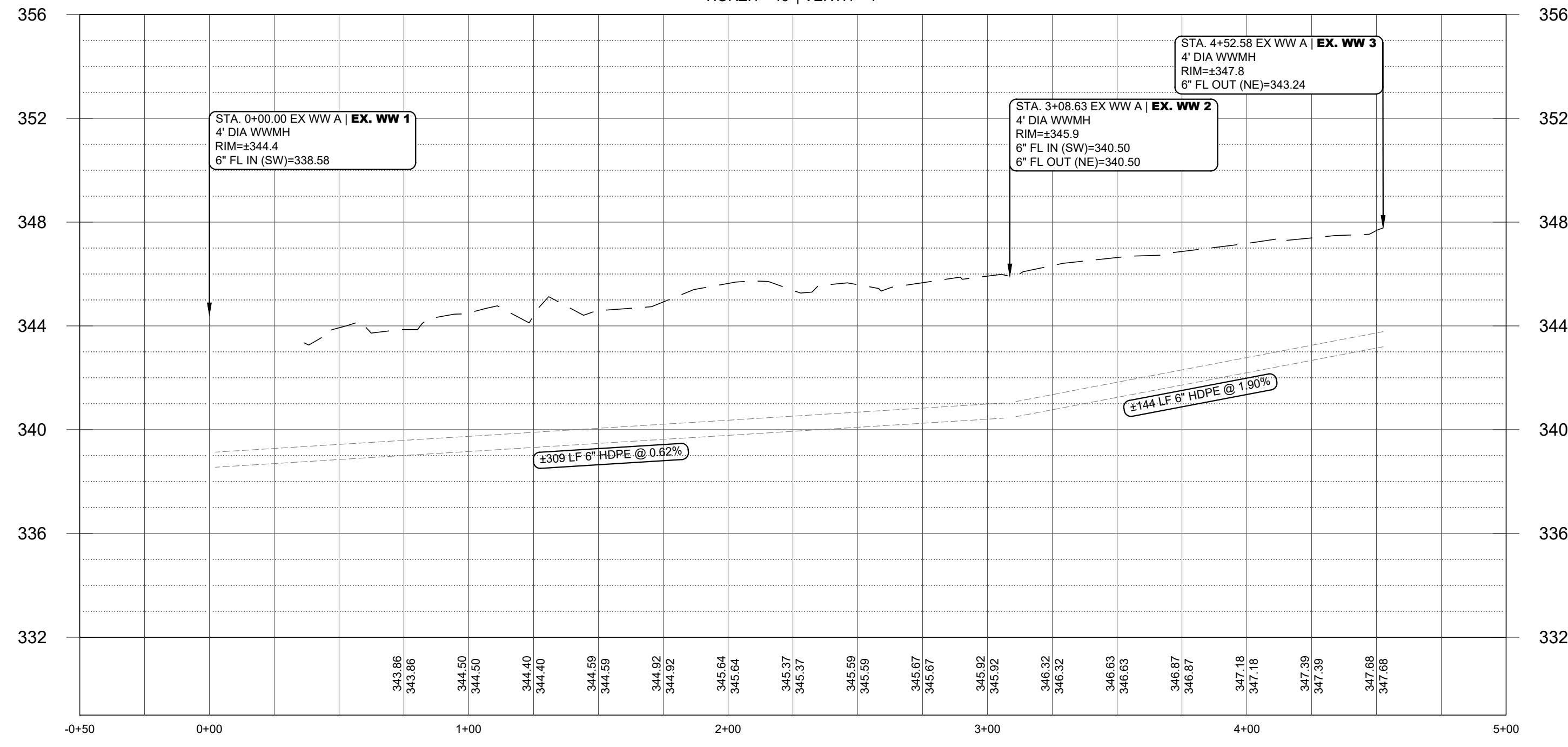
**SHEET TITLE
 UNDERGROUND
 DETENTION POND
 PLAN**

SHEET NUMBER
16 of 34

TBD

PUBLIC SEWER MAIN EX WW A

START: 0+50 | END: 5+00
HORZ: 1"=40' | VERT: 1"=4'



GENERAL PROFILE LEGEND		
EXISTING	PROPOSED	DESCRIPTION
		PROFILE GRADE LINE
		HYDRAULIC GRADE LINE
		PIPE
		MANHOLE / STRUCTURE
PROFILE DATA BAND		
EXISTING GROUND ELEVATION	1140.0	PROPOSED PIPE FL ELEVATION

DESIGN PROFESSIONAL

M3 ENGINEERING
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AUSTIN, TEXAS 78704
PH: 512.820.3265
FIRM # 18863

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CONSTRUCTION MANAGEMENT

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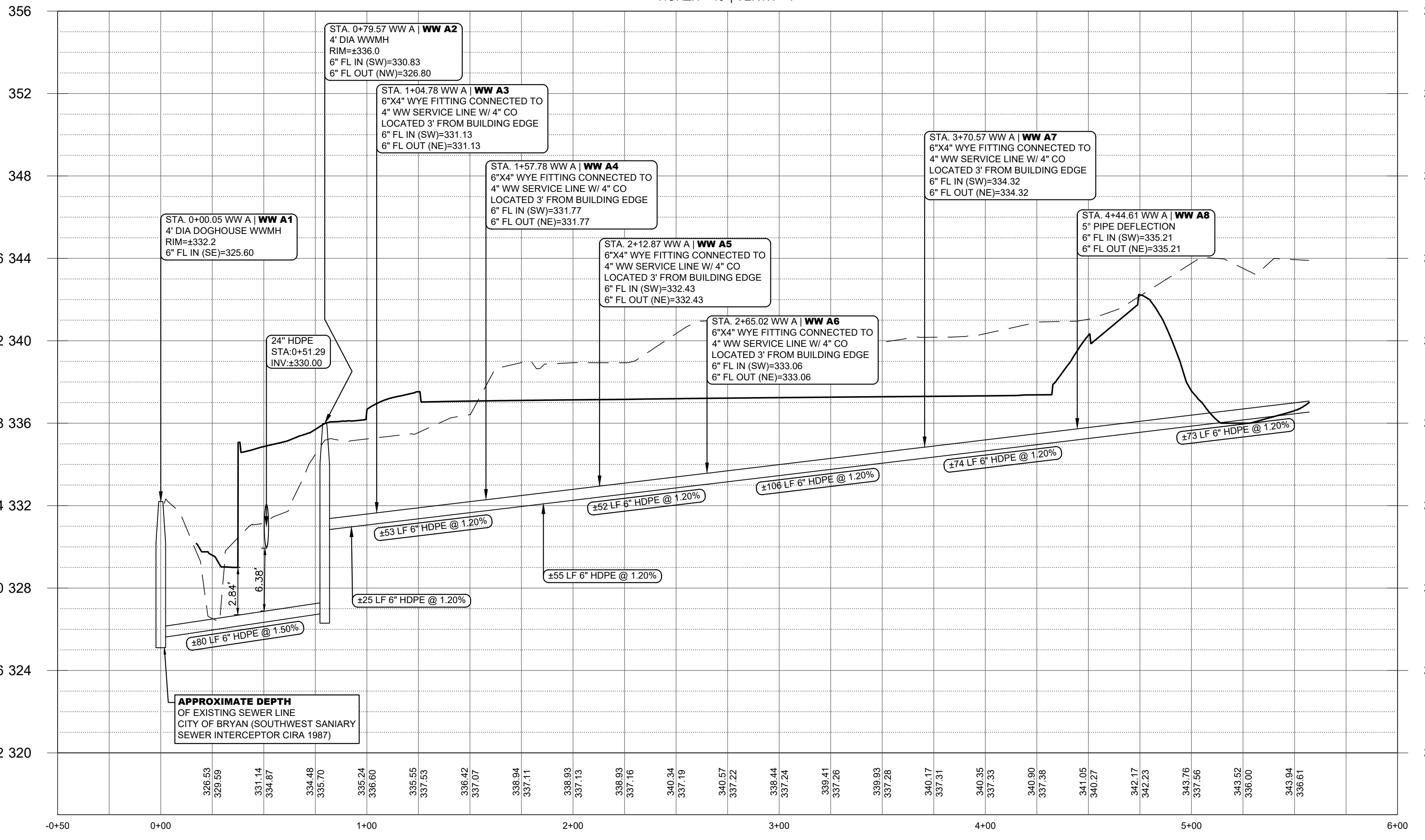
WOODSON DEVELOPMENT

ISSUE/REVISION RECORD

FOR BIDDING PURPOSES ONLY

PRIVATE SEWER SERVICE WW A

START: 0+50 | END: 6+00
HORZ: 1"=40' | VERT: 1"=4'



CITY OF BRYAN APPROVAL BLOCK

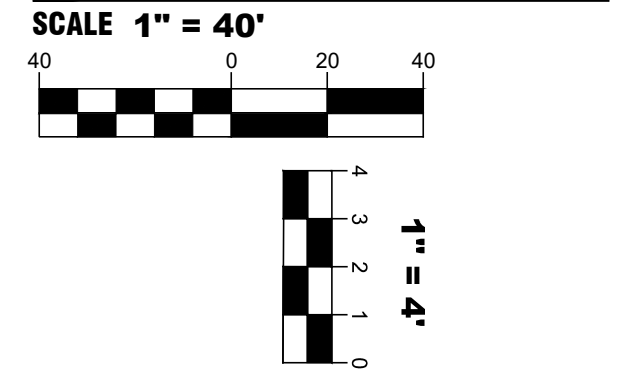
PROJECT NAME WOODSON MIXED USE DEVELOPMENT

500-604 WOODSON DRIVE
BRYAN, TEXAS TBD

MAP GRID # TBD
MAPSCO # TBD

PROJECT NUMBER
20006

DRAWING FILE
20006-UTLY.DWG



PROFESSIONAL SEAL

PROJECT STATUS
CONCEPT

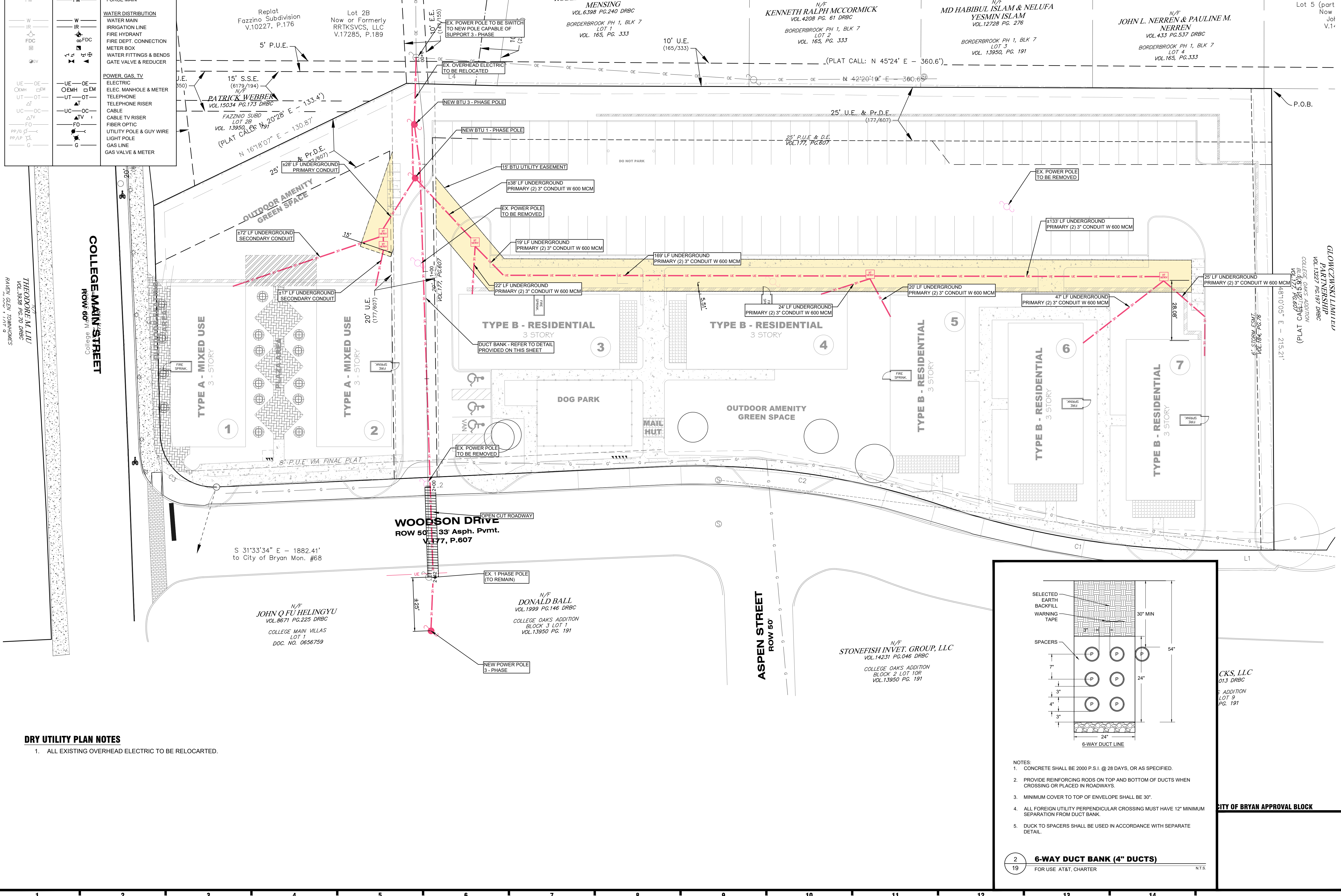
SHEET TITLE
SEWER PROFILES

SHEET NUMBER
18 of 34
TBD

UTILITY LEGEND		
EXISTING	PROPOSED	DESCRIPTION
SD	SD	STORM PIPE
GI	GI	GRATE INLET
CI	CI	CURB INLET
SSMH	SSMH	SANITARY SEWER
WW	WW	WASTEWATER & MANHOLE
CO	CO	CLEAN-OUT
FM	FM	FORCE MAIN
W	W	WATER DISTRIBUTION
IR	IR	IRRIGATION LINE
FDC	FDC	FIRE HYDRANT
FD	FD	FIRE DEPT. CONNECTION
MB	MB	METER BOX
WF	WF	WATER FITTINGS & BENDS
GV	GV	GATE VALVE & REDUCER
UE	UE	POWER, GAS, TV
OE	OE	ELECTRIC
QMH	QMH	ELEC. MANHOLE & METER
OT	OT	TELEPHONE
UC	UC	TELEPHONE RISER
OC	OC	CABLE
CTV	CTV	CABLE TV RISER
FO	FO	FIBER OPTIC
PP/P	PP/P	UTILITY POLE & GUY WIRE
LP	LP	LIGHT POLE
G	G	GAS LINE
		GAS VALVE & METER

TEXAS ONE CALL SYSTEM
1-800-245-454
CALL BEFORE YOU DIG.
TEXAS ONE CALL PARTICIPANTS SHALL REQUEST 72 HOURS BEFORE YOUR DIG, DRILL, OR BLAST.

THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. HE AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MAY OCCUR BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.



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WOODSON DEVELOPMENT

ISSUE/REVISION RECORD

FOR BIDDING PURPOSES ONLY

PROJECT NAME
WOODSON MIXED USE DEVELOPMENT

500-604 WOODSON DRIVE
 BRYAN, TEXAS TBD

MAP GRID # TBD
 MAPSCO # TBD

PROJECT NUMBER
20006

DRAWING FILE
 20006-DRYU.DWG

SCALE 1" = 50'

PROFESSIONAL SEAL

PROJECT STATUS
CONCEPT

SHEET TITLE
DRY UTILITIES PLAN

SHEET NUMBER
19 of 34

TBD

DRY UTILITY PLAN NOTES

1. ALL EXISTING OVERHEAD ELECTRIC TO BE RELOCATED.

**6-WAY DUCT BANK (4\"/>
 FOR USE AT&T, CHARTER**

NOTES:

- CONCRETE SHALL BE 2000 P.S.I. @ 28 DAYS, OR AS SPECIFIED.
- PROVIDE REINFORCING RODS ON TOP AND BOTTOM OF DUCTS WHEN CROSSING OR PLACED IN ROADWAYS.
- MINIMUM COVER TO TOP OF ENVELOPE SHALL BE 30\"/>

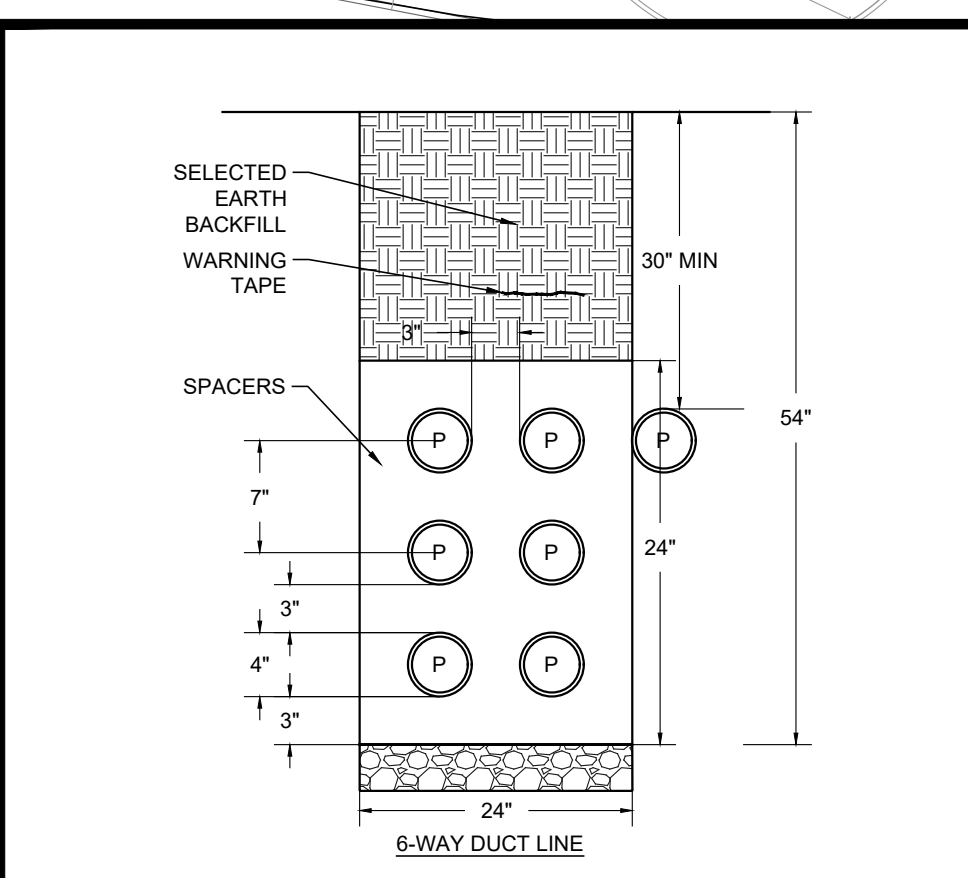
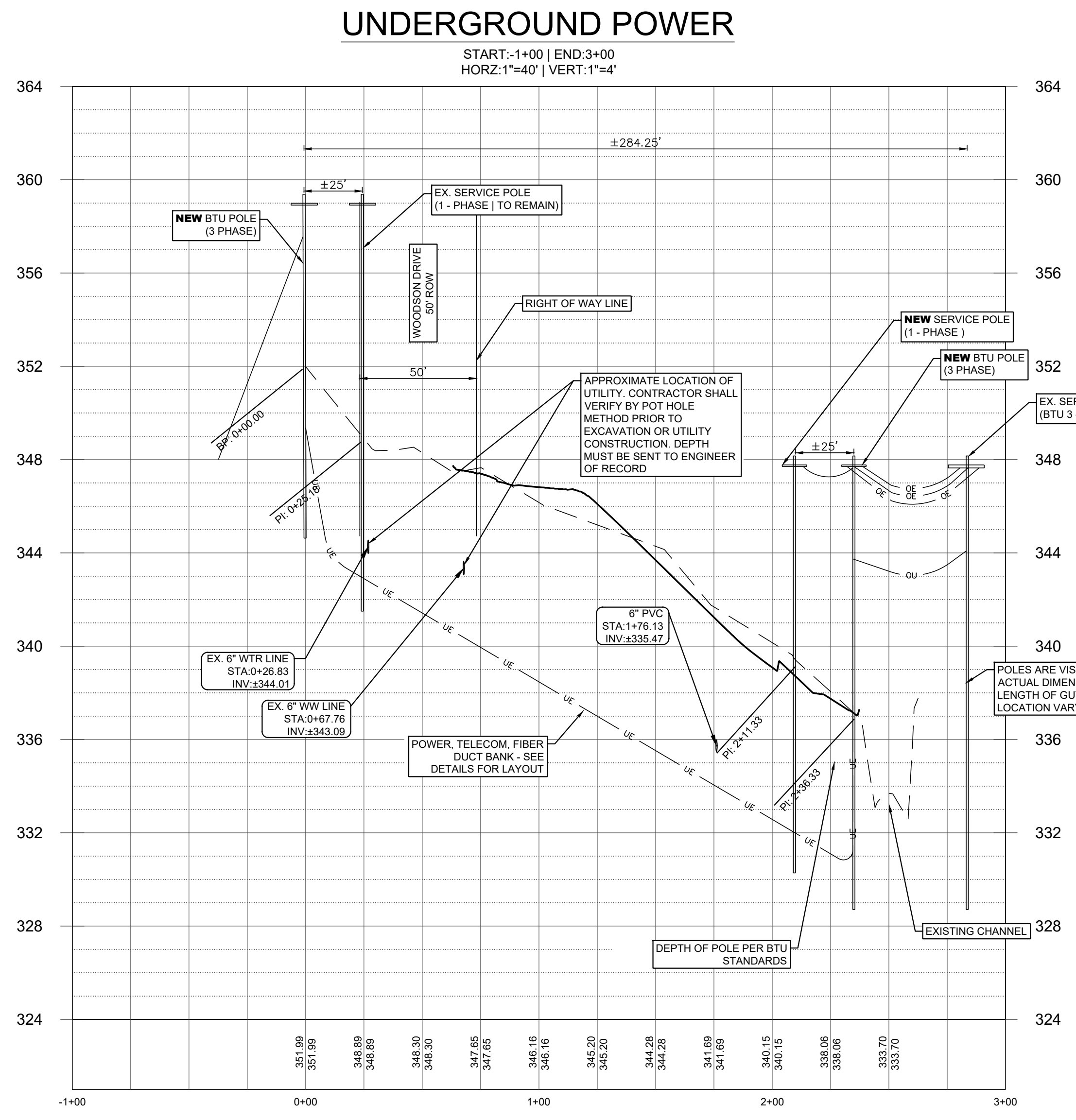
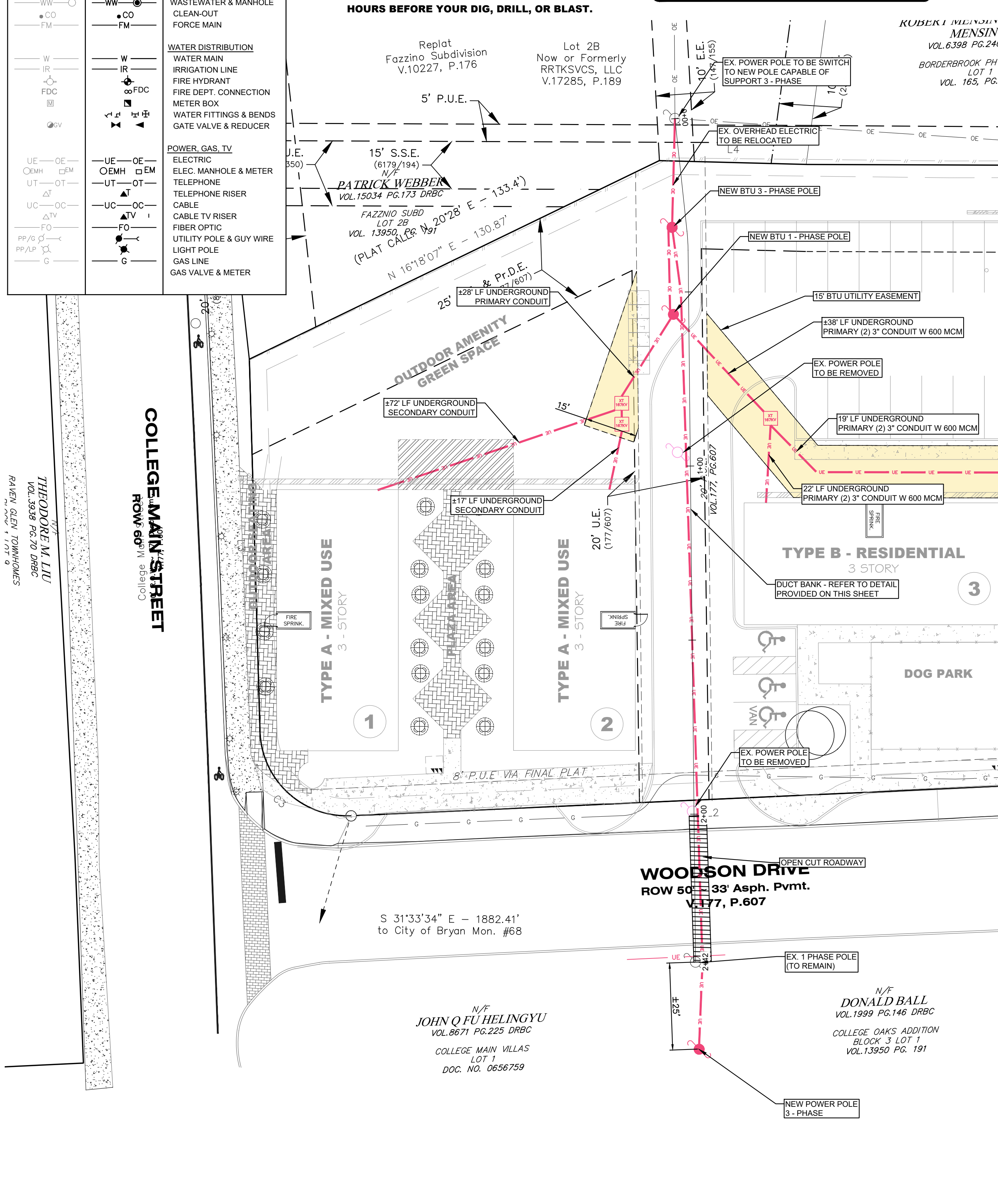
CKS, LLC
 013 DRBC
 ADDITION
 LOT 9
 PG. 191

CITY OF BRYAN APPROVAL BLOCK

UTILITY LEGEND		
EXISTING	PROPOSED	DESCRIPTION
SD	SD	STORM PIPE
GI	GI	GRATE INLET
CI	CI	CURB INLET
SSMH	SSMH	SANITARY SEWER
WW	WW	WASTEWATER & MANHOLE
CO	CO	CLEAN-OUT
FM	FM	FORCE MAIN
W	W	WATER MAIN
IR	IR	IRRIGATION LINE
FDC	FDC	FIRE DEPT. CONNECTION
OT	OT	METER BOX
OT	OT	WATER FITTINGS & BENDS
OT	OT	GATE VALVE & REDUCER
UE	UE	POWER, GAS, TV
OEMH	OEMH	ELECTRIC
OT	OT	ELEC. MANHOLE & METER
OT	OT	TELEPHONE
OT	OT	TELEPHONE RISER
UC	UC	CABLE
UC	UC	CABLE TV RISER
FO	FO	FIBER OPTIC
PP/AP	PP/AP	UTILITY POLE & GUY WIRE
G	G	LIGHT POLE
G	G	GAS LINE
G	G	GAS VALVE & METER

TEXAS ONE CALL SYSTEM
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CALL BEFORE YOU DIG.
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- NOTES:
- CONCRETE SHALL BE 2000 P.S.I. @ 28 DAYS, OR AS SPECIFIED.
 - PROVIDE REINFORCING RODS ON TOP AND BOTTOM OF DUCTS WHEN CROSSING OR PLACED IN ROADWAYS.
 - MINIMUM COVER TO TOP OF ENVELOPE SHALL BE 30\"/>

2 6-WAY DUCT BANK (4\"/>

DRY UTILITY PLAN NOTES
 1. ALL EXISTING OVERHEAD ELECTRIC TO BE RELOCATED.

DESIGN PROFESSIONAL

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WOODSON DEVELOPMENT

ISSUE/REVISION RECORD

FOR BIDDING PURPOSES ONLY

PROJECT NAME
WOODSON MIXED USE DEVELOPMENT

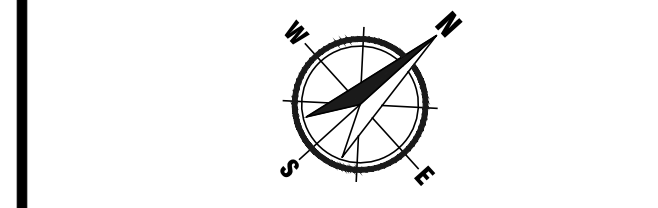
500-604 WOODSON DRIVE
 BRYAN, TEXAS TBD

MAP GRID # TBD
 MAPSCO # TBD

PROJECT NUMBER
20006

DRAWING FILE
 20006-DRYU.DWG

SCALE 1" = 50'

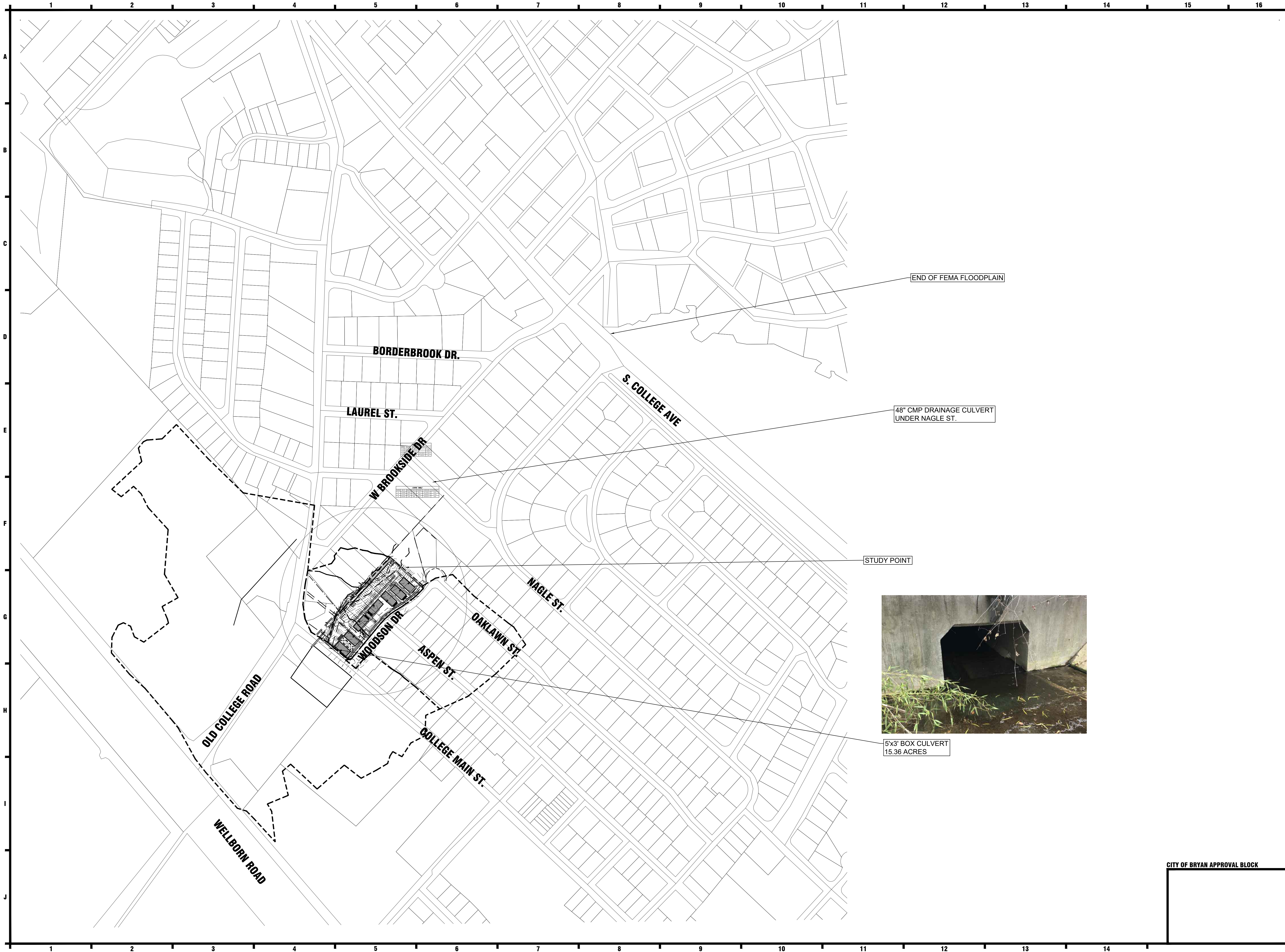


PROFESSIONAL SEAL

PROJECT STATUS
CONCEPT

SHEET TITLE
DRY UTILITIES PROFILE

SHEET NUMBER
20 of 34
 TBD



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WOODSON DEVELOPMENT

ISSUE/REVISION RECORD

FOR BIDDING PURPOSES ONLY

PROJECT NAME

WOODSON MIXED USE DEVELOPMENT

500-604 WOODSON DRIVE
 BRYAN, TEXAS TBD

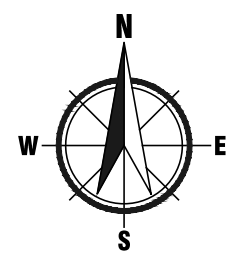
MAP GRID # TBD
 MAPSCO # TBD

PROJECT NUMBER

20006

DRAWING FILE
 20006-DAMP.DWG

SCALE 1" = 200'



PROFESSIONAL SEAL



PROJECT STATUS

CONCEPT

SHEET TITLE

OFFSITE DRAINAGE AREA MAP

SHEET NUMBER

21 of 34

TBD

CITY OF BRYAN APPROVAL BLOCK



DRAINAGE MAP LEGEND		
EXISTING	PROPOSED	DESCRIPTION
		CONTOUR
		BASIN NUMBER
		FLOW ARROW
		DRAINAGE DIVIDE
		TIME OF CONCENTRATION

DRAINAGE MAP NOTES

- THE FOLLOWING DRAINAGE PATTERNS WERE DELINEATED FROM TOPOGRAPHY SURVEYS AND FIELD OBSERVATIONS. OFFSITE DRAINAGE PATTERNS WERE DELINEATED FROM GIS INFORMATION.
- CURVE NUMBERS WERE CALCULATED IN ACCORDANCE WITH ACCEPTABLE STANDARD ENGINEERING PRACTICES.
- DRAINAGE FOR THIS DEVELOPMENT HAS BEEN DESIGNED SUCH THAT THERE WILL BE NO ADVERSE IMPACTS ON THE CAPACITY, FUNCTION, OR INTEGRITY OF TEXAS DEPARTMENT OF TRANSPORTATION RIGHT OF WAY DRAINAGE FACILITIES, COUNTY RIGHT OF WAY DRAINAGE DITCHES, OR CITY MAINTAINABLE DRAINAGE STRUCTURES.

DESIGN PROFESSIONAL



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CONSTRUCTION MANAGEMENT

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WOODSON DEVELOPMENT

ISSUE/REVISION RECORD

FOR BIDDING PURPOSES ONLY

PROJECT NAME

WOODSON MIXED USE DEVELOPMENT

500-604 WOODSON DRIVE
BRYAN, TEXAS TBD

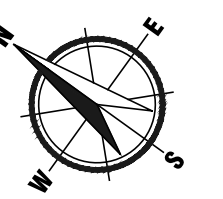
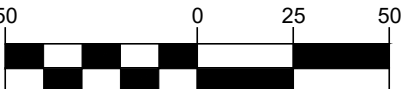
MAP GRID # TBD
MAPSCO # TBD

PROJECT NUMBER

20006

DRAWING FILE
20006-DAMP.DWG

SCALE 1" = 50'



PROFESSIONAL SEAL



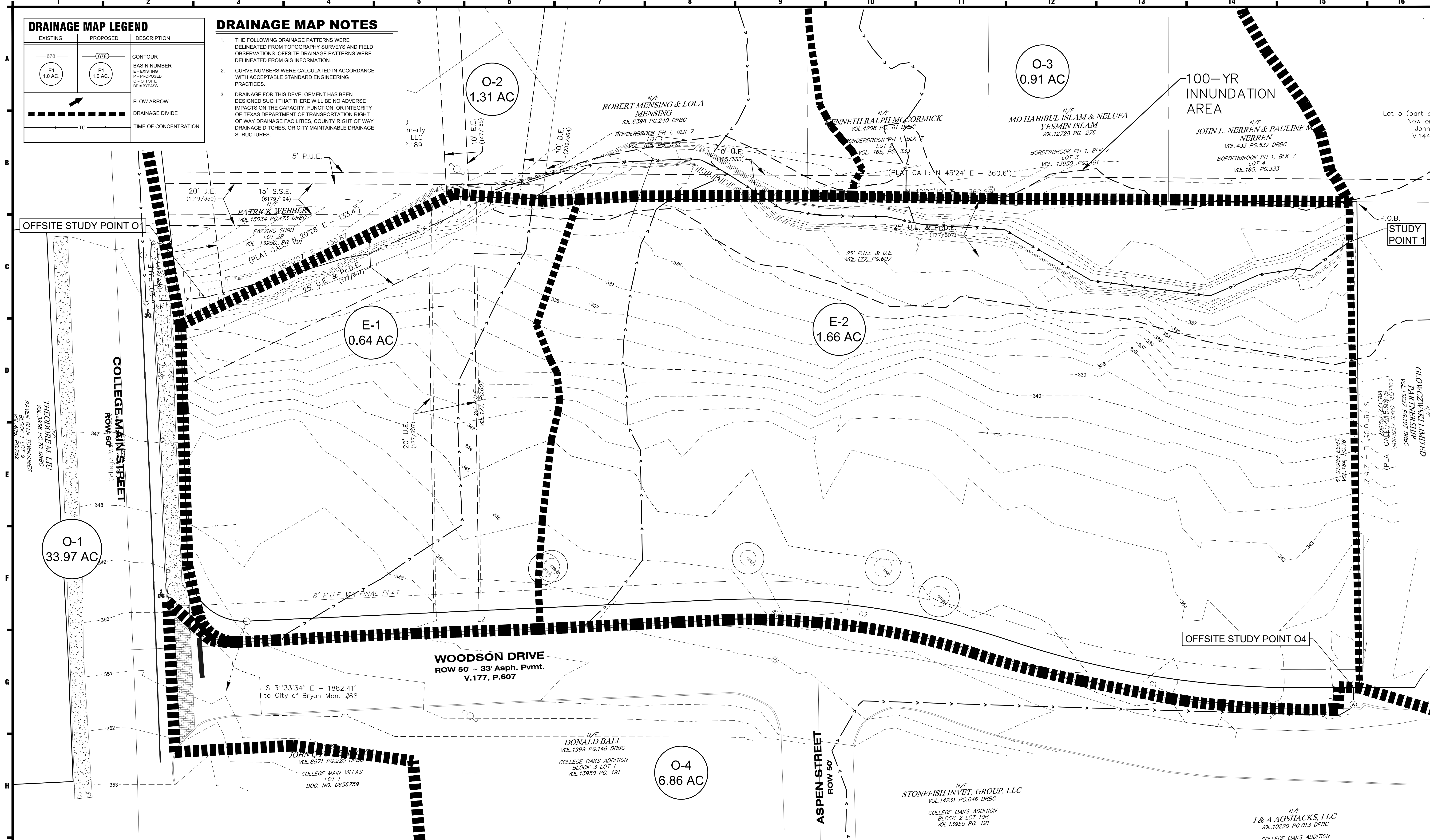
PROJECT STATUS
CONCEPT

SHEET TITLE
PREDEVELOPED DRAINAGE AREA MAPS

SHEET NUMBER

22 of 34

TBD



EXISTING CONDITIONS DRAINAGE / DISCHARGE TABLE

BASIN	AREA (ACRES)	AREA (MI ²)	I.C.%	CN	SOIL TYPE	2-YR (CFS)	10-YR (CFS)	25-YR (CFS)	100-YR (CFS)	NOTES
E1	0.64	0.00100	30	85	D	2.70	3.70	4.60	5.30	ONSITE DRAINAGE BASIN
E2	1.66	0.00259	30	85	D	7.00	9.70	12.00	13.70	
O1	33.97	0.05308	75	85	D	108.60	147.80	173.50	208.20	OFFSITE DRAINAGE TOWARD BASIN E1
O2	1.31	0.00205	50	85	D	5.80	7.90	9.70	11.00	
O3	7.30	0.01141	50	85	D	32.80	44.20	54.80	61.90	
O4	6.86	0.01072	60	85	D	25.20	34.30	40.00	48.20	
SP1	51.74					158.80	218.80	261.30	310.00	STUDY POINT 1

* CN=USING FULLY DEVELOPED CONDITIONS.

TIME OF CONCENTRATION

BASIN	SHEET FLOW (L < 100') ⁽¹⁾					SHALLOW CONCENTRATED FLOW ⁽²⁾ (300' < L > 100')				CHANNEL OR PIPE FLOW ⁽³⁾			TOTAL **	TOTAL	
	L (ft)	N	S (ft/ft)	P2	Tt (min)	PAVED / UNPAVED	C*	L (ft)	S (ft/ft)	Tt (min)	L (ft)	Average V (ft/sec)			Tt (min)
E1	55.63	0.240	0.011	4.50	9.43	UNPAVED	16.13	190.92	0.0856	0.67	0	1.00	0.00	10.1	6.1
E2	38.58	0.240	0.03	4.50	4.95	UNPAVED	16.13	165	0.0915	0.56	311.08	2.00	2.59	10	6.0
O1	67.61	0.240	0.005	4.50	15.32	PAVED	20.33	365.16	0.0050	4.23	1.352	2.51	8.98	28.5	17.1
O2	61.35	0.240	0.015	4.50	9.13	PAVED	16.13	224.76	0.0634	0.92	0	1.00	0.00	10.1	6.0
O3	72.76	0.240	0.028	4.50	8.12	PAVED	16.13	235.45	0.0557	1.03	0	1.00	0.00	9.2	5.5
O4	76.89	0.240	0.005	4.50	16.98	PAVED	16.13	233.25	0.2535	0.48	460	5.86	1.31	16.8	11.3

* C=20.3282 FOR PAVED CONDITIONS / C=16.1345 FOR UNPAVED AREAS

** MINIMUM TIME OF CONCENTRATION IS 10.0 MIN.

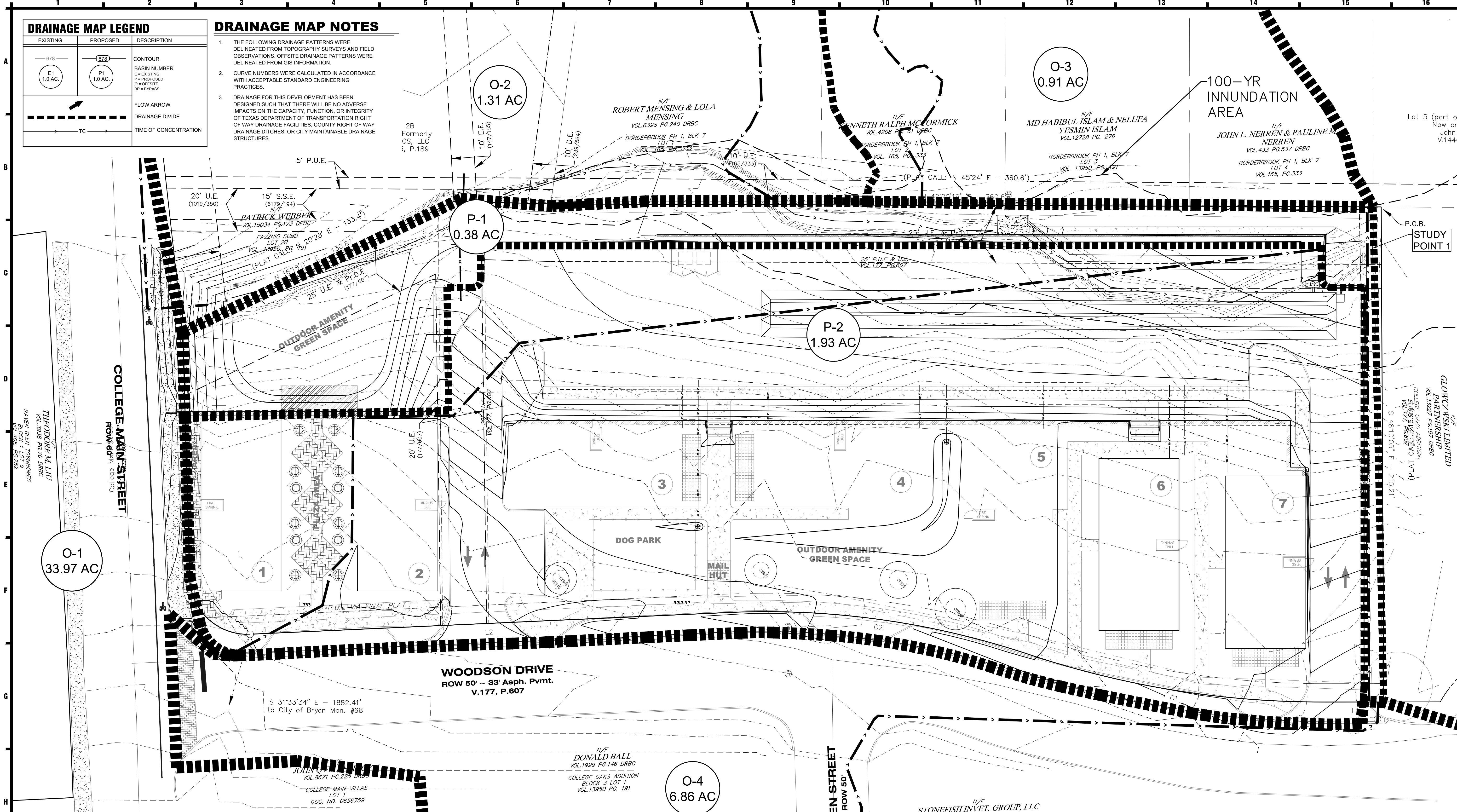
CITY OF BRYAN APPROVAL BLOCK



DRAINAGE MAP LEGEND		
EXISTING	PROPOSED	DESCRIPTION
678	678	CONTOUR
E1 1.0 AC	P1 1.0 AC	BASIN NUMBER E = EXISTING P = PROPOSED O = OFFSITE BP = BYPASS
		FLOW ARROW
		DRAINAGE DIVIDE
		TIME OF CONCENTRATION

DRAINAGE MAP NOTES

- THE FOLLOWING DRAINAGE PATTERNS WERE DELINEATED FROM TOPOGRAPHY SURVEYS AND FIELD OBSERVATIONS. OFFSITE DRAINAGE PATTERNS WERE DELINEATED FROM GIS INFORMATION.
- CURVE NUMBERS WERE CALCULATED IN ACCORDANCE WITH ACCEPTABLE STANDARD ENGINEERING PRACTICES.
- DRAINAGE FOR THIS DEVELOPMENT HAS BEEN DESIGNED SUCH THAT THERE WILL BE NO ADVERSE IMPACTS ON THE CAPACITY, FUNCTION, OR INTEGRITY OF TEXAS DEPARTMENT OF TRANSPORTATION RIGHT OF WAY DRAINAGE FACILITIES, COUNTY RIGHT OF WAY DRAINAGE DITCHES, OR CITY MAINTAINABLE DRAINAGE STRUCTURES.



DESIGN PROFESSIONAL



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AUSTIN, TEXAS 78704
PH: 512.820.3265
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CONSTRUCTION MANAGEMENT

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WOODSON DEVELOPMENT

ISSUE/REVISION RECORD

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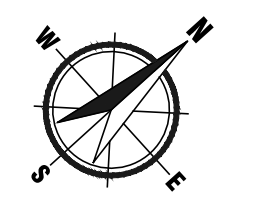
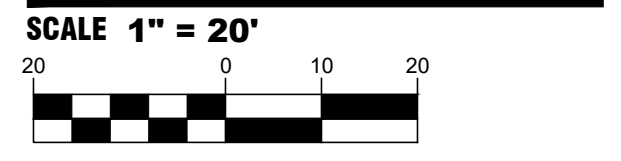
PROJECT NAME
WOODSON MIXED USE DEVELOPMENT

500-604 WOODSON DRIVE
BRYAN, TEXAS TBD

MAP GRID # TBD
MAPSCO # TBD

PROJECT NUMBER
20006

DRAWING FILE
20006-DAMP.DWG



PROFESSIONAL SEAL



PROJECT STATUS
CONCEPT

SHEET TITLE
POSTDEVELOPED DRAINAGE AREA MAPS

SHEET NUMBER

23 of 34

TBD

PROPOSED CONDITIONS DRAINAGE / DISCHARGE TABLE

BASIN	AREA (ACRES)	AREA (MI ²)	I.C%	CN	SOIL TYPE	2-YR (CFS)	10-YR (CFS)	25-YR (CFS)	100-YR (CFS)	NOTES
P1	0.38	0.00059	5	85	D	1.50	2.10	2.70	3.10	
P2 (DRAINS INTO POND)	1.93	0.00302	71.00	85	D	9.00	11.90	14.50	16.40	
O1	33.97	0.05308	75	85	D	108.60	147.80	173.50	208.20	
O2	1.31	0.00205	50	85	D	5.80	7.90	9.70	11.00	
O3	7.30	0.01141	50	85	D	32.80	44.20	54.80	61.90	
O4	6.86	0.01072	60	85	D	25.20	34.30	40.00	48.20	
SP1	51.75					157.60	217.30	256.30	310.50	STUDY POINT 1

* CN-USING FULLY DEVELOPED CONDITIONS.

TIME OF CONCENTRATION

BASIN	SHEET FLOW (L<100) ⁽¹⁾					SHALLOW CONCENTRATED FLOW ⁽²⁾ (300' < L < 100')				CHANNEL OR PIPE FLOW ⁽³⁾			TOTAL **		TOTAL
	L (ft)	N	S (ft/ft)	P2	Tt (min)	PAVED / UNPAVED	C*	L (ft)	S (ft/ft)	Tt (min)	L (ft)	Average V (ft/sec)	Tt (min)	Tc (min)	Lag (min)
P1	25	0.200	0.010	4.50	4.53	UNPAVED	16.13	100	0.0856	0.35	84	3.00	0.47	10	6.0
P2	41	0.011	0.02	4.50	0.52	PAVED	16.13	165	0.0915	0.56	311.08	2	2.59	10	6.0
O1	67.61	0.240	0.005	4.50	15.32	PAVED	20.33	365.16	0.0050	4.23	1,352	2.51	8.98	28.5	17.1
O2	61.35	0.240	0.015	4.50	9.13	PAVED	16.13	224.76	0.0634	0.92	0	1.00	0.00	10.1	6.0
O3	72.76	0.240	0.028	4.50	8.12	PAVED	16.13	235.45	0.0557	1.03	0	1.00	0.00	9.2	5.5
O4	76.89	0.240	0.005	4.50	16.98	PAVED	16.13	233.25	0.2535	0.48	460	5.86	1.31	18.8	11.3

* C=20.3282 FOR PAVED CONDITIONS / C=16.1345 FOR UNPAVED AREAS

** MINIMUM TIME OF CONCENTRATION IS 10.0 MIN.

EXISTING VS PROPOSED DISCHARGE TABLE

BASIN	2-YR (CFS)	10-YR (CFS)	25-YR (CFS)	100-YR (CFS)	NOTES
EX SP1	158.80	218.80	261.30	310.00	
PROP SP1	157.60	217.30	256.30	310.00	

CITY OF BRYAN APPROVAL BLOCK





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WOODSON DEVELOPMENT

ISSUE/REVISION RECORD

NO.	DATE	DESCRIPTION
1		
2		
3		
4		
5		

FOR BIDDING PURPOSES ONLY

PROJECT NAME WOODSON MIXED USE DEVELOPMENT

500-604 WOODSON DRIVE
BRYAN, TEXAS TBD

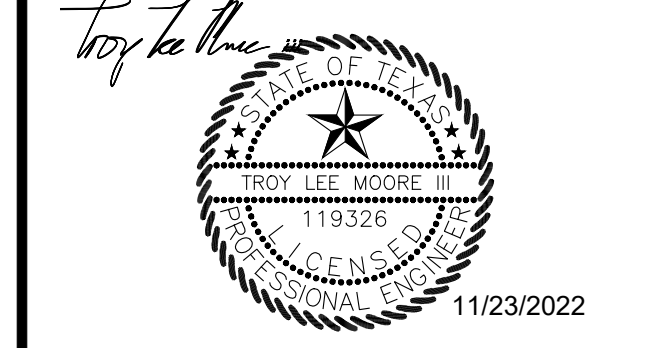
GREAT ESCAPES AT BRYAN SUBDIVISION,
LOT 1, BLOCK 1, 84.936 ACRES

PROJECT NUMBER
20006

DRAWING FILE
20006-DET1.DWG

SCALE N.T.S.

PROFESSIONAL SEAL

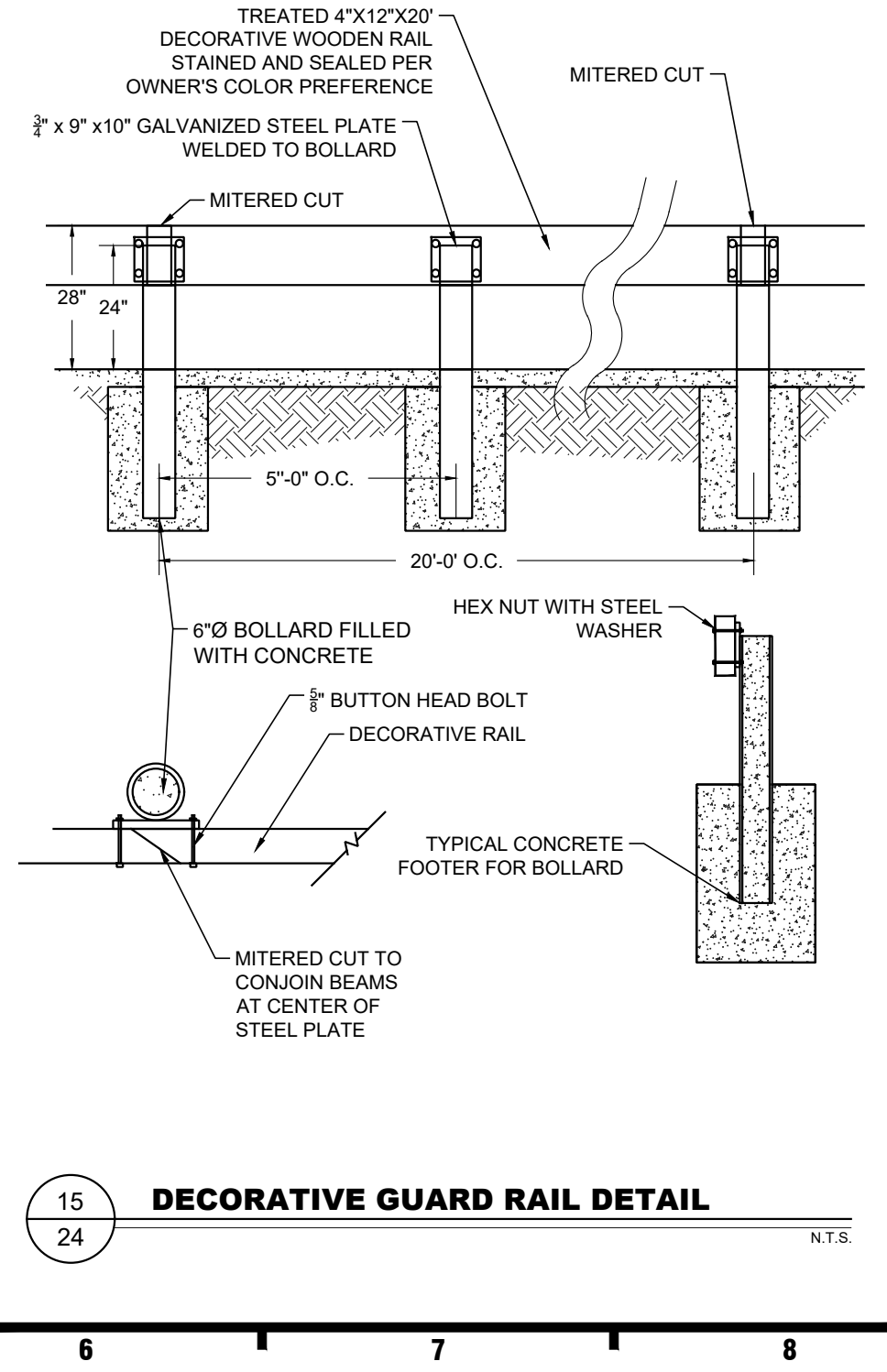
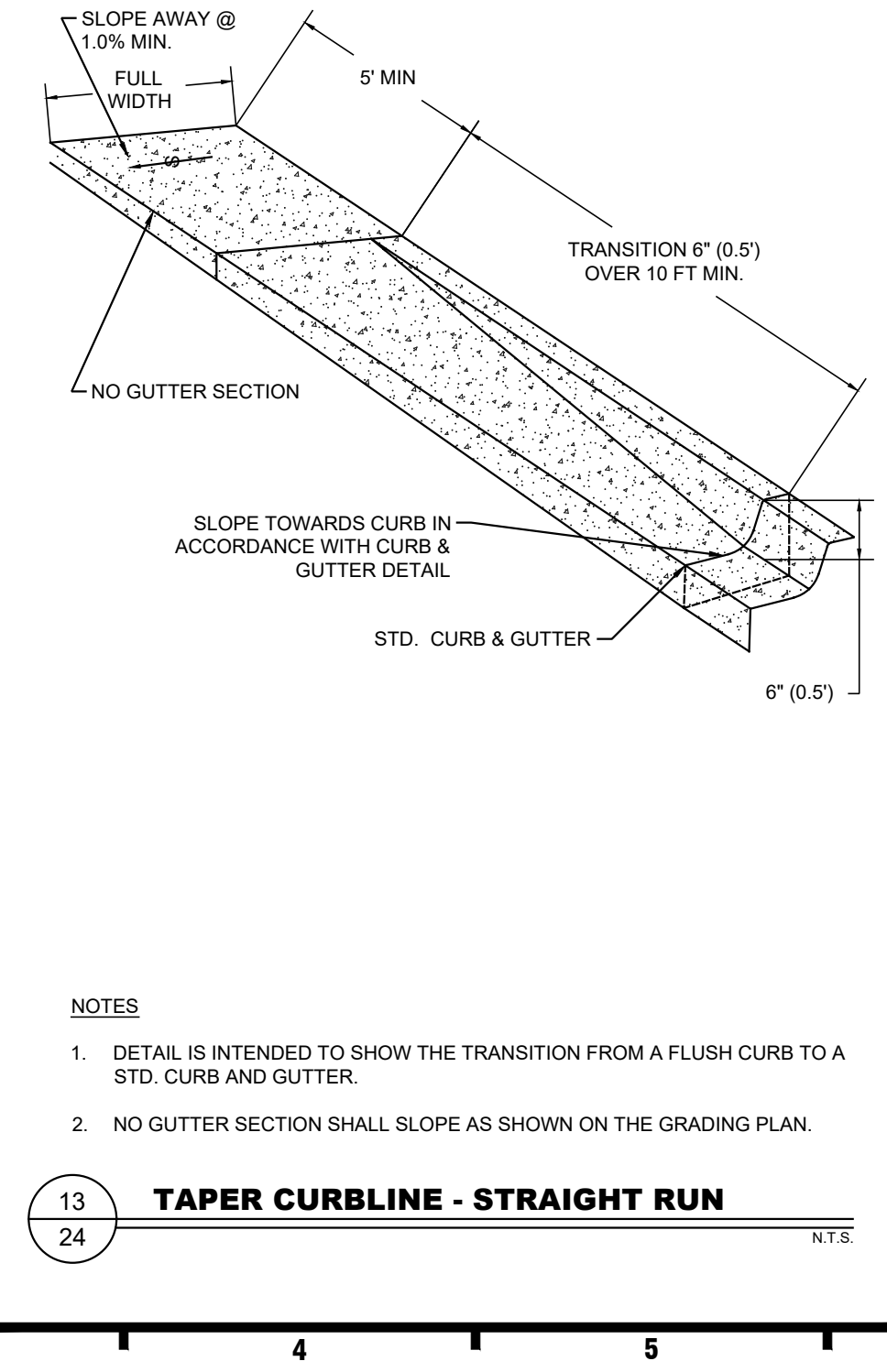
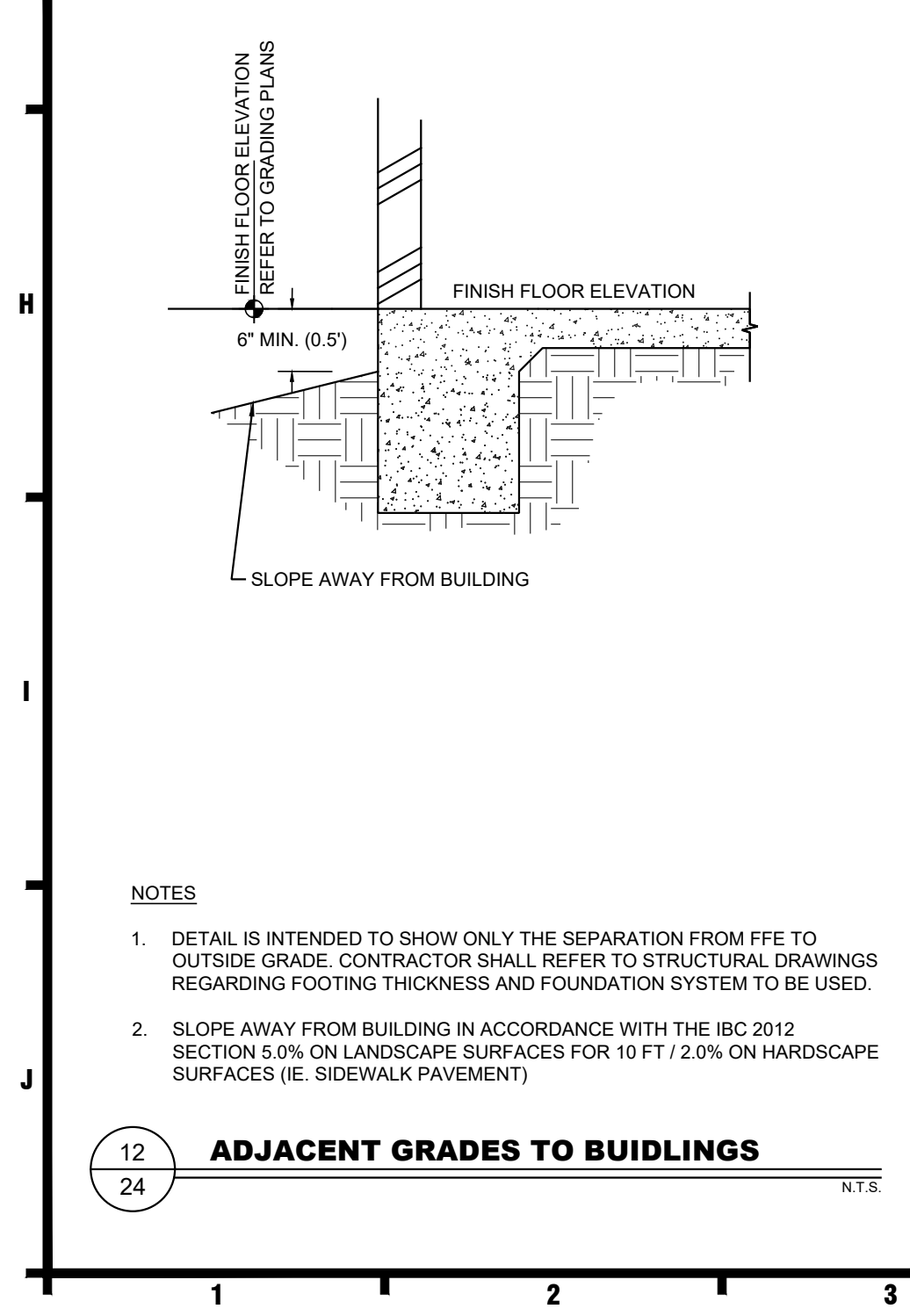
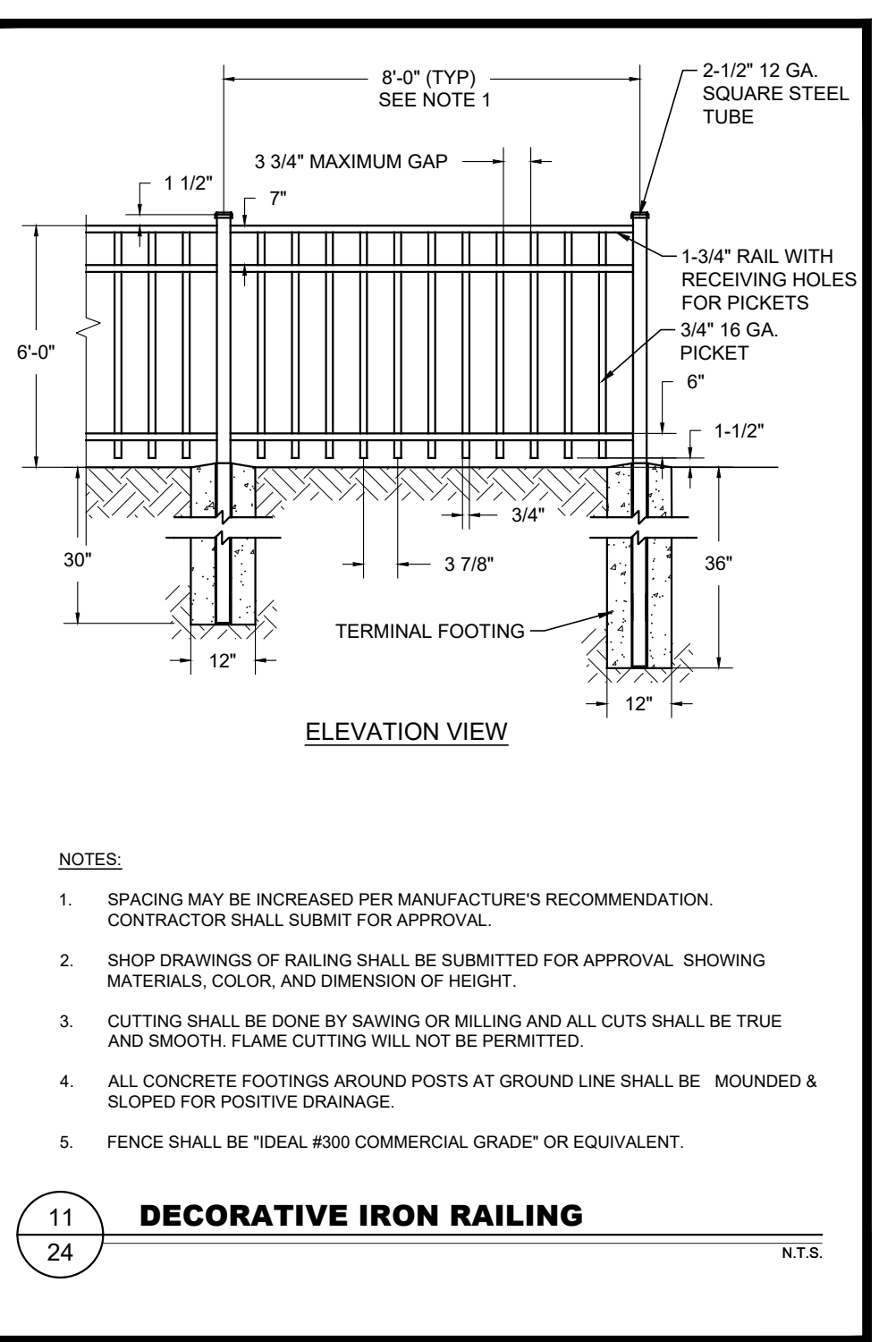
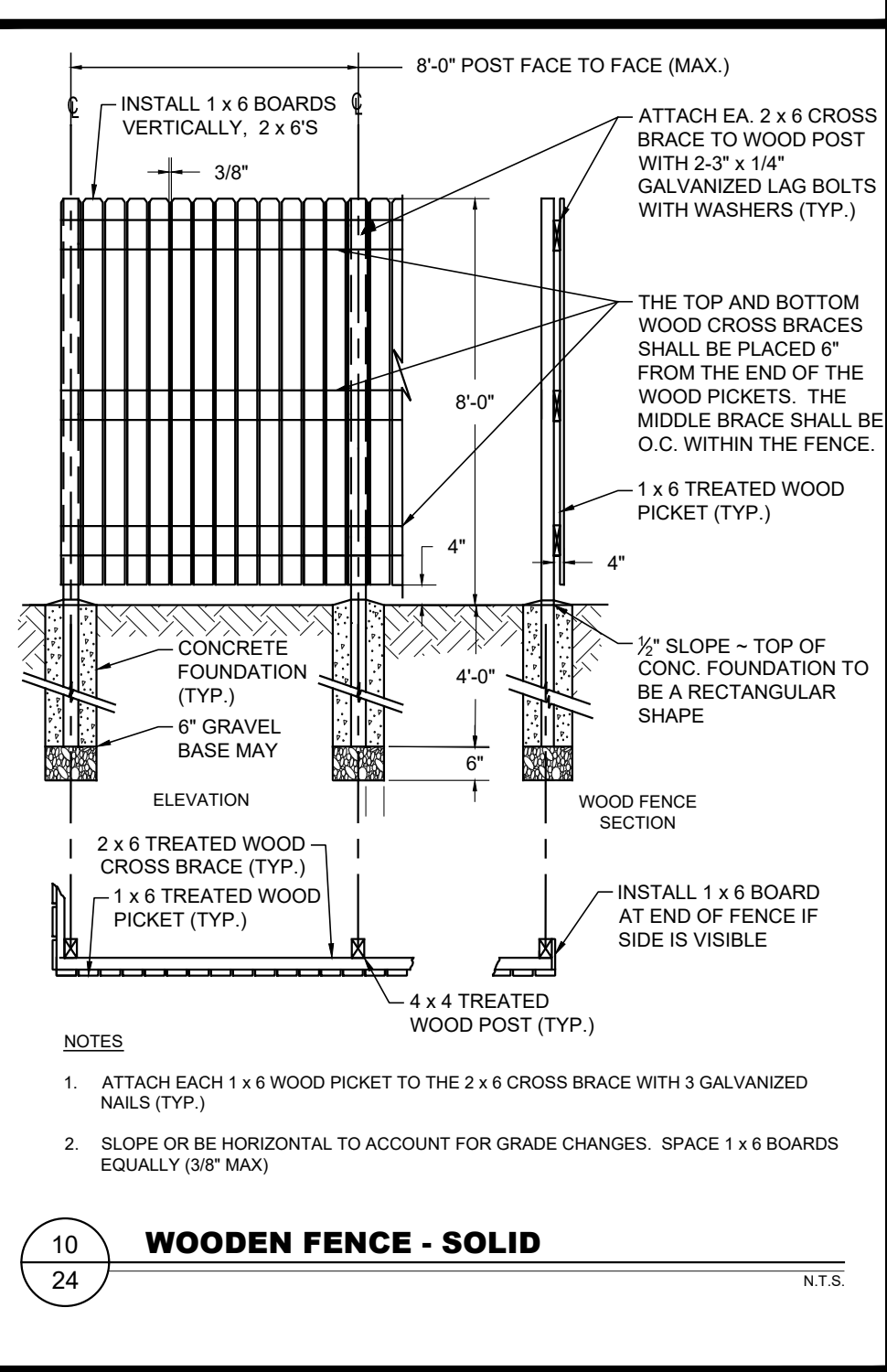
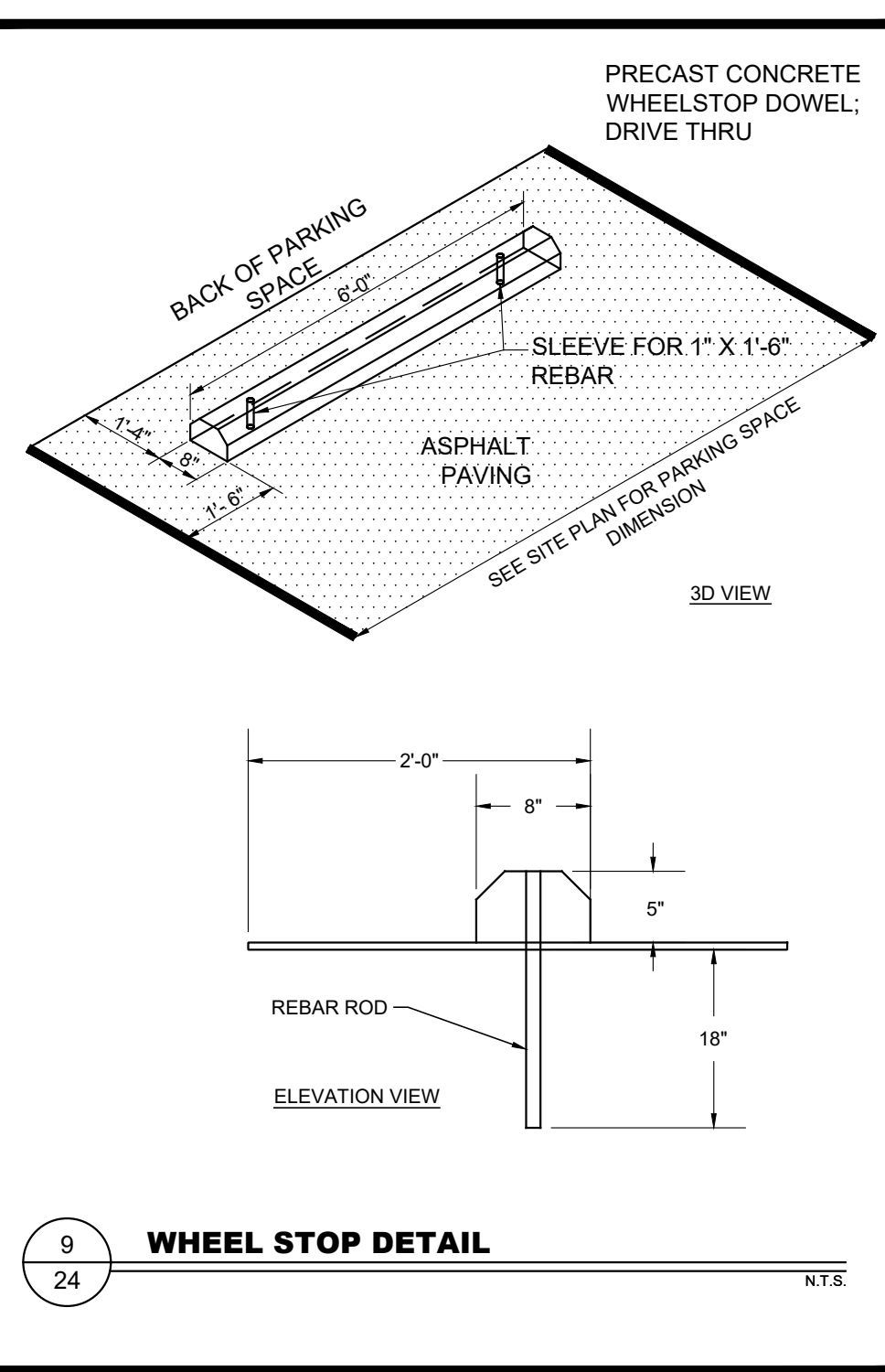
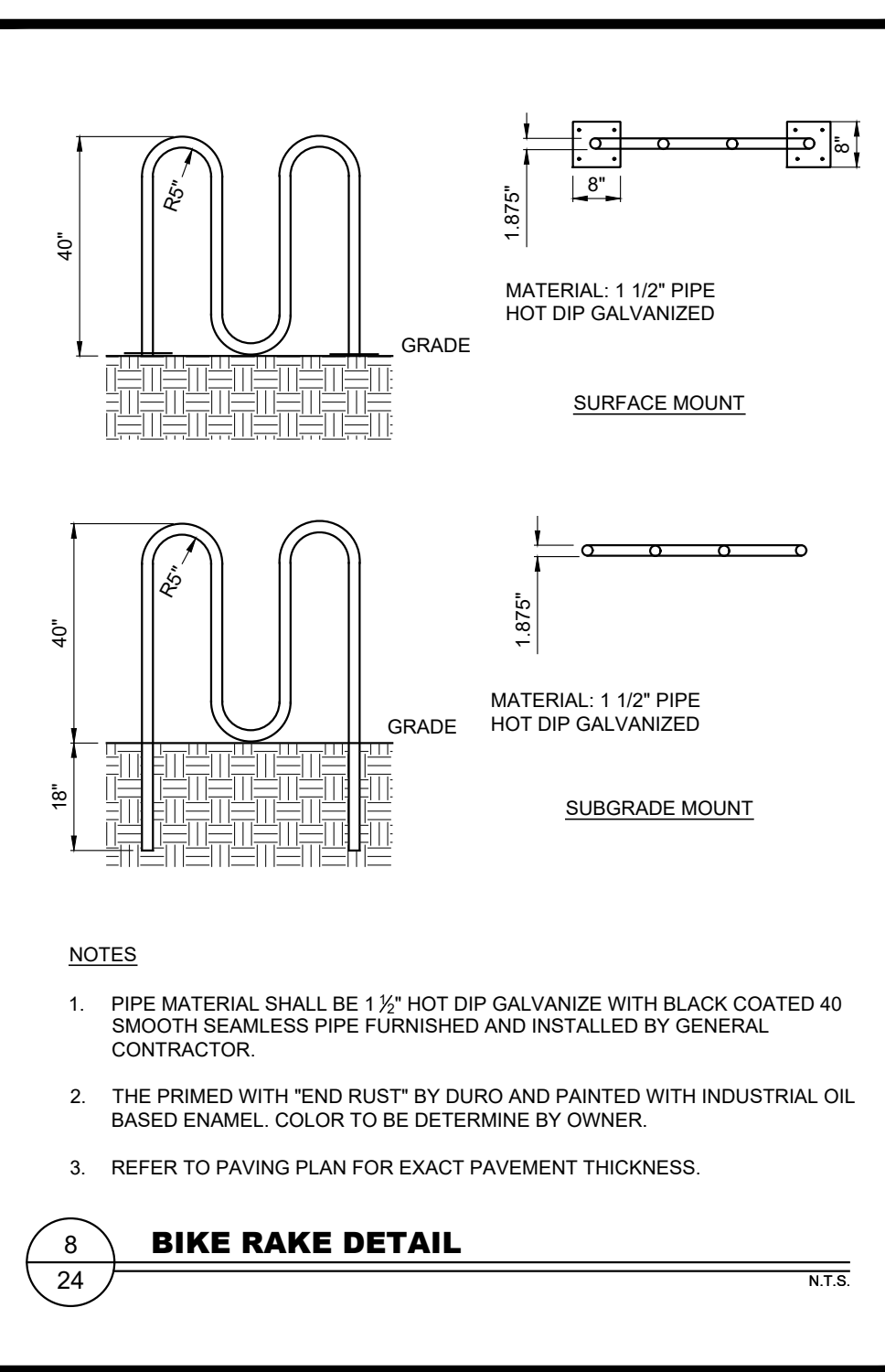
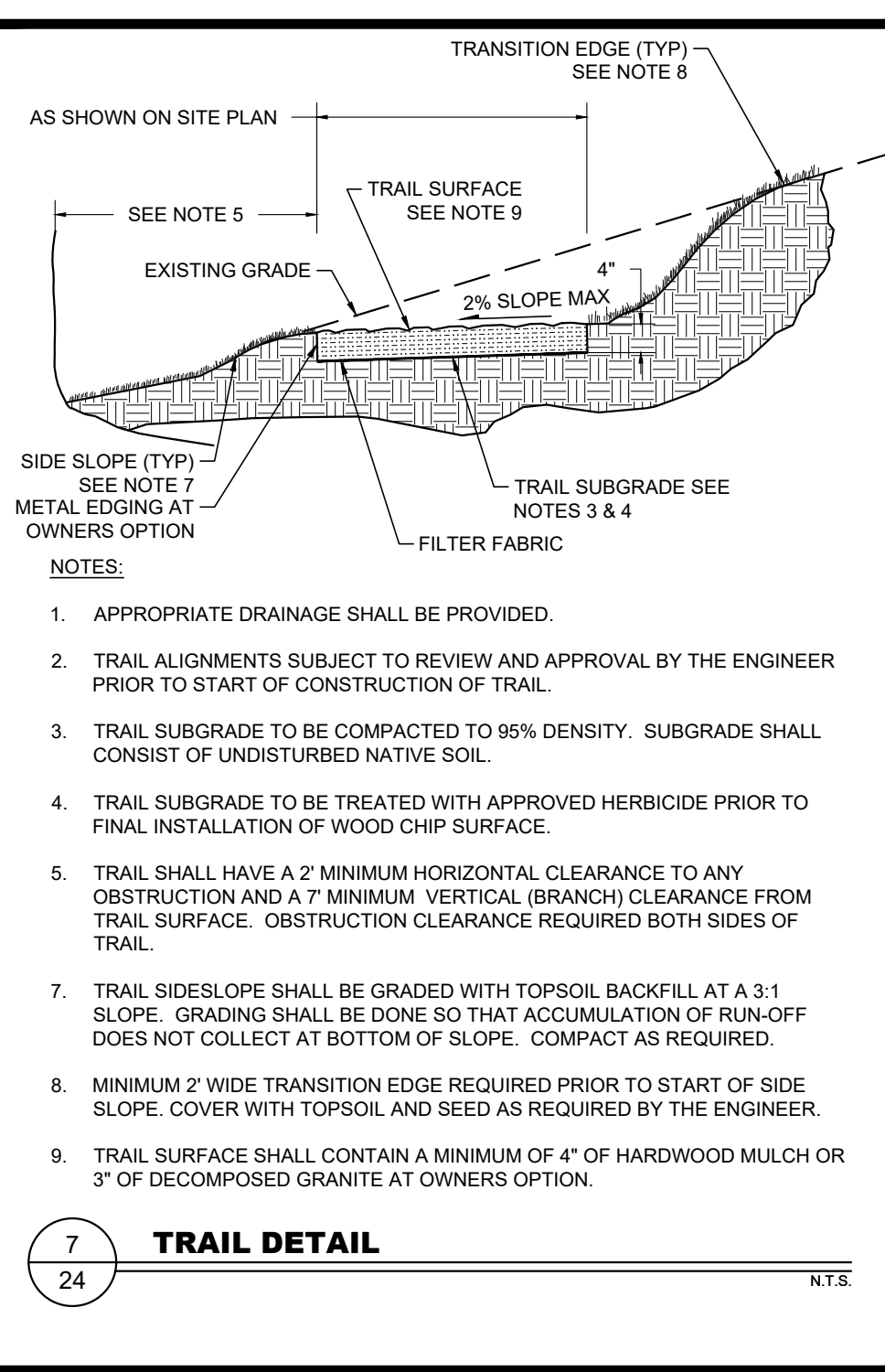
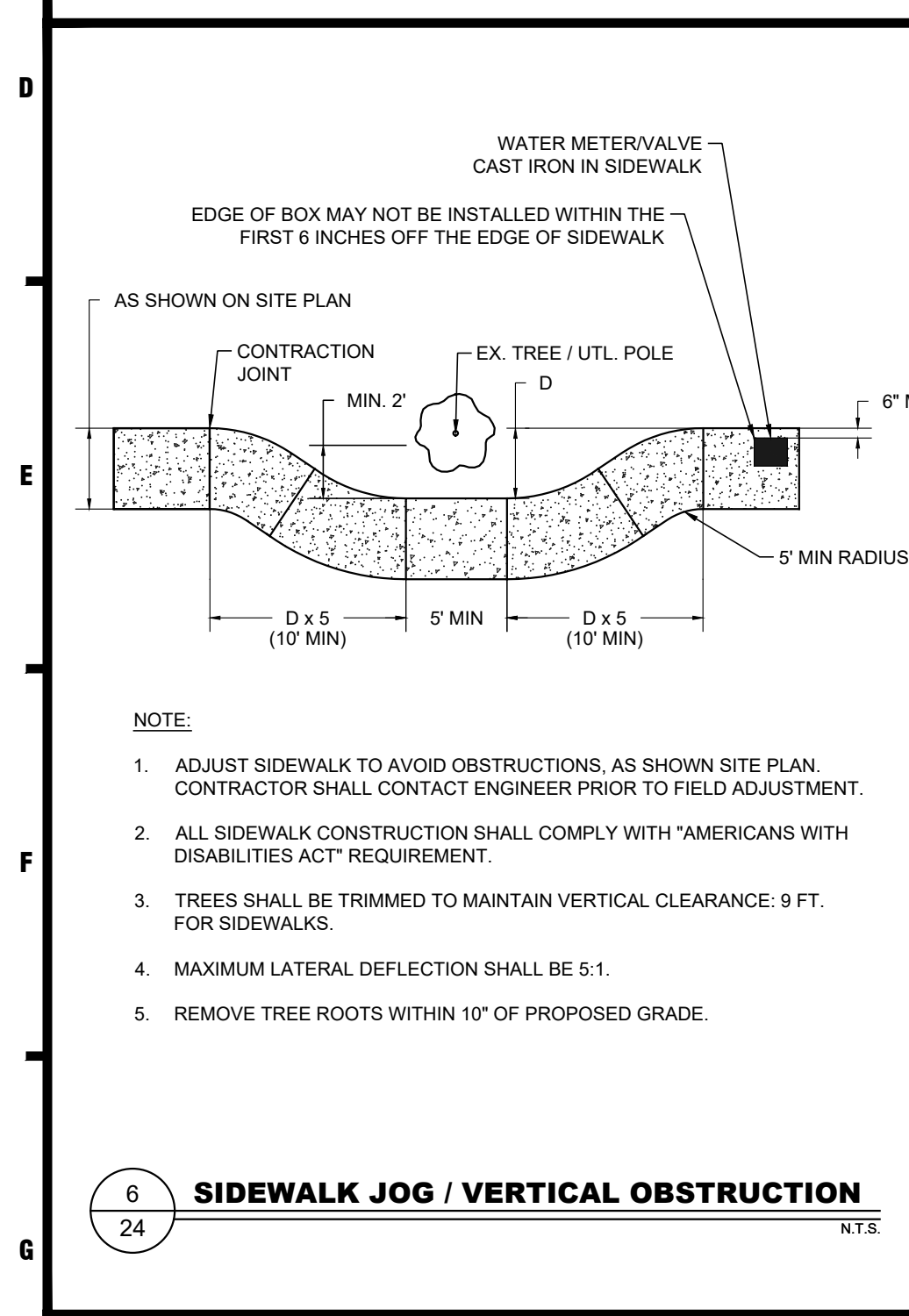
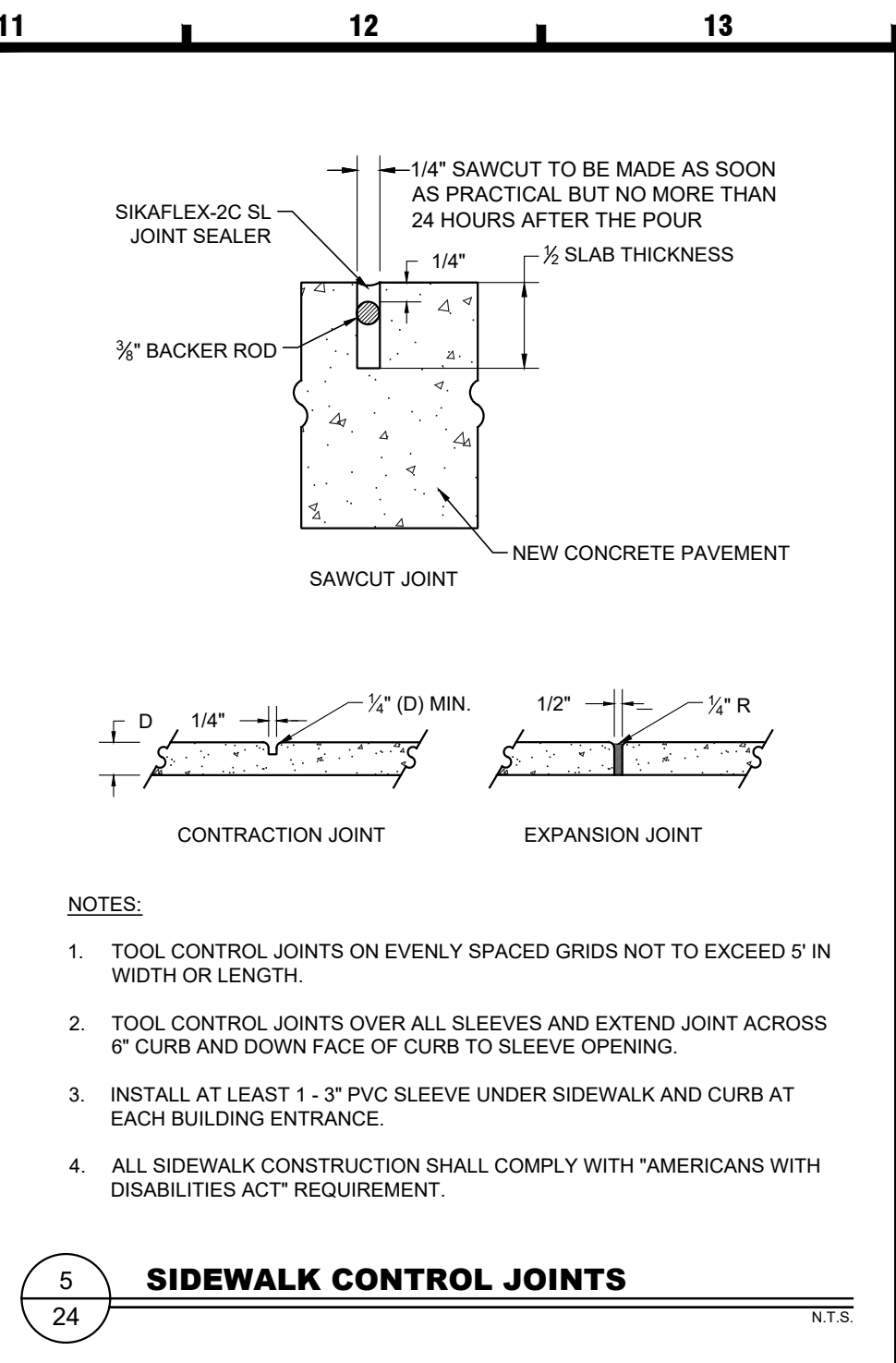
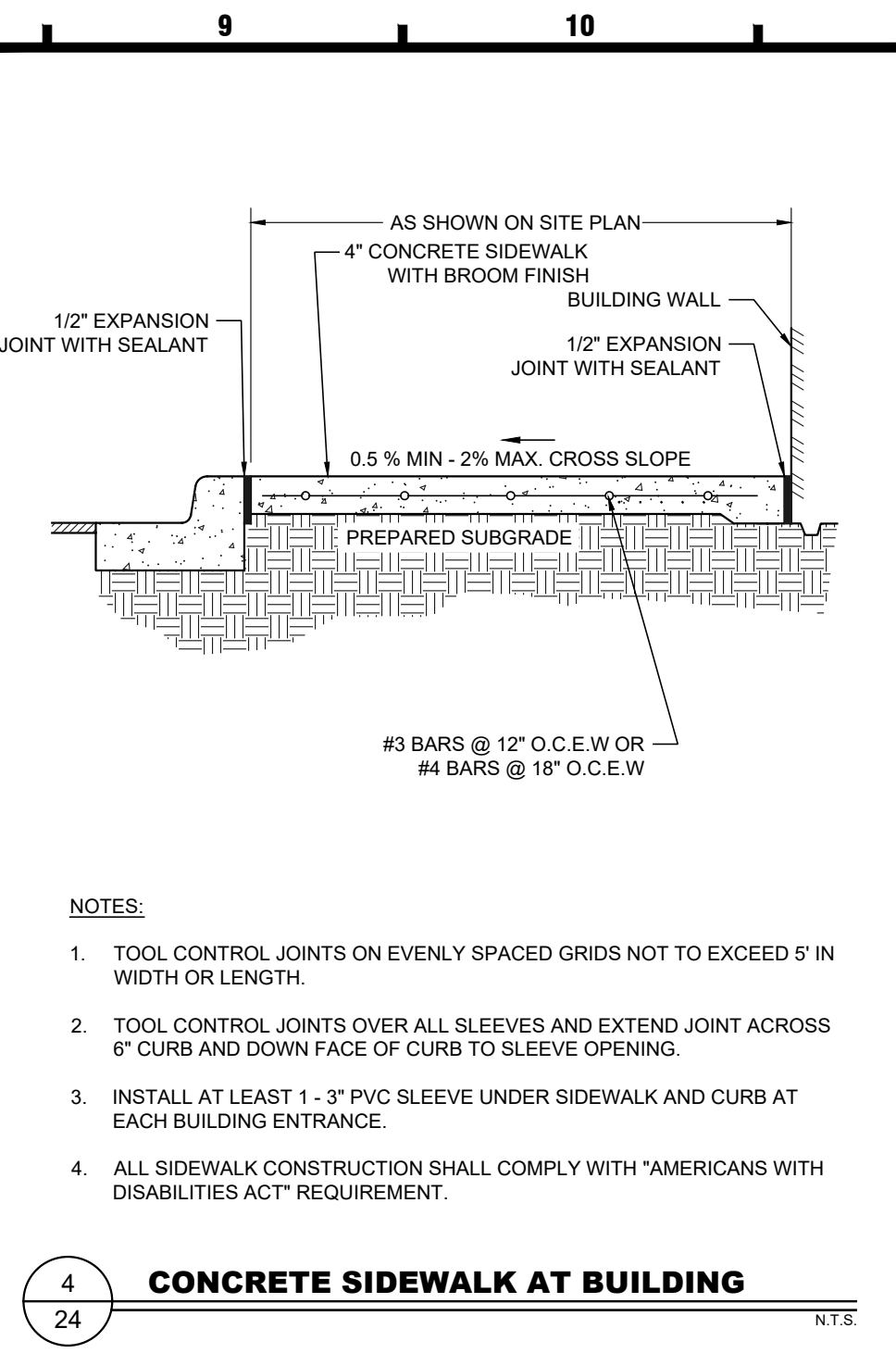
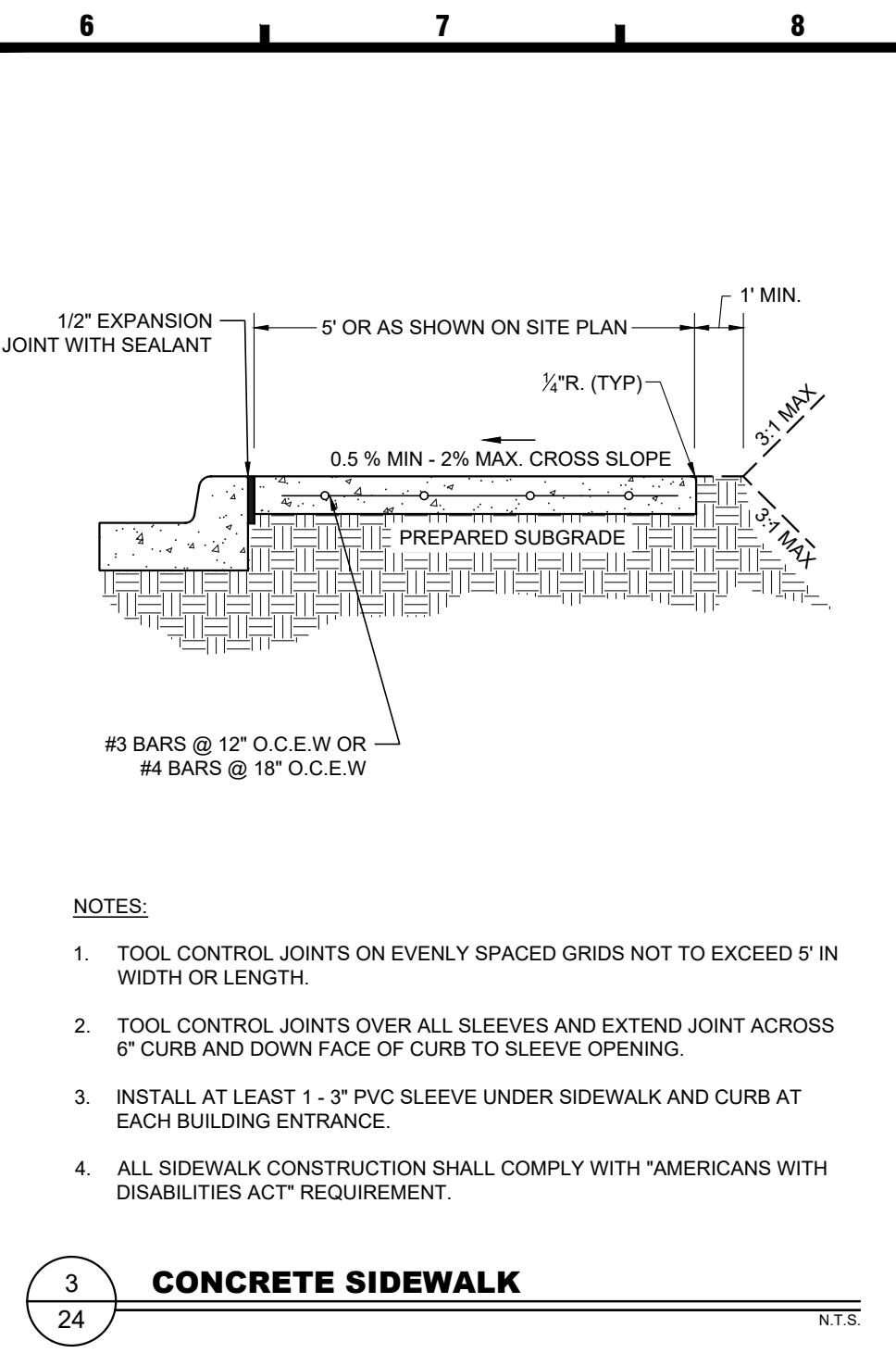
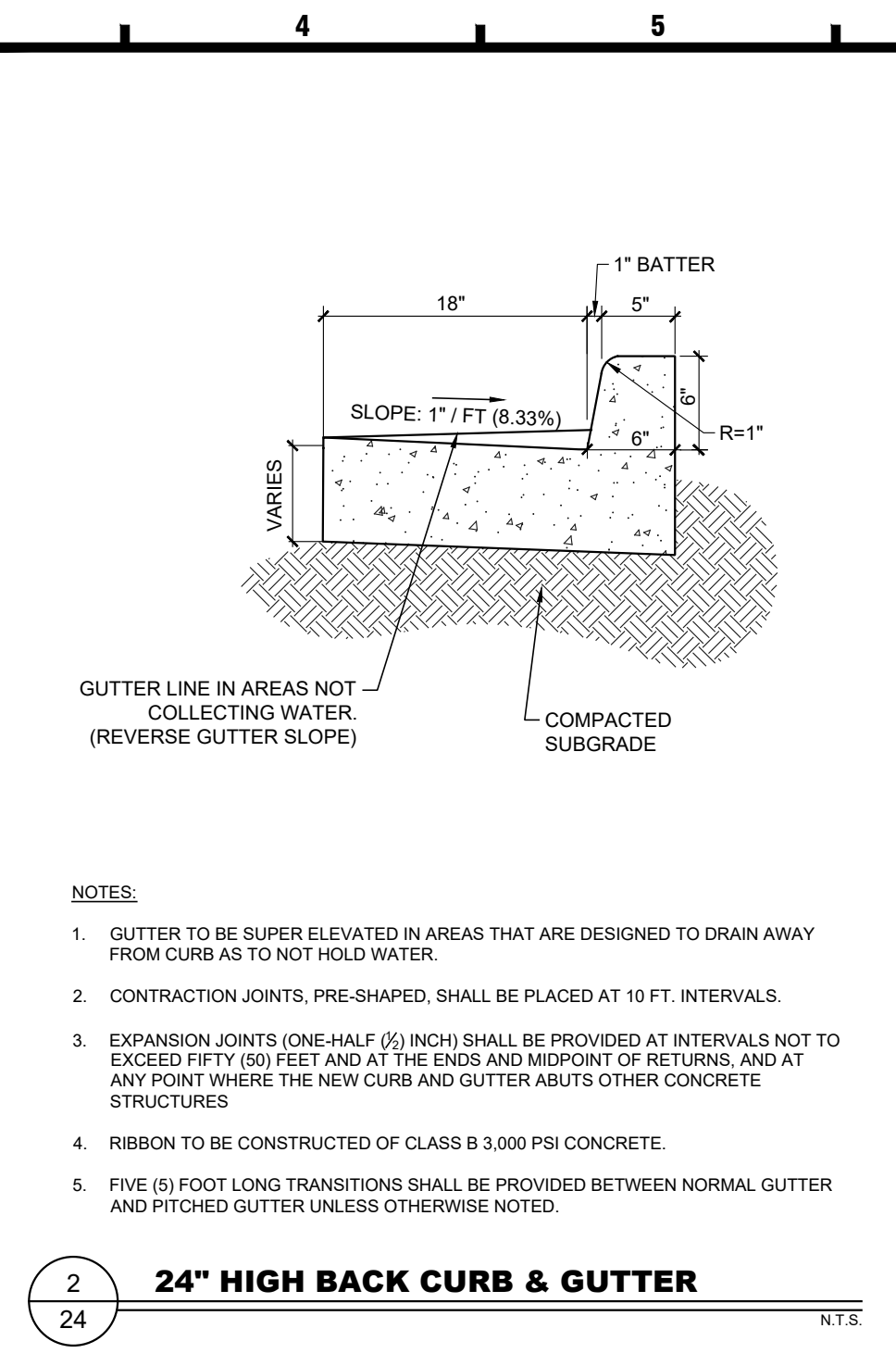
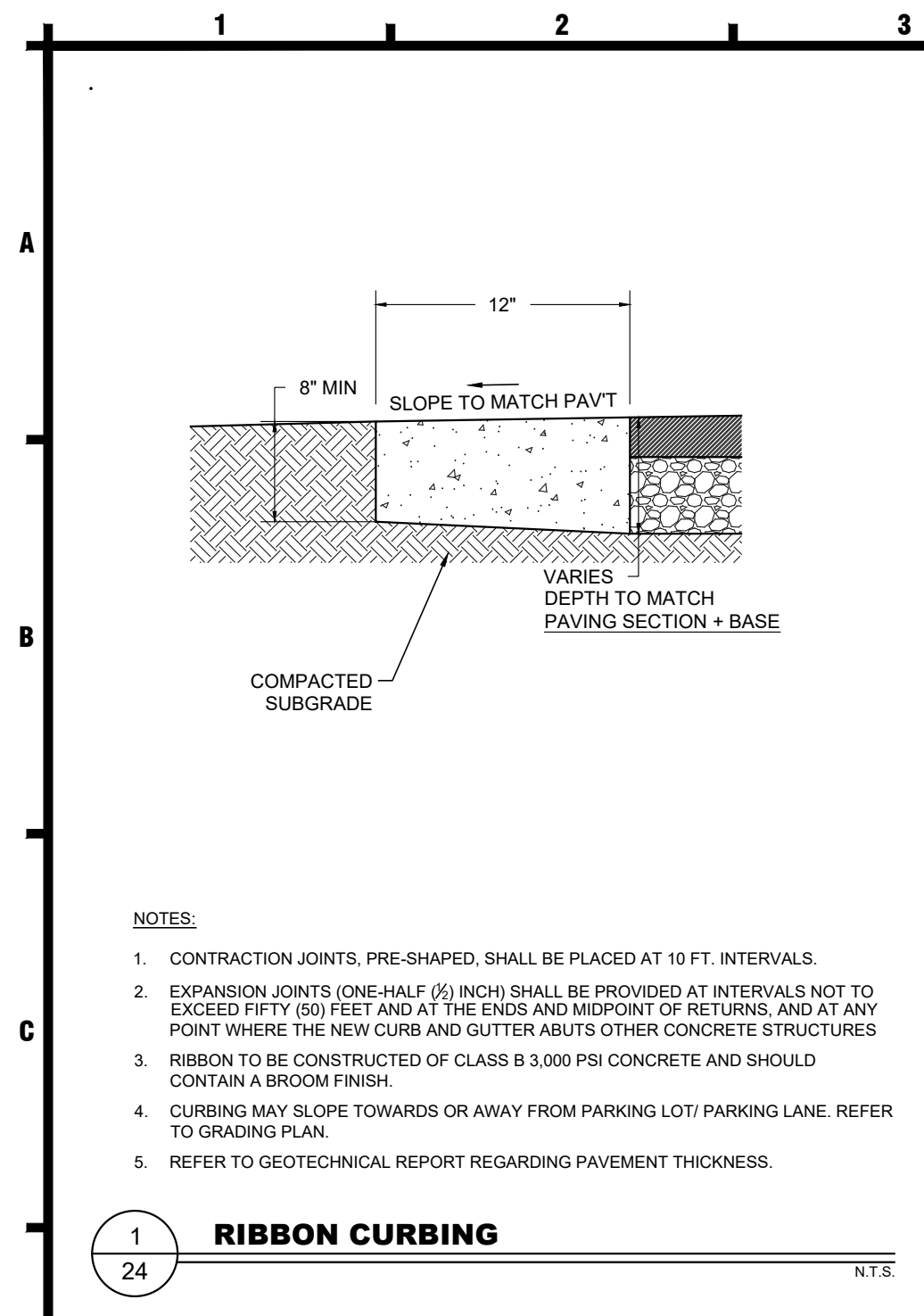


PROJECT STATUS
CONCEPT

SHEET TITLE CONSTRUCTION SITE DETAILS

SHEET NUMBER
24 of 33

TBD



CITY OF BRYAN APPROVAL BLOCK





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WOODSON DEVELOPMENT

ISSUE/REVISION RECORD

FOR BIDDING PURPOSES ONLY

PROJECT NAME

WOODSON MIXED USE DEVELOPMENT

500-604 WOODSON DRIVE
BRYAN, TEXAS TBD

GREAT ESCAPES AT BRYAN SUBDIVISION,
LOT 1, BLOCK 1, 84.936 ACRES

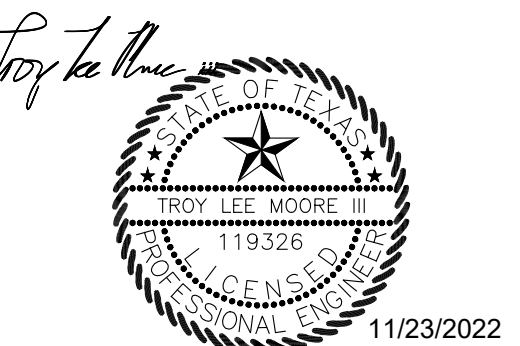
PROJECT NUMBER

20006

DRAWING FILE
20006-DETL.DWG

SCALE N.T.S.

PROFESSIONAL SEAL



PROJECT STATUS
CONCEPT

SHEET TITLE STORM SEWER CONSTRUCTION DETAILS

SHEET NUMBER

26 of 33

TBD

CITY OF BRYAN APPROVAL BLOCK



STORM SEWER JUNCTION BOX

DATE: **AUG. 2012** B/C/S UNIFIED STANDARD DETAIL: **D1-02** CITY OF COLLEGE STATION

GENERAL NOTES:
1. BASE THICKNESS AND FOUNDATION SHALL BE AS FOLLOWS:
INLET DEPTH (FT.) BASE THICKNESS
0 - 12 8"
12 AND OVER 12"
2. DEPTHS GREATER THAN 12' WILL REQUIRE 2 MATS OF REINFORCING STEEL IN THE BASE.

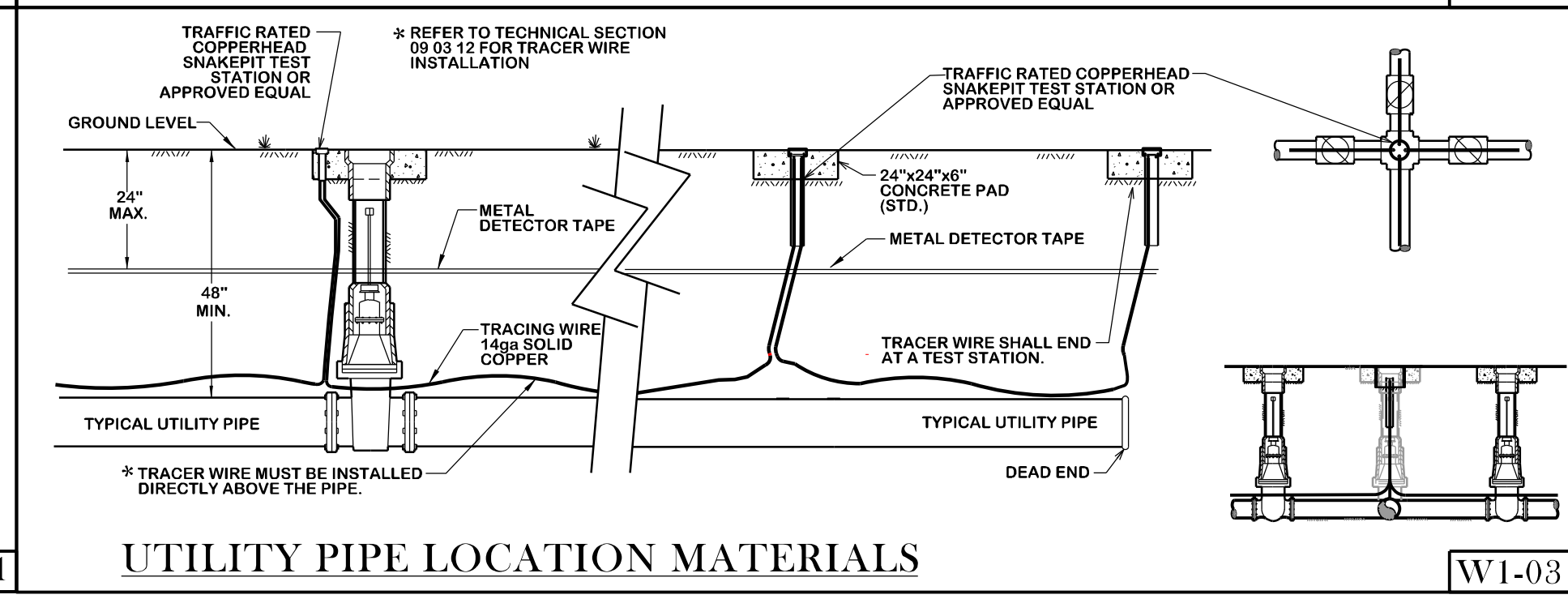
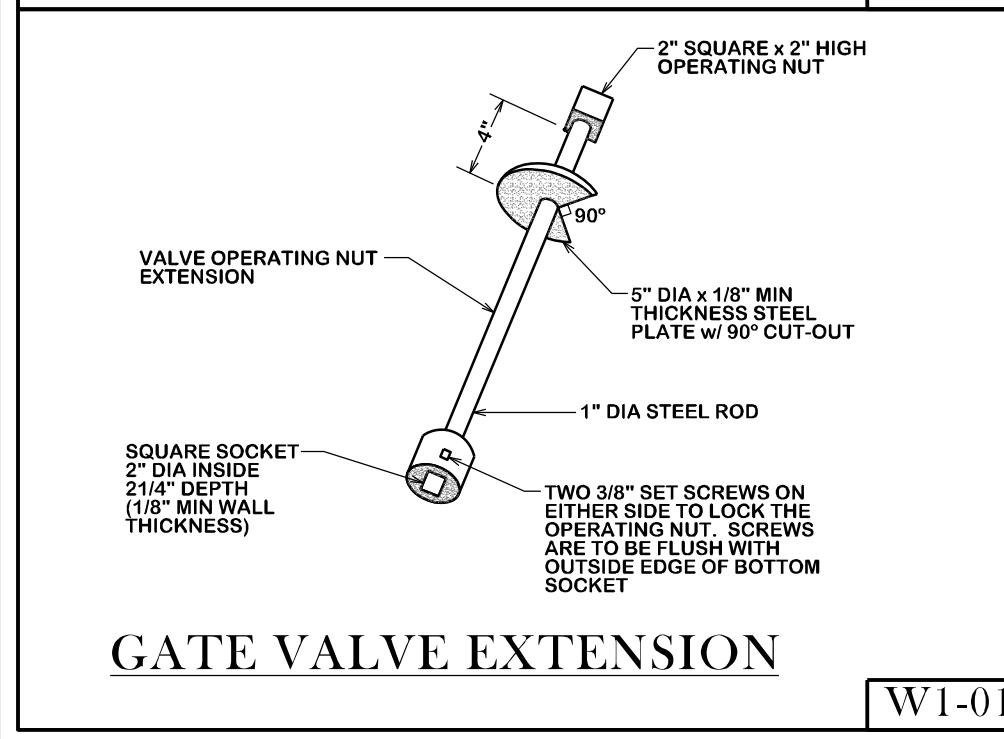
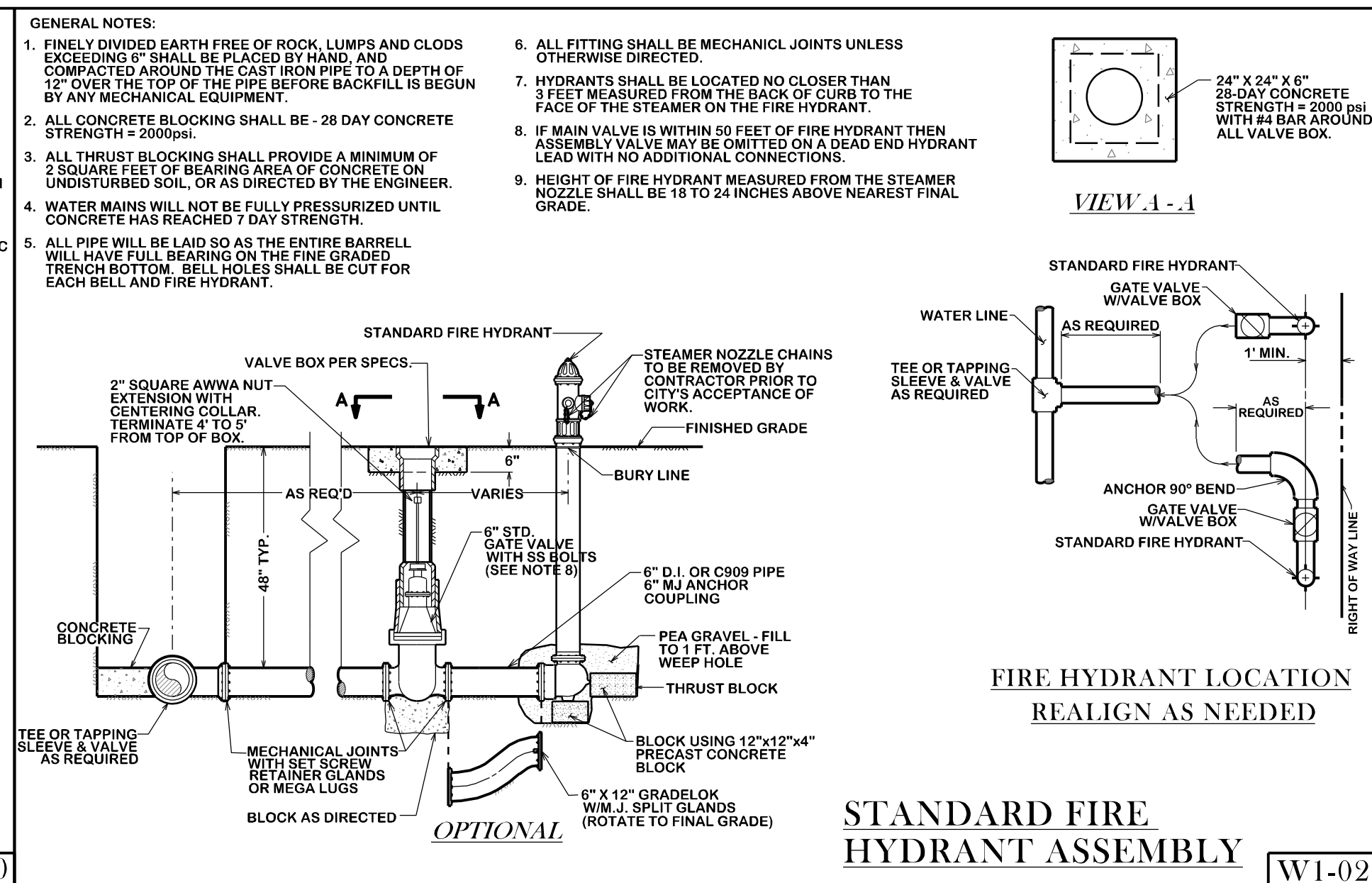
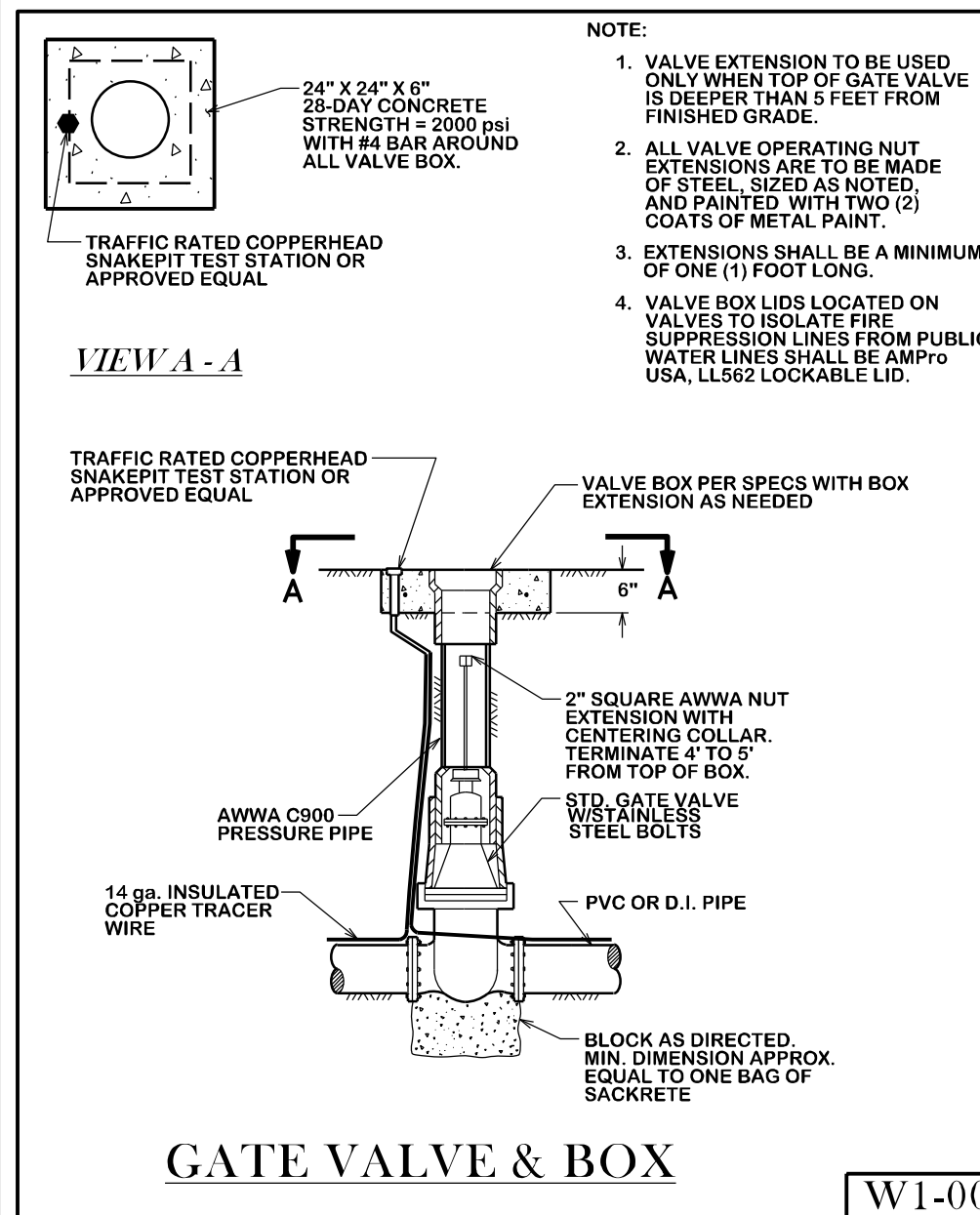
STANDARD PRE-CAST MANHOLE

DATE: **AUG. 2012** B/C/S UNIFIED STANDARD DETAIL: **S1-00A** CITY OF COLLEGE STATION

NOTES:
1. A MAX. OF 4 AND A MIN. OF 2 THROAT RINGS SHALL BE USED AT EACH MANHOLE IN NEW OR EXISTING RIGHT-OF-WAY.
2. USE AN EPA SEALANT OR APPROVED EQUAL BETWEEN RINGS OR JOINTS. LOCATIONS: RINGS AND CHIMNEY OR CONE SECTION.
3. MANHOLE BASE THICKNESS AND FOUNDATION AS FOLLOWS:
MANHOLE DEPTH (FT.) BASE THICKNESS
0 - 12 8"
12 AND OVER 12"
4. MANHOLE LOCATION AND COMPACTION AS FOLLOWS:
LOCATION COMPACTION REQUIREMENT
PAVEMENT 88% STANDARD PROCTOR (ASTM D 698)
LANDSCAPE AREA 90% STANDARD PROCTOR (ASTM D 698)
5. NO RINGS ARE REQUIRED OUTSIDE OF STREET RIGHT-OF-WAY.
6. IN FLOODPLAINS OR AREAS OF CONCENTRATED FLOW, THE CONE SHALL EXTEND 1 FEET ABOVE THE BASE. (DO NOT TOP OR A SEAL JOINT WATER-TIGHT RINGS AND COVER SHALL BE USED, VENTED WHERE REQUIRED.)
7. WARNING SIGN ONLY TO BE PLACED WHERE SEWER CROSSES OPEN FIELDS.

TYPICAL CONCRETE HEADWALL & ENDWALL WITH WINGS

DATE: **AUG. 2012** B/C/S UNIFIED STANDARD DETAIL: **D3-00** CITY OF COLLEGE STATION



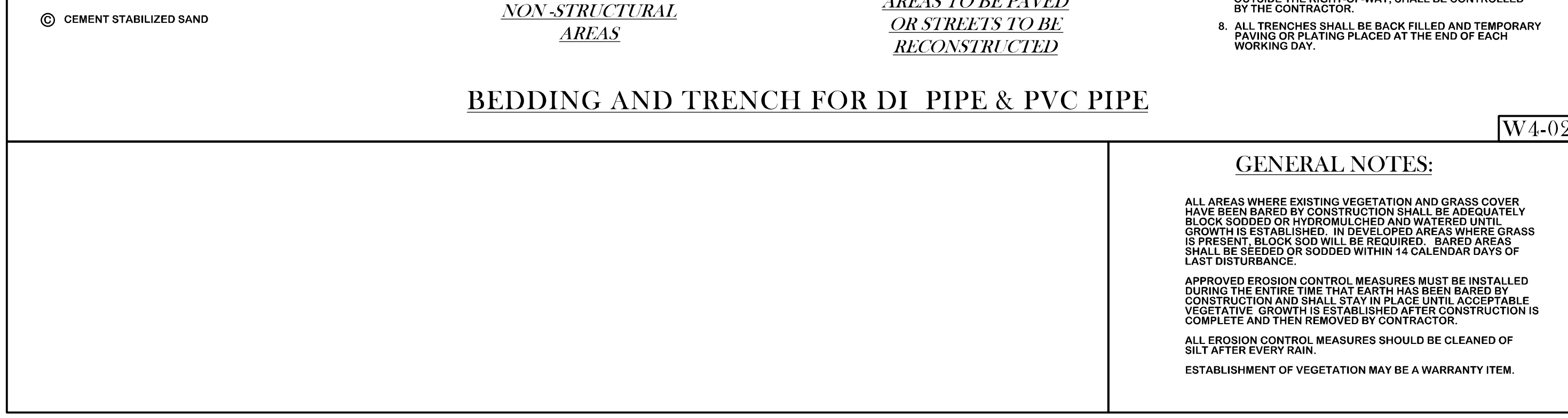
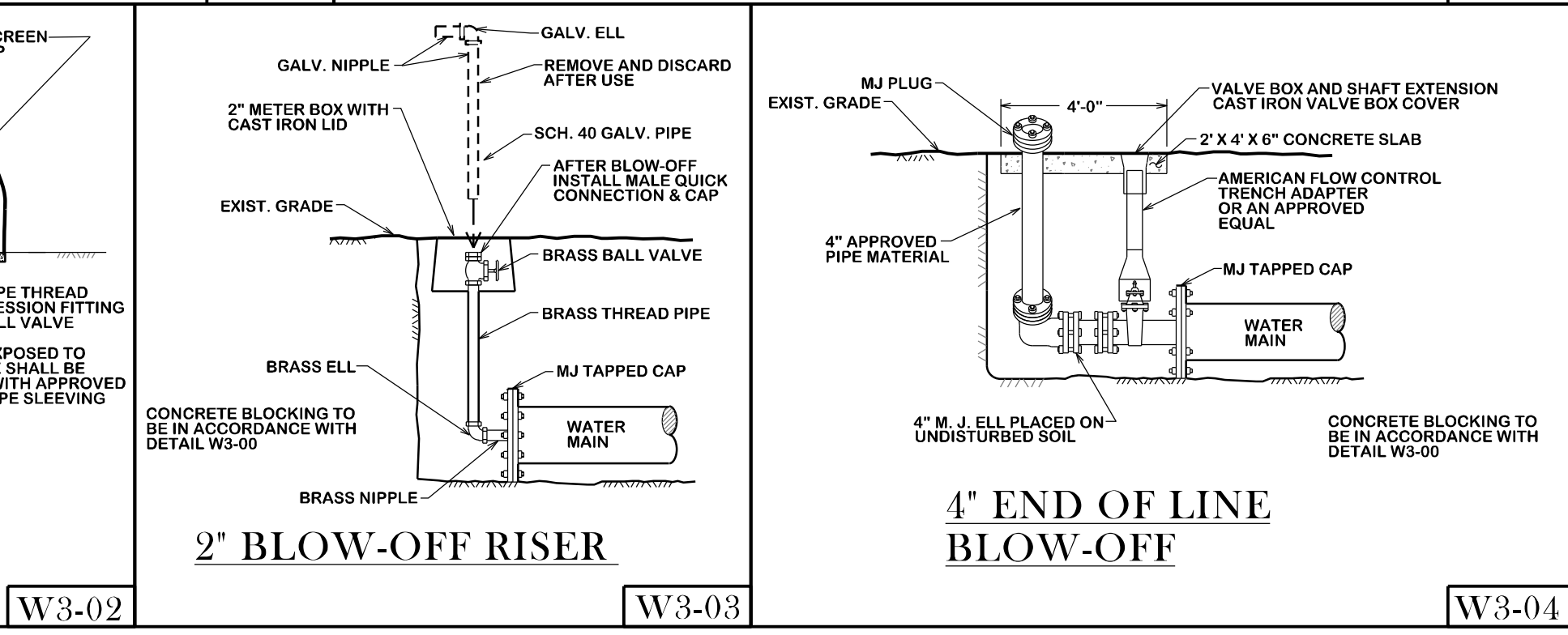
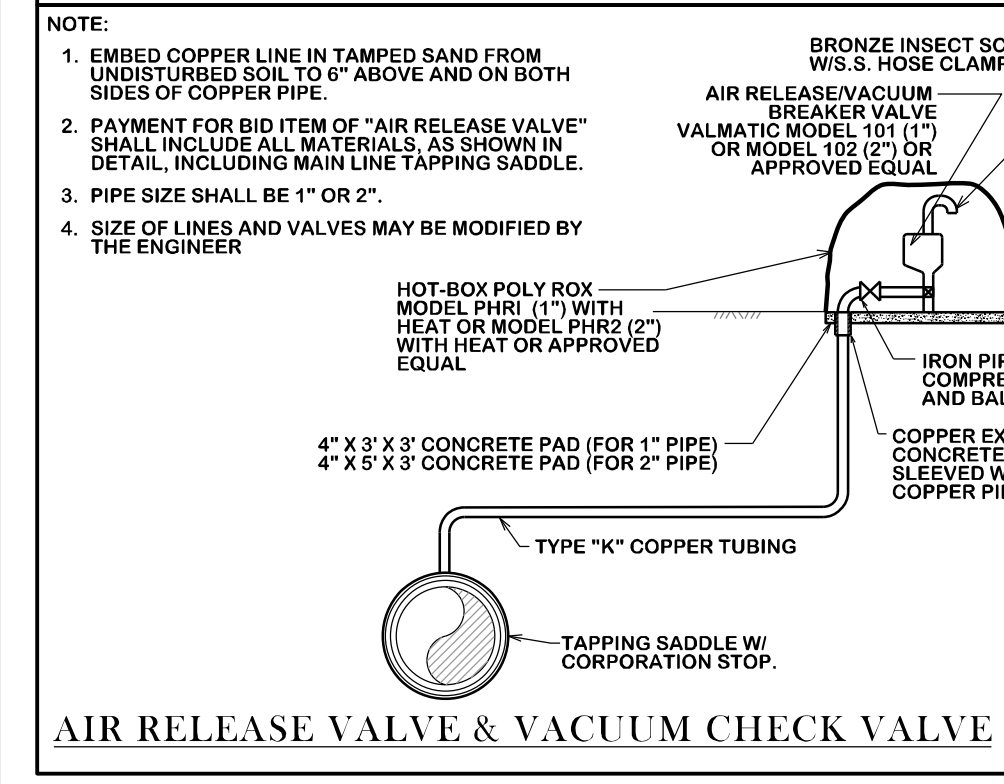
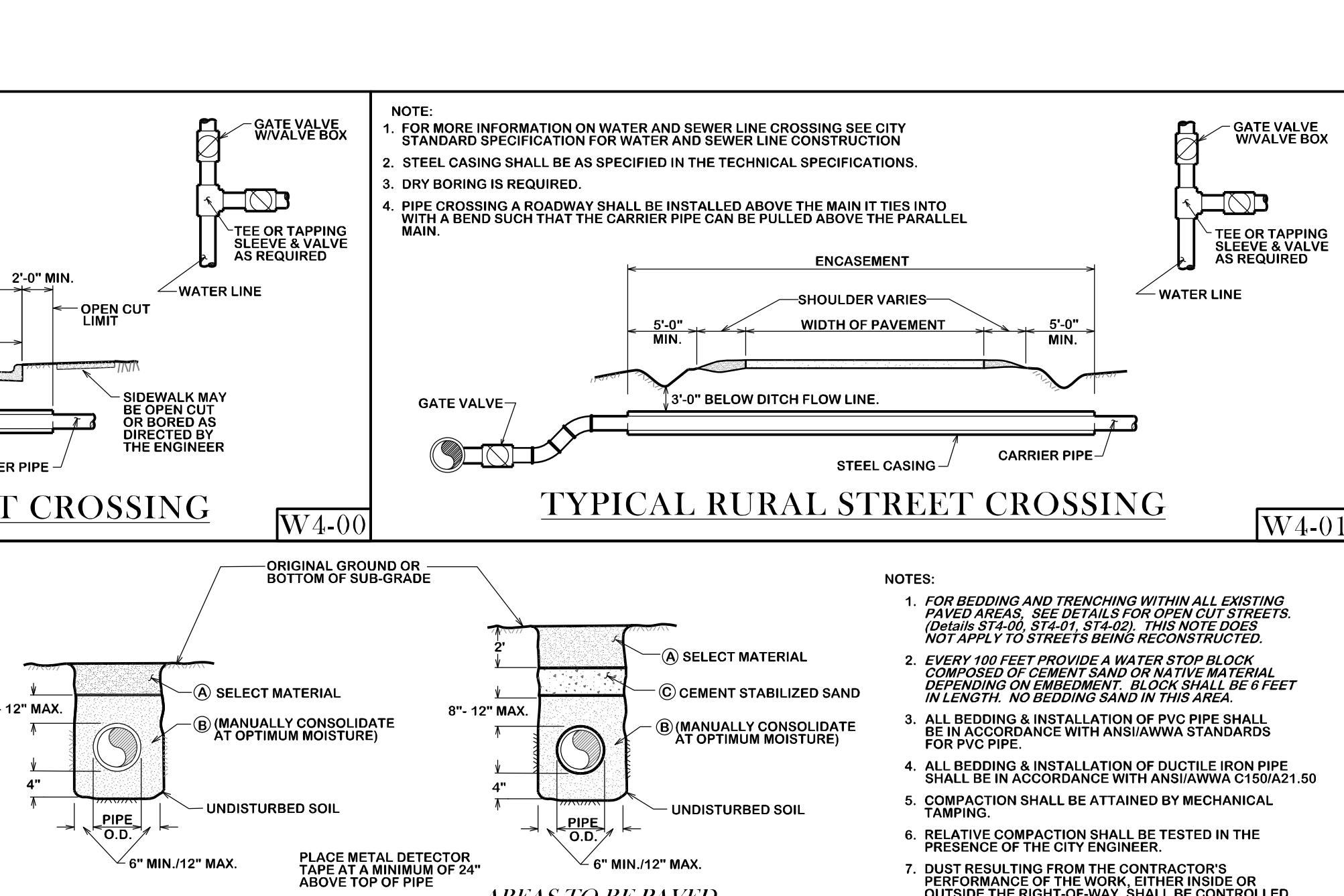
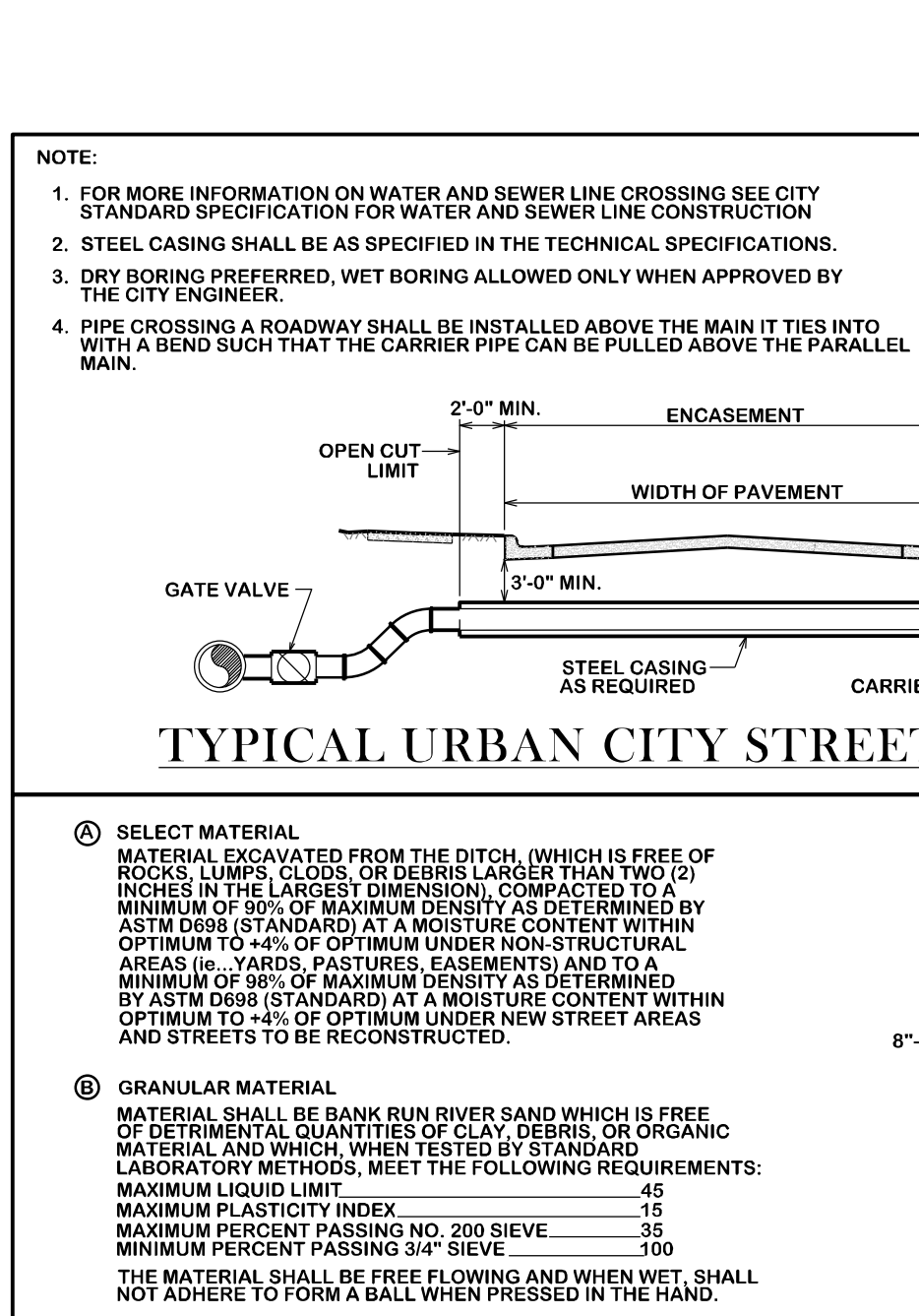
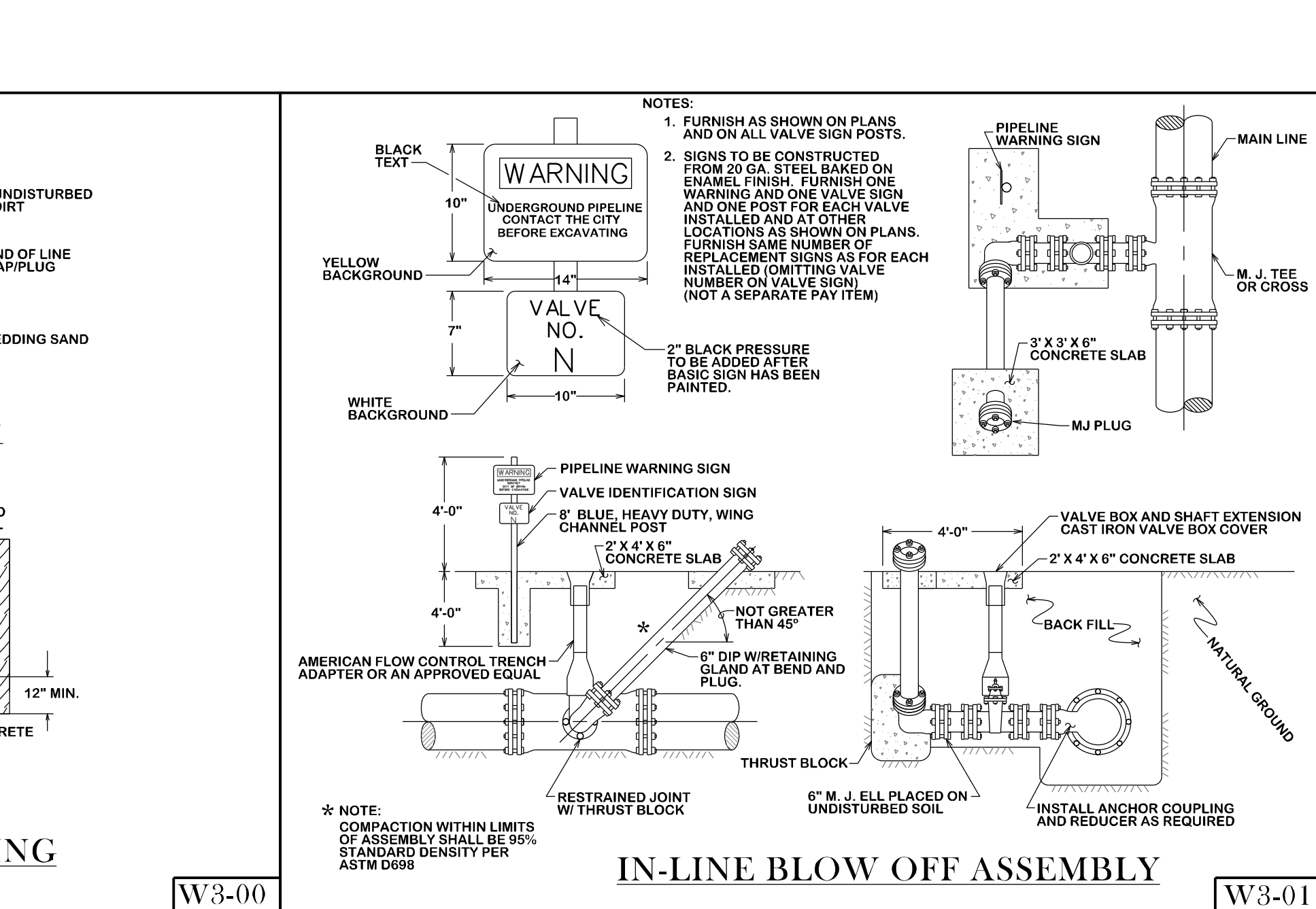
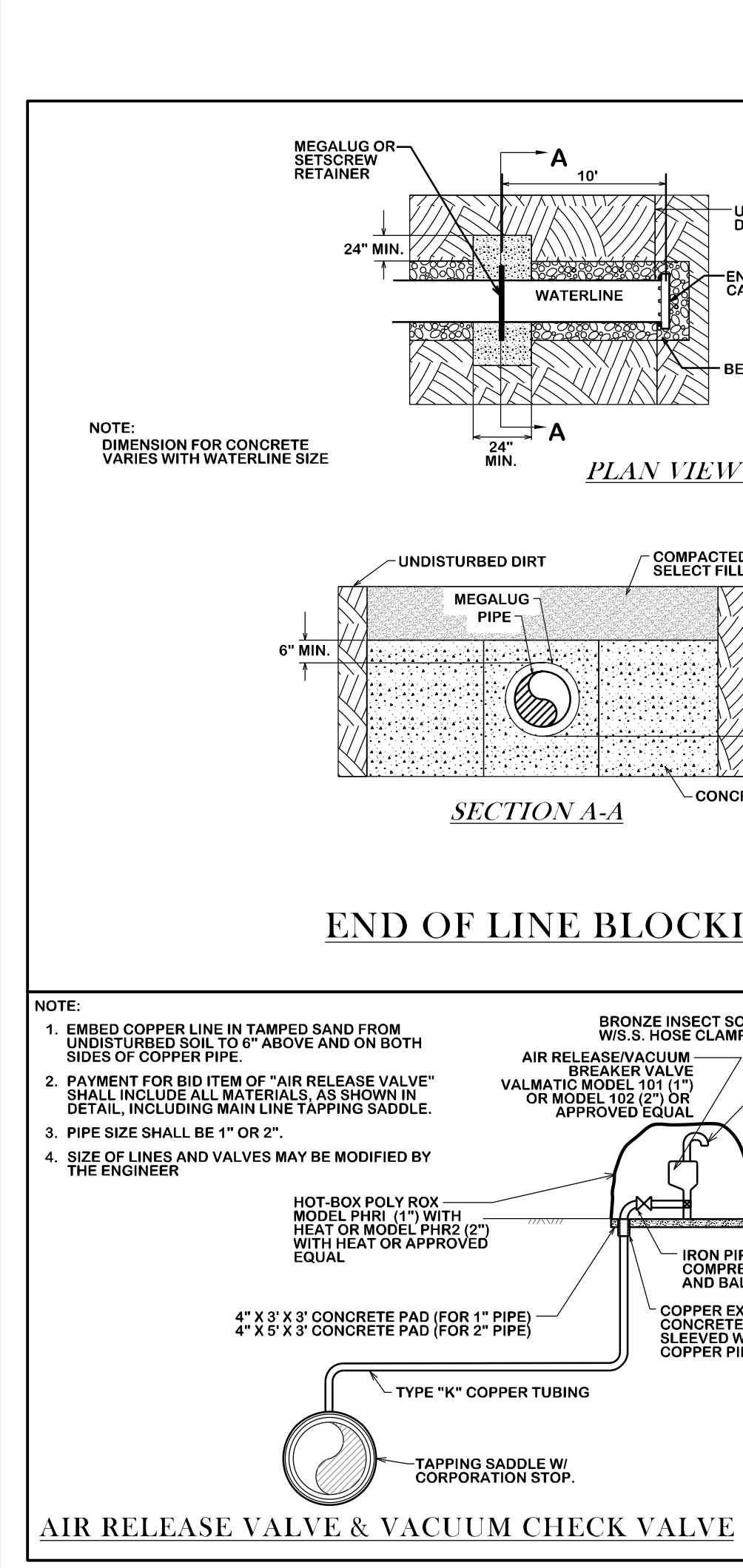
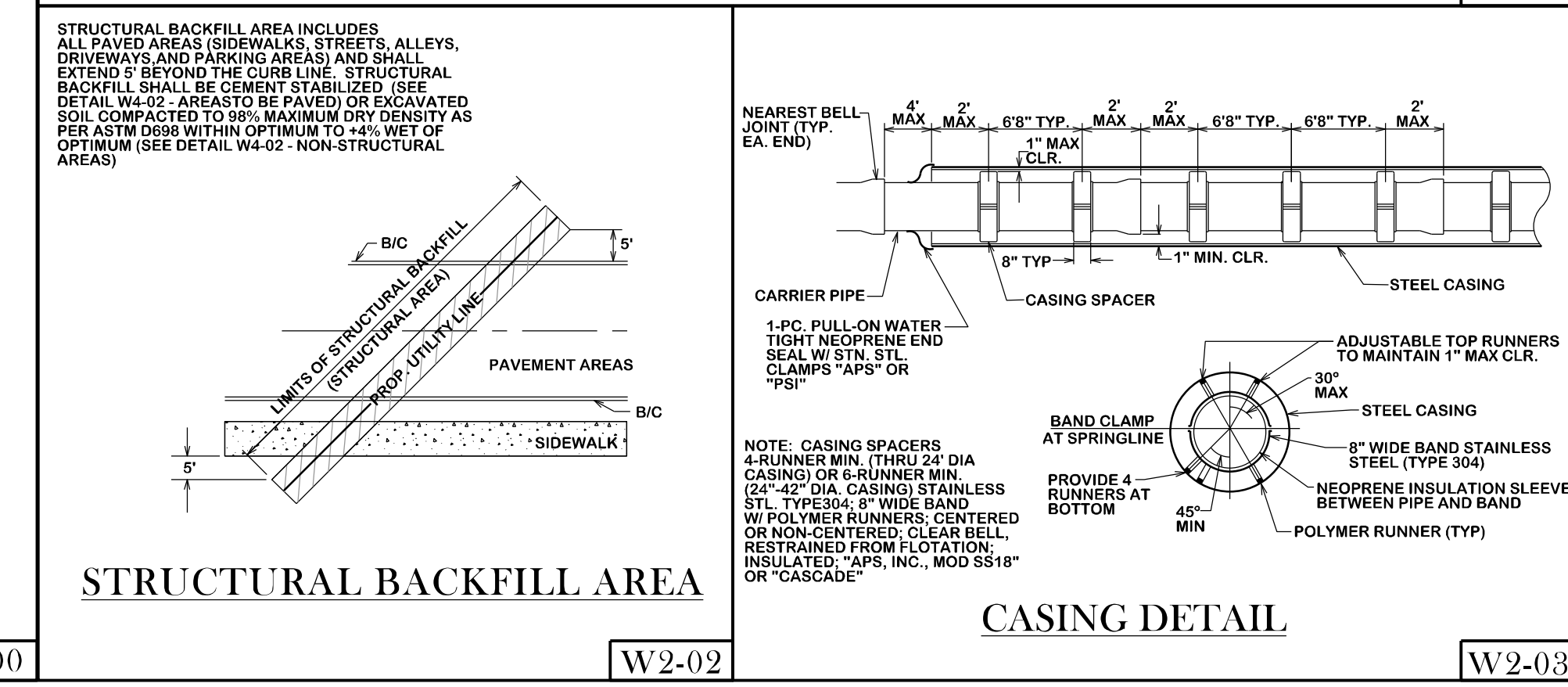
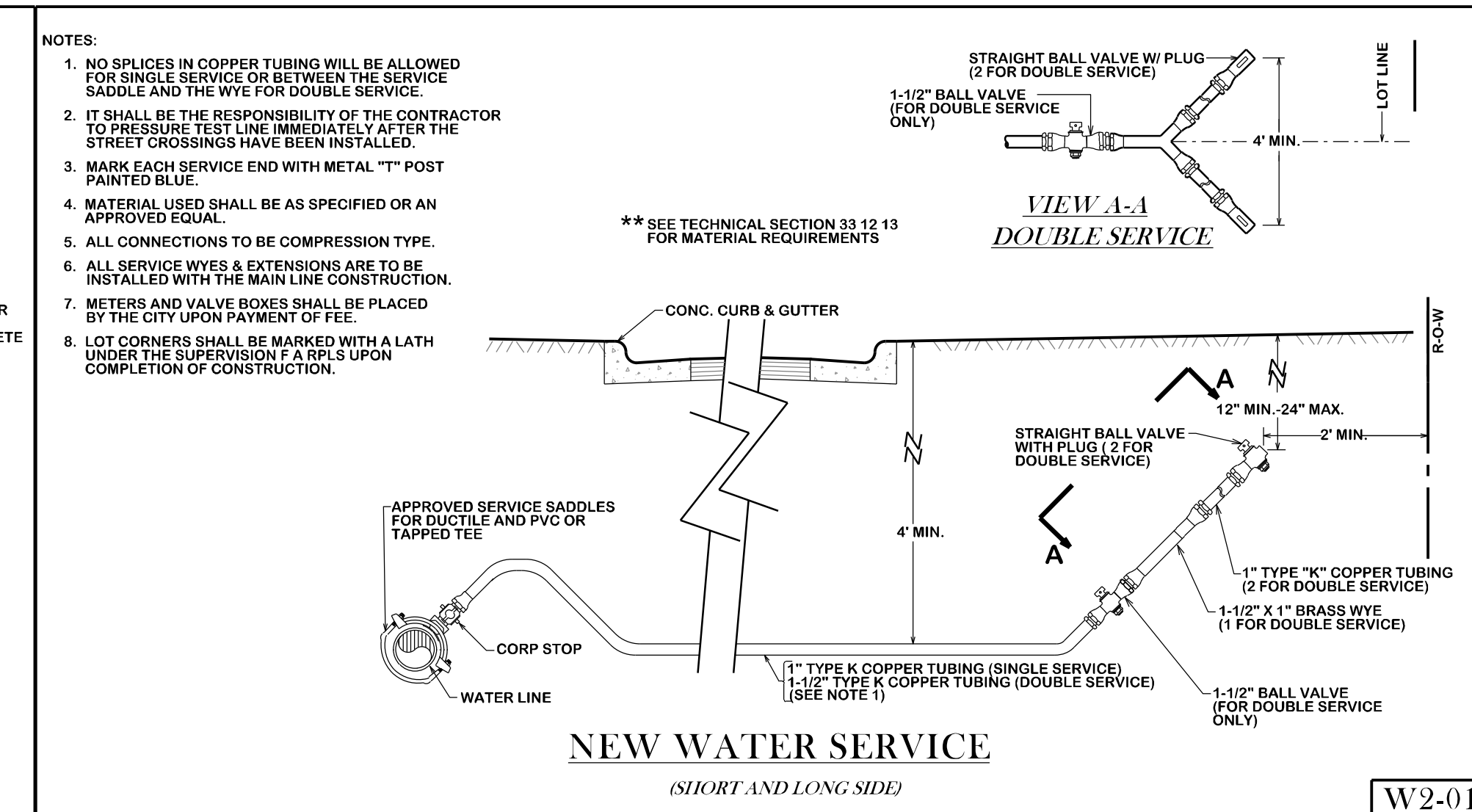
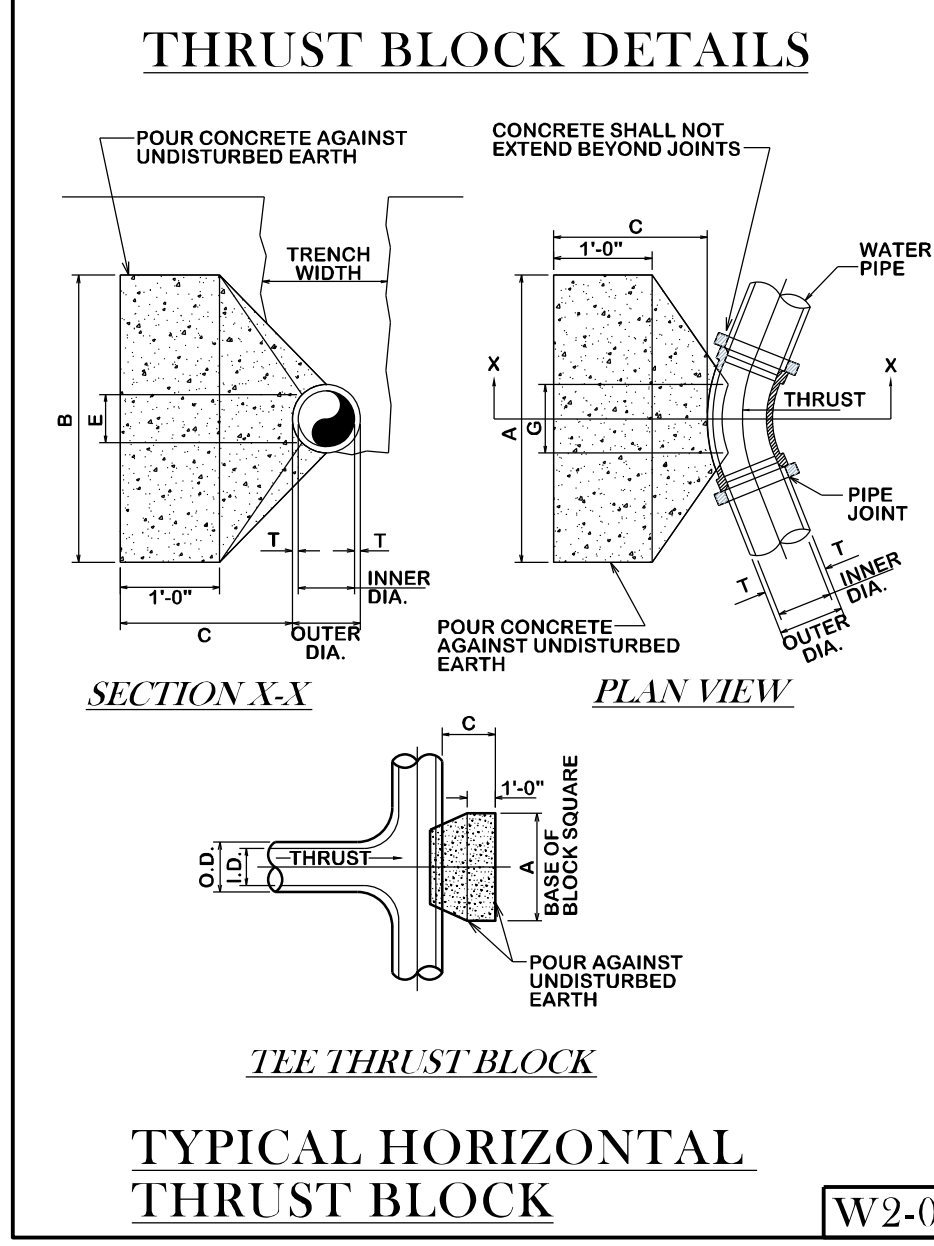
THRUST BLOCK NOTES:

- ALL CALCULATIONS ARE BASED ON INTERNAL PRESSURE OF 200 PSI AND SMALLER INNER DIAMETER PIPE.
- IF BEARING SURFACES OF THRUST BLOCKS SHALL BE PLACED AGAINST UNDISTURBED EARTH OR ROCK.
- CONCRETE FOR BLOCKING SHALL BE 2800 PSI.
- DIMENSIONS MAY BE VARIED AS REQUIRED BY FIELD WHERE AND AS DIRECTED BY THE ENGINEER. THE VOLUME OF CONCRETE BLOCKING SHALL NOT BE LESS THAN SHOWN HERE.
- WATER MAIN SHALL NOT BE PRESSURIZED UNTIL ALL CONCRETE BLOCKING HAS REACHED 1500 PSI.

ID (in)	THRUST (lb)	TEE SCHEDULE		VOLUME (c.y.)
		(ft)	(ft)	
4.0	1.5	1.5	0.9	0.4
4.5	2.0	2.0	1.2	0.6
5.0	2.5	2.5	1.5	0.8
5.5	3.0	3.0	1.8	1.0
6.0	3.5	3.5	2.1	1.2
6.5	4.0	4.0	2.4	1.4
7.0	4.5	4.5	2.7	1.6
7.5	5.0	5.0	3.0	1.8
8.0	5.5	5.5	3.3	2.0
8.5	6.0	6.0	3.6	2.2
9.0	6.5	6.5	3.9	2.4
9.5	7.0	7.0	4.2	2.6
10.0	7.5	7.5	4.5	2.8
10.5	8.0	8.0	4.8	3.0
11.0	8.5	8.5	5.1	3.2
11.5	9.0	9.0	5.4	3.4
12.0	9.5	9.5	5.7	3.6

HORIZONTAL THRUST BLOCK SCHEDULE

NOTE: USE POLYETHYLENE WRAP OR EQUAL BETWEEN CONCRETE & PLUG TO PREVENT CONCRETE FROM STICKING TO PLUG.

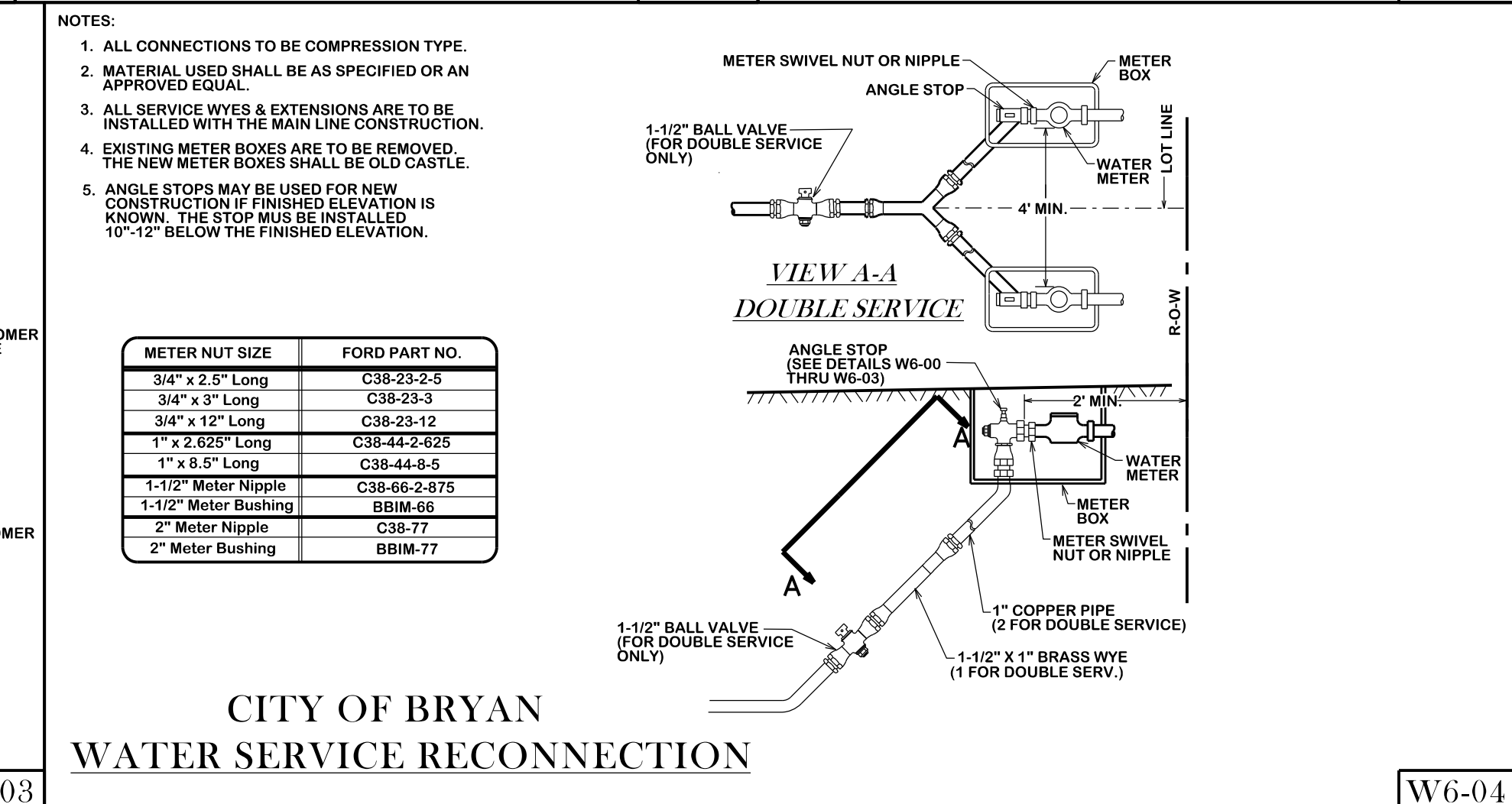
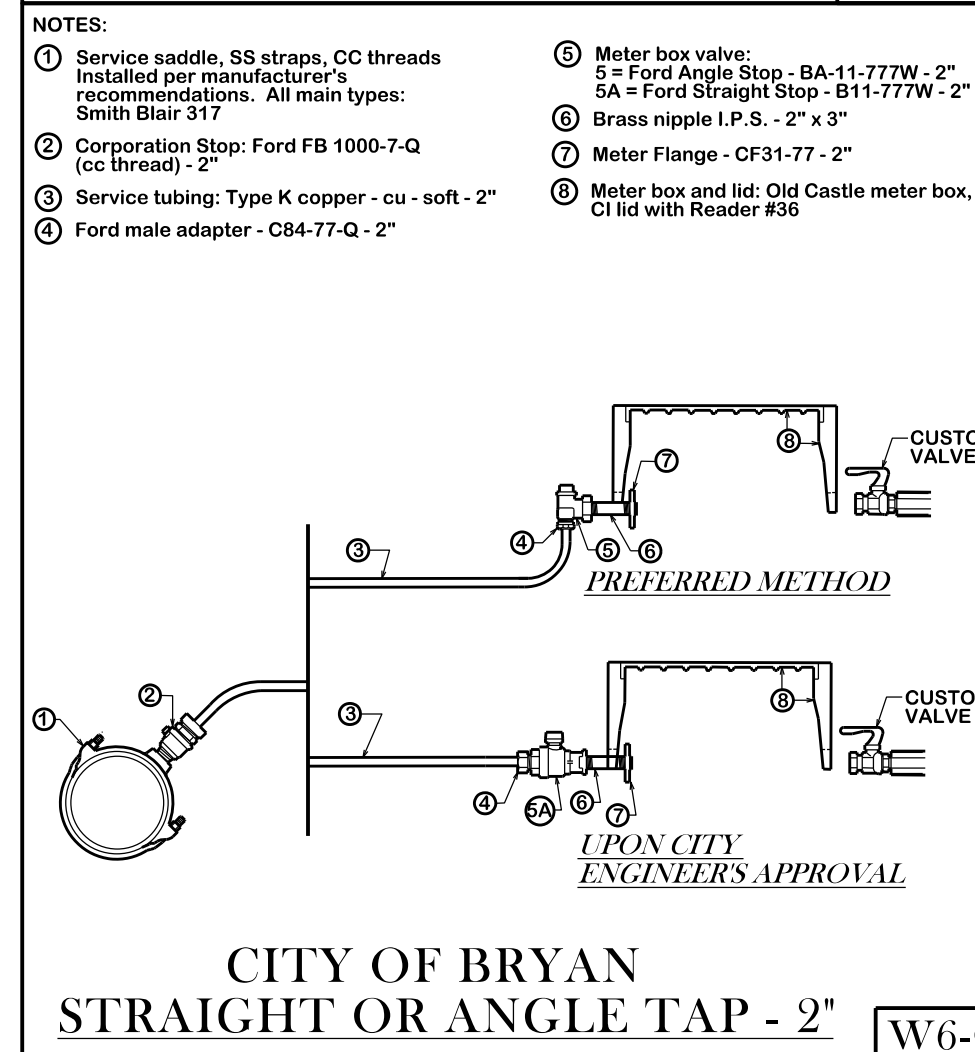
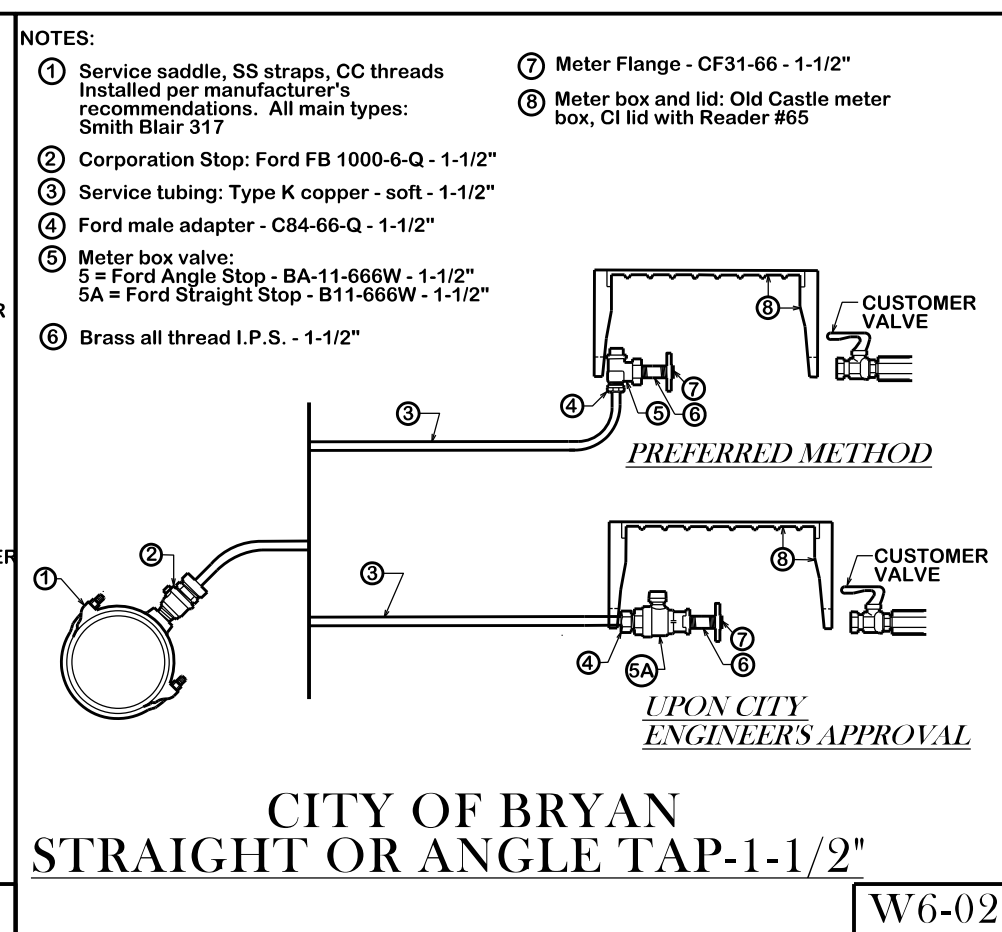
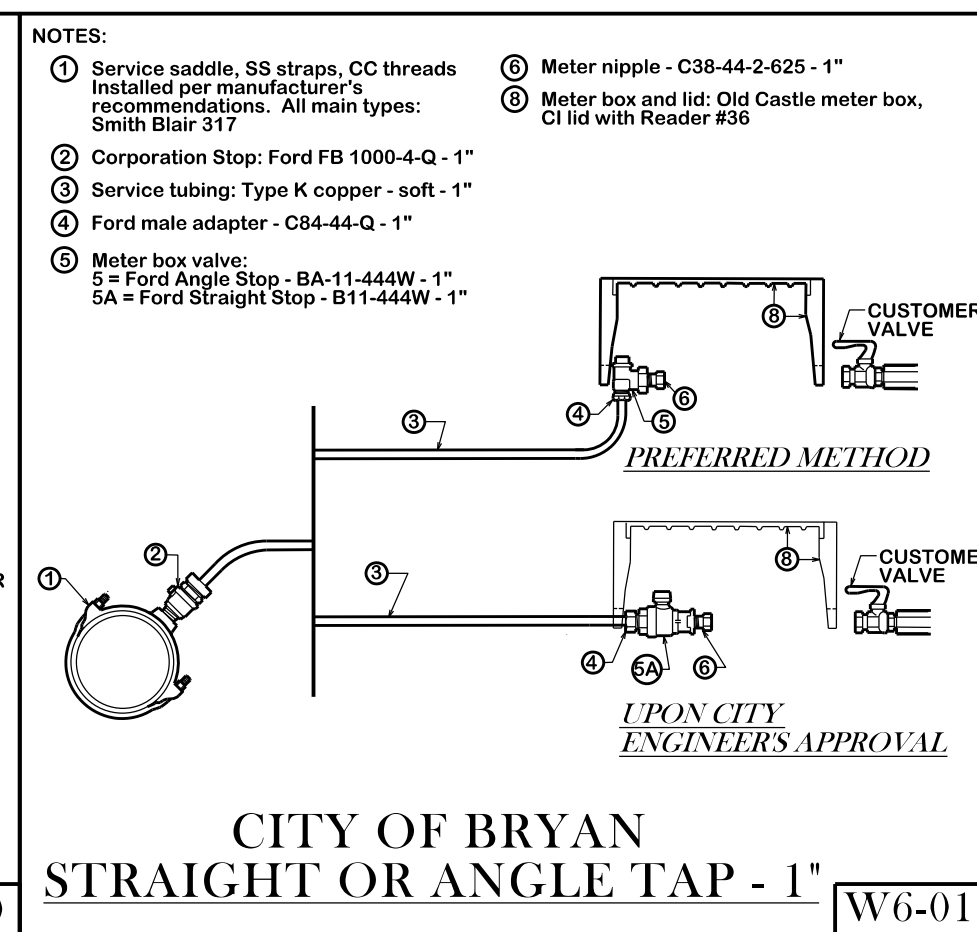
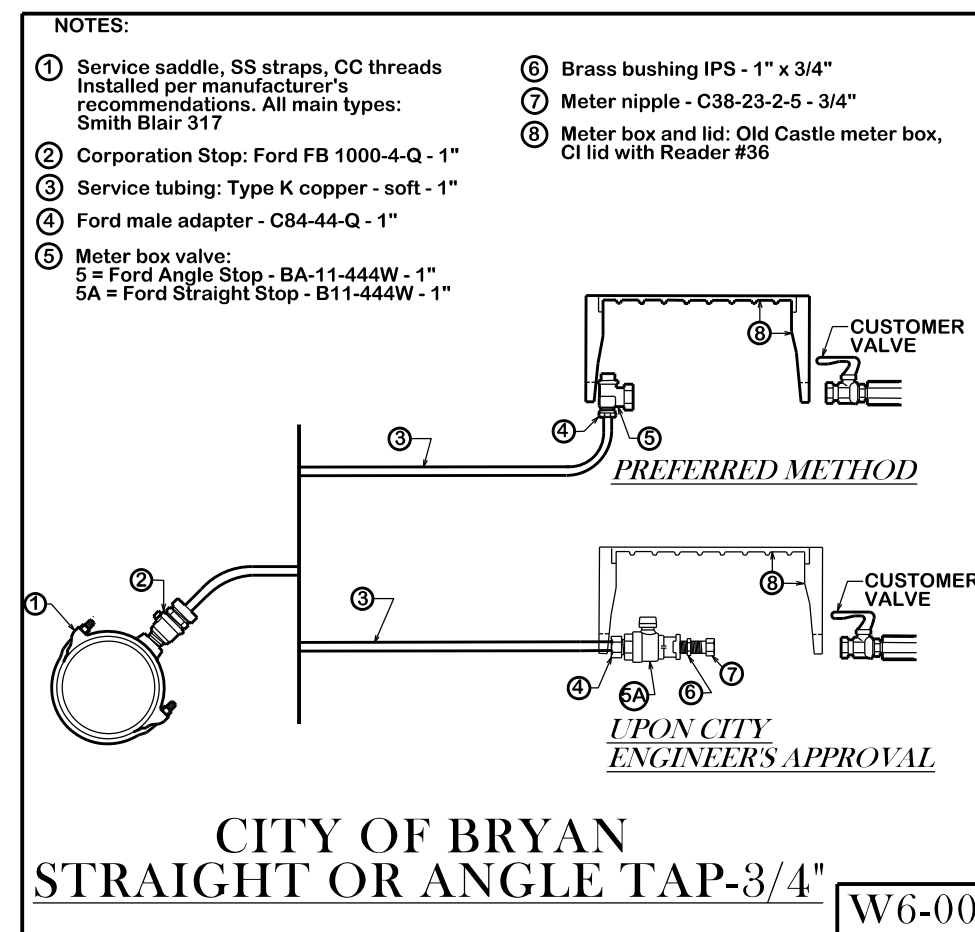


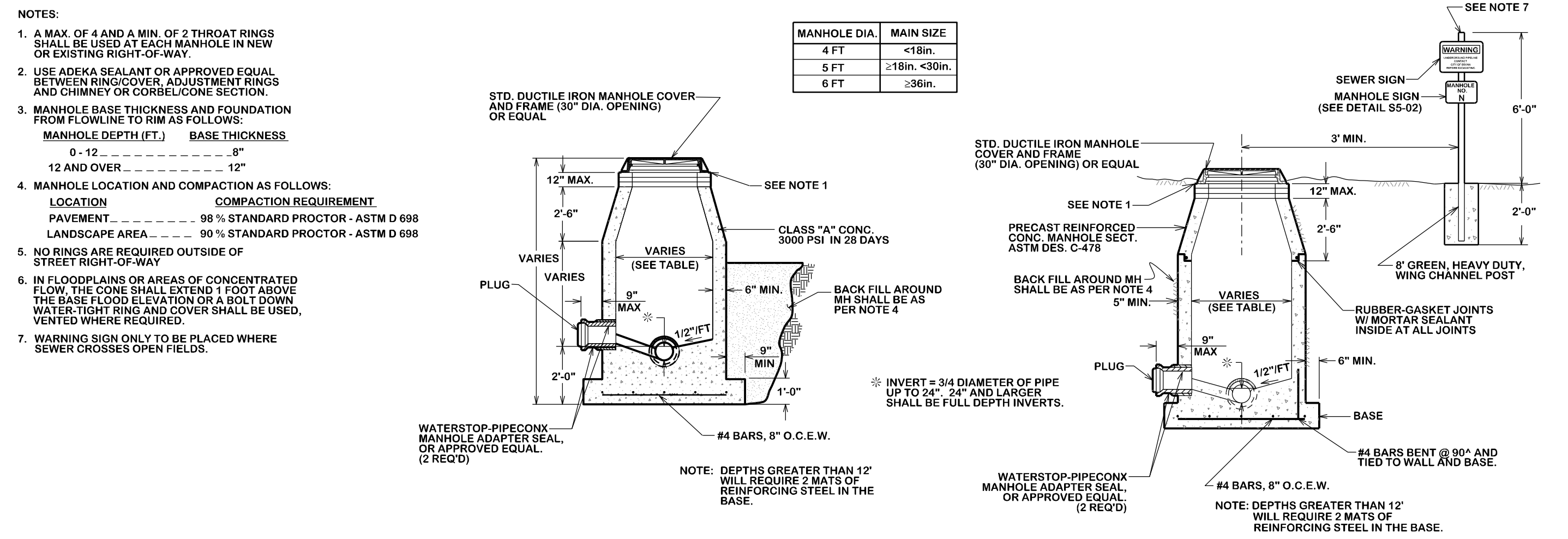
BRYAN - COLLEGE STATION
STANDARD WATER DETAILS



DRAWN BY: C.L.M.
DATE: 08-01-12
SCALE: N T S
APPROVED: W. P. K.

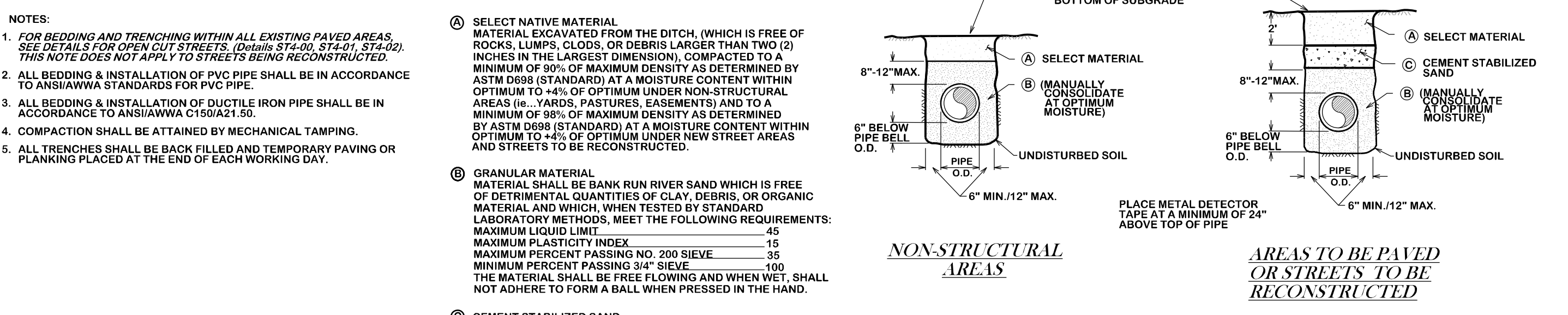
FIGURE:
W2
SHEET 2 OF 2





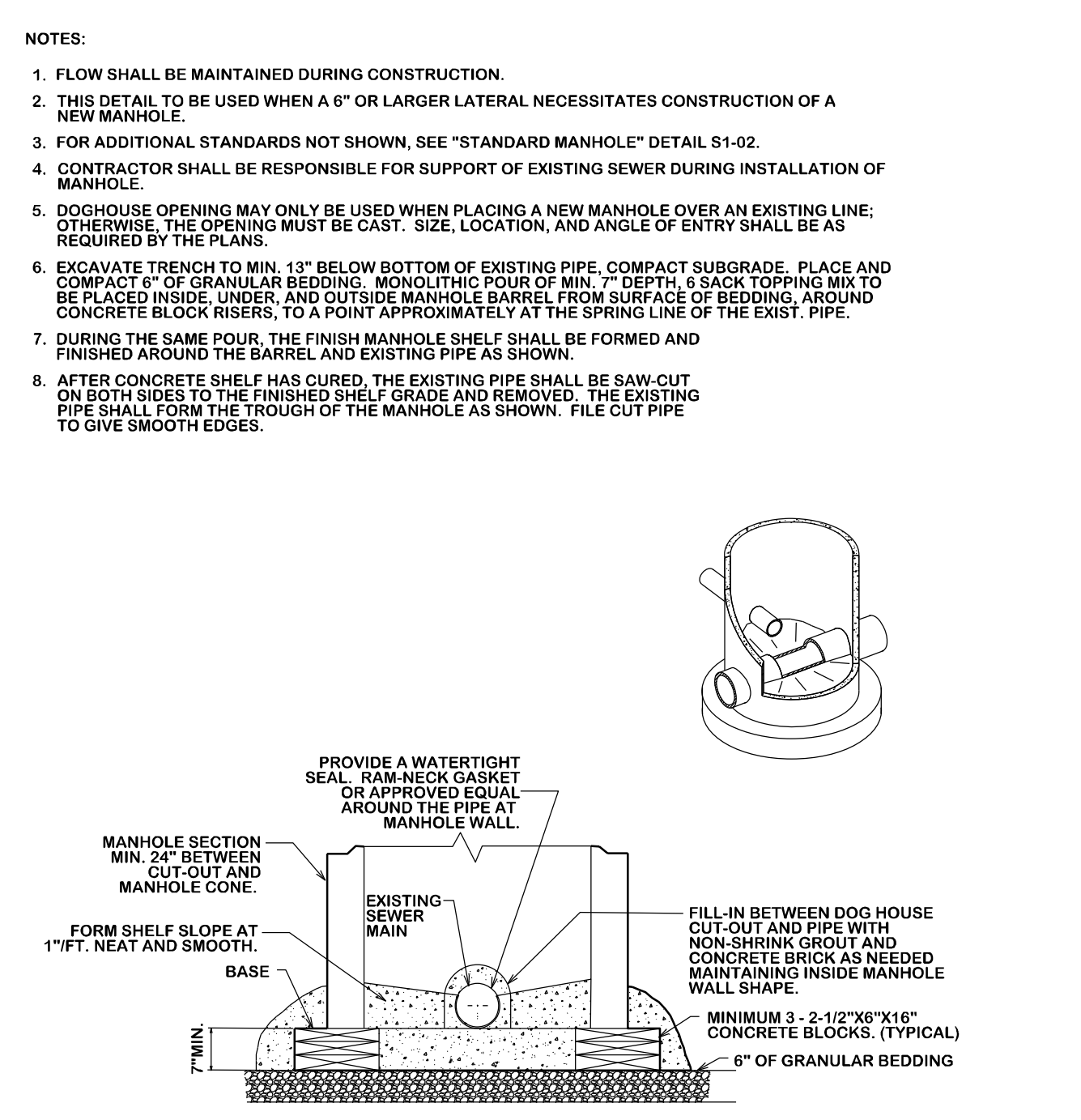
STANDARD MANHOLE

S1-00

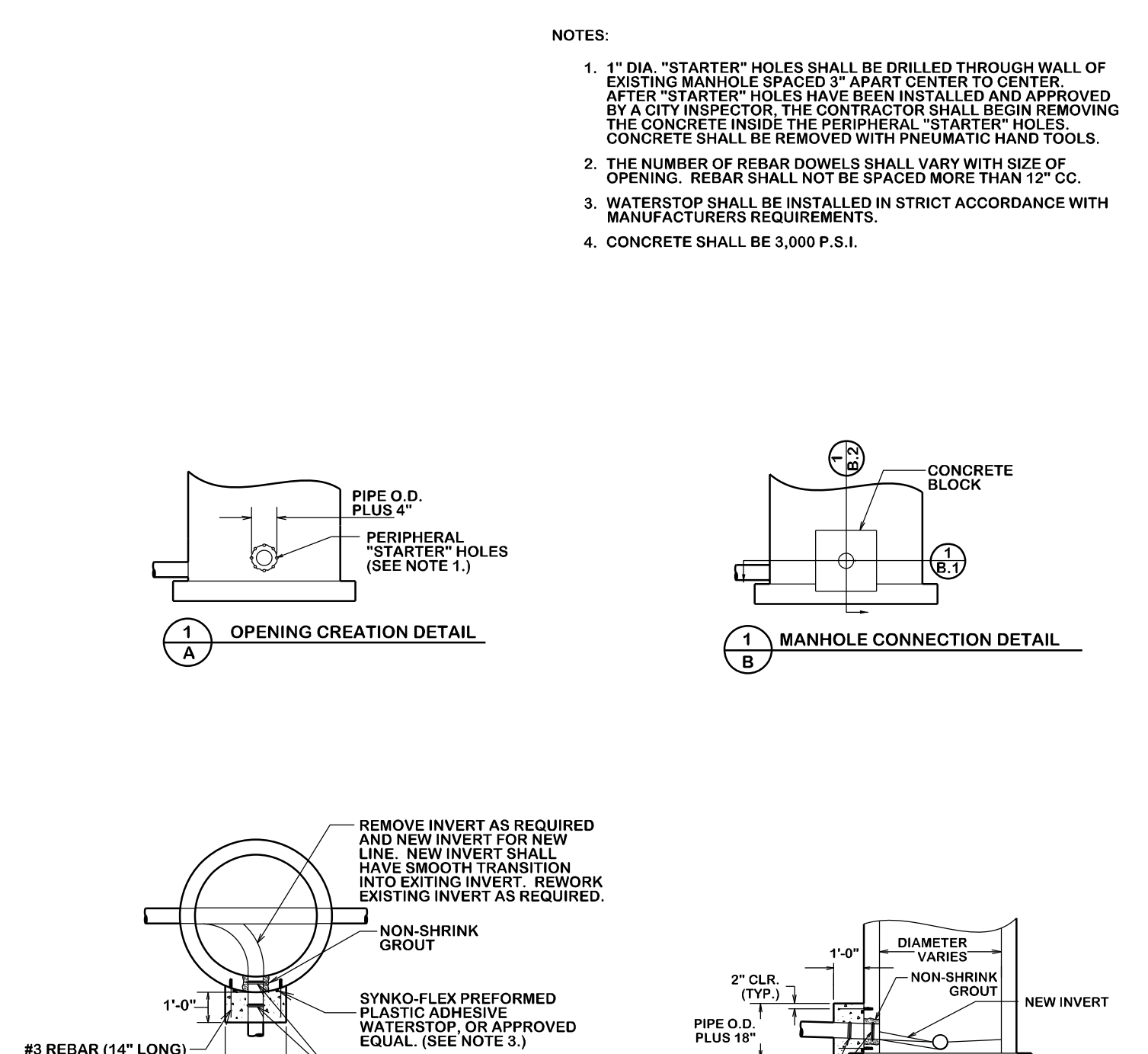


BEDDING AND TRENCH FOR DI PIPE & PVC PIPE

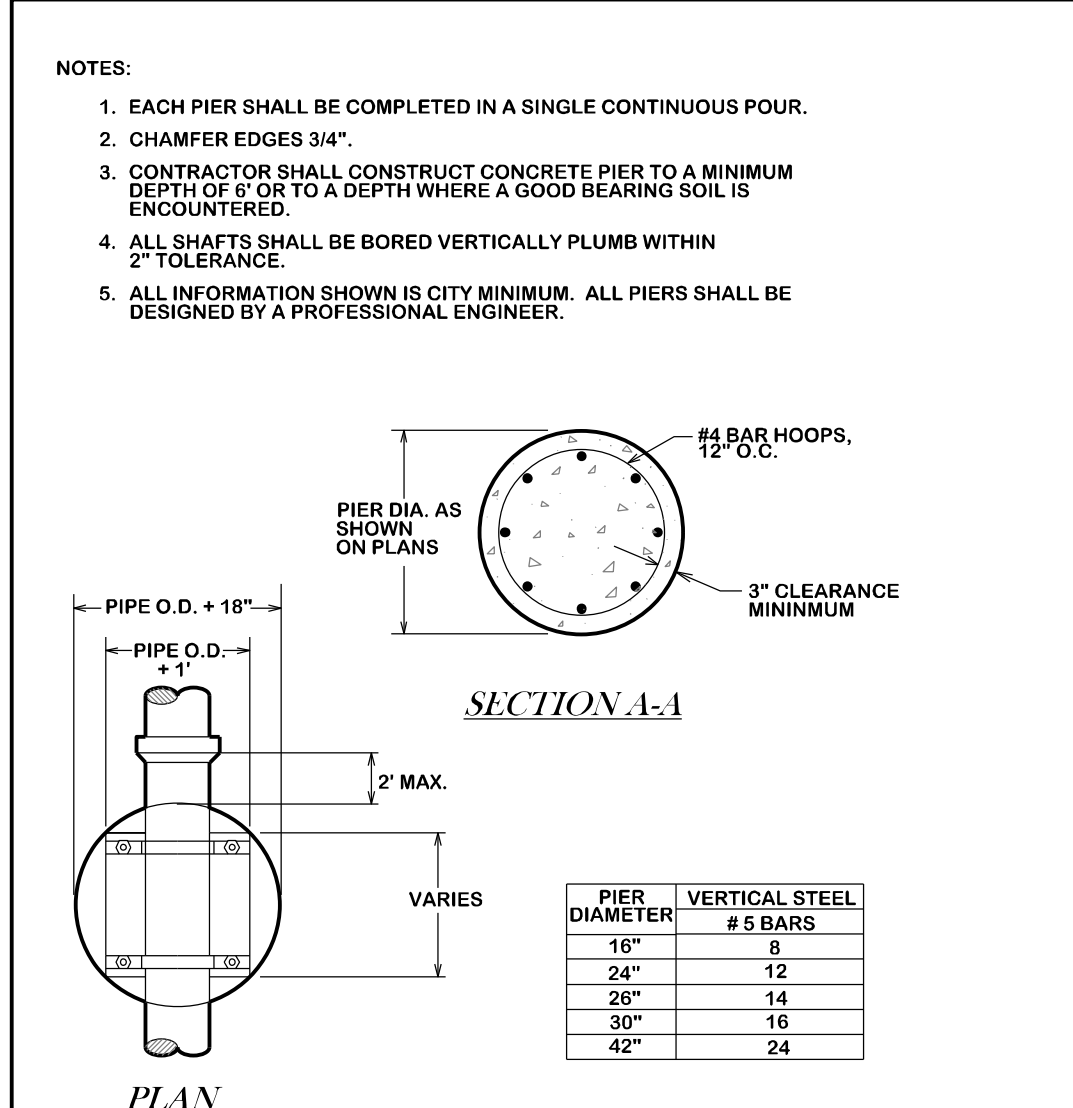
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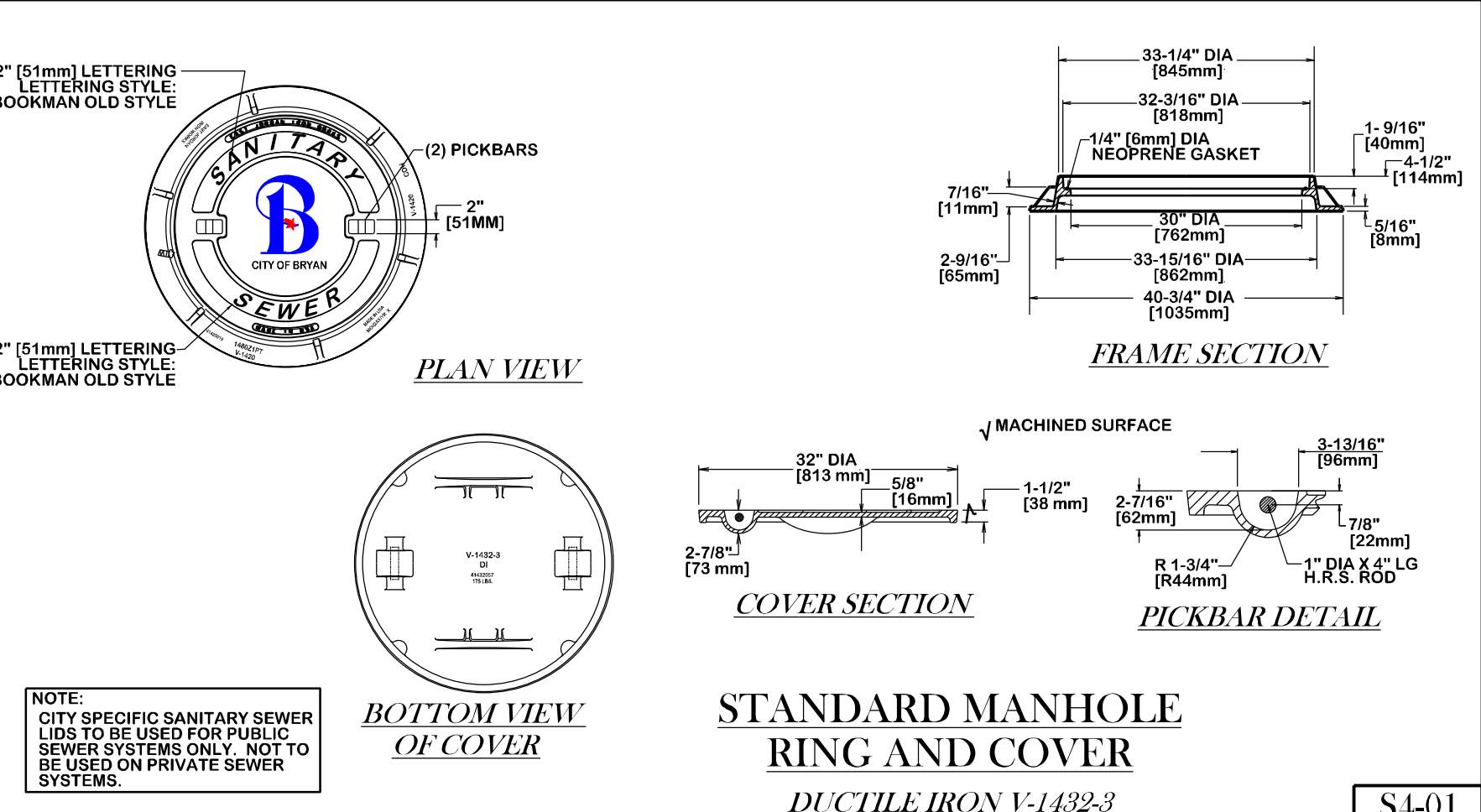
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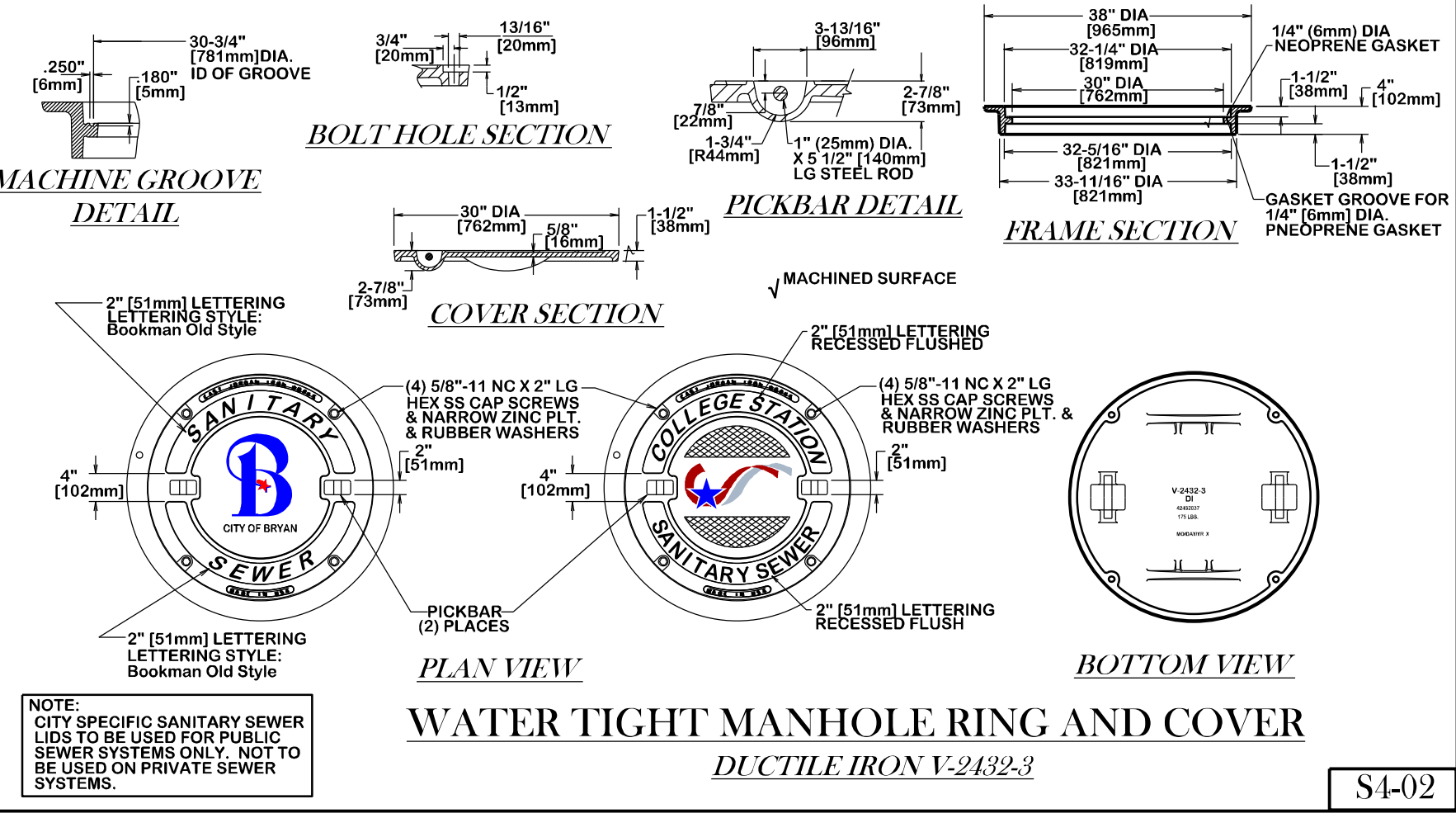
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S4-00



S4-01



S4-02

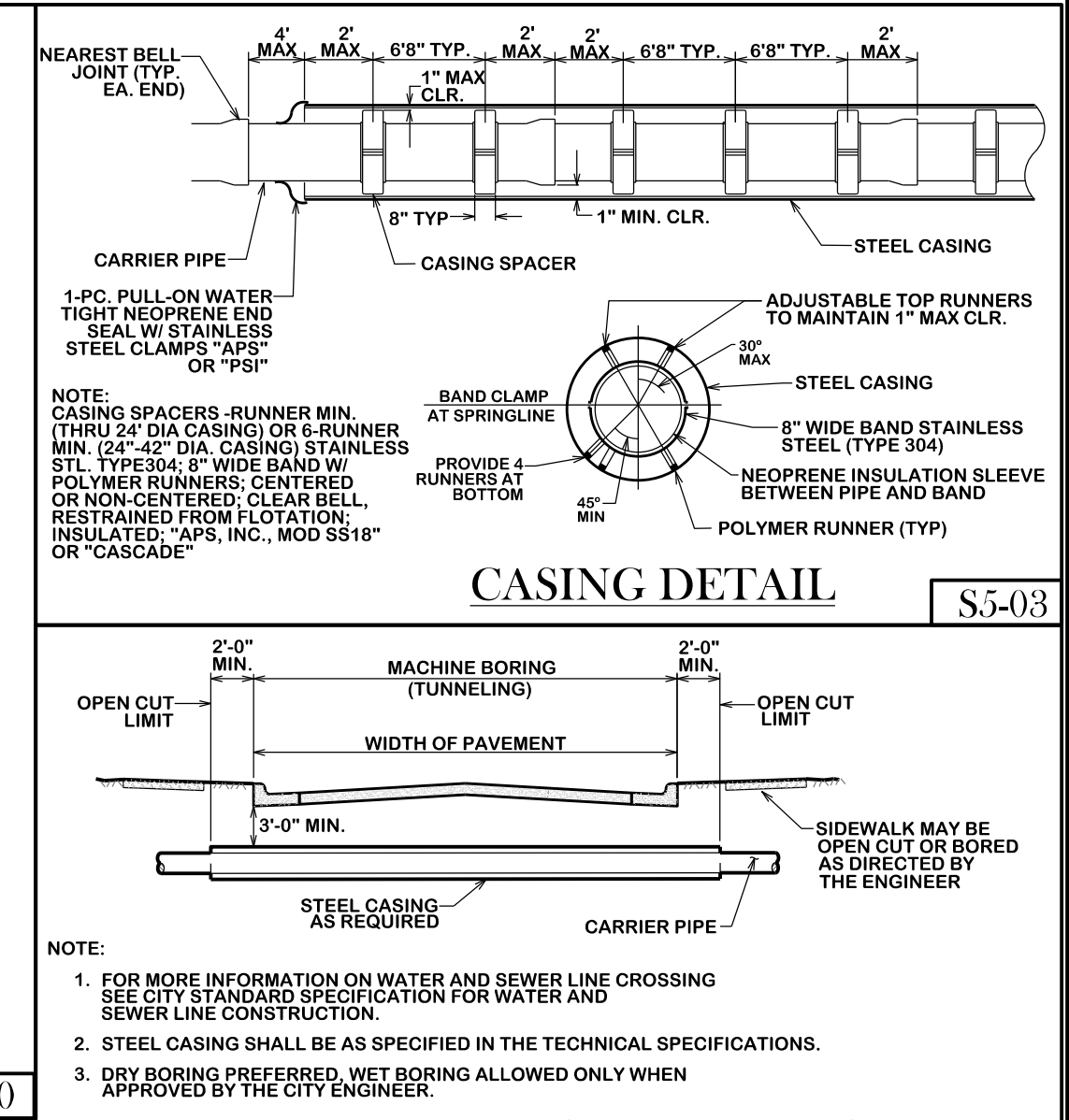
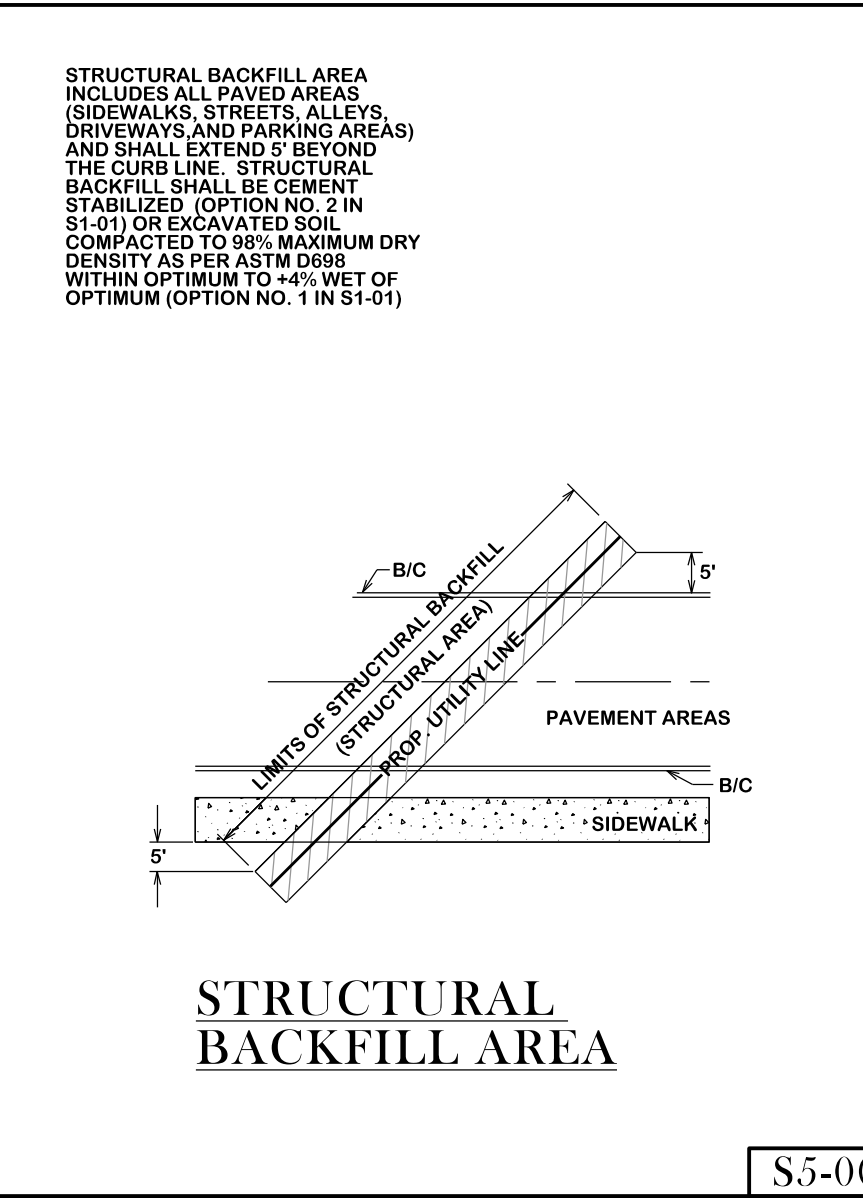
REVISIONS:

**BRYAN - COLLEGE STATION
STANDARD SEWER DETAILS**



DRAWN BY: C.L.M.
DATE: 08-01-12
SCALE: N T S
APPROVED: W. P. K.

REVISIONS:
S5-00 & S6-01 revised 10/26/2012.



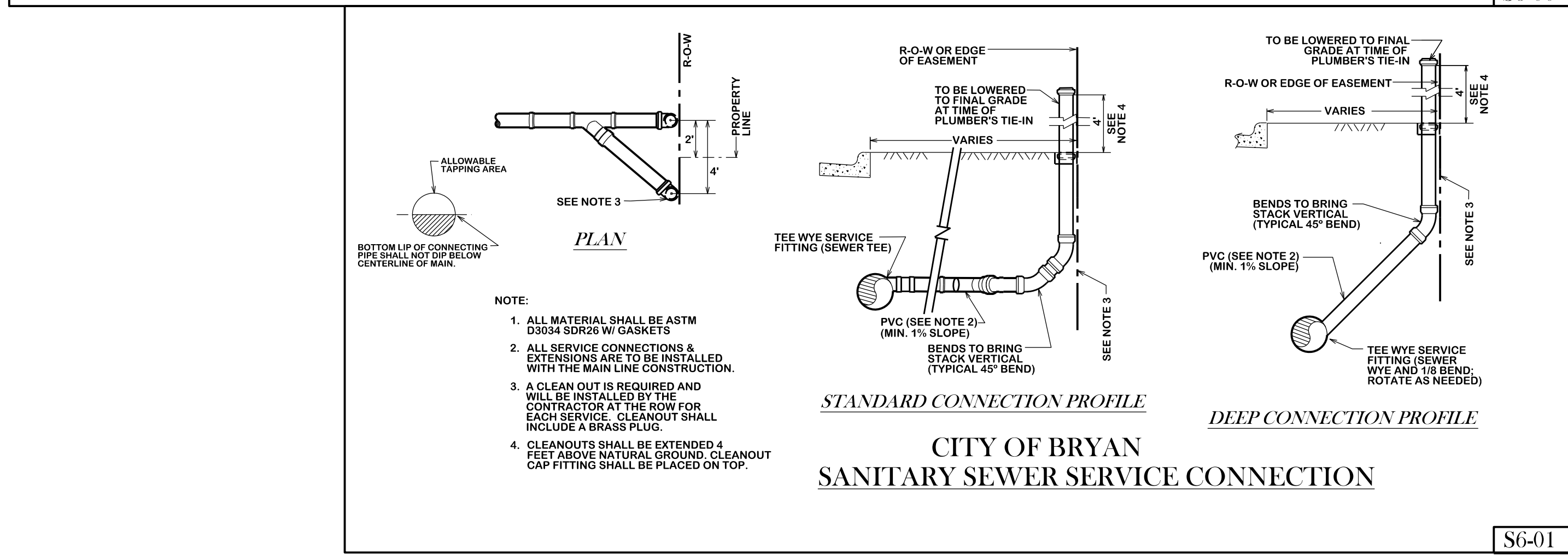
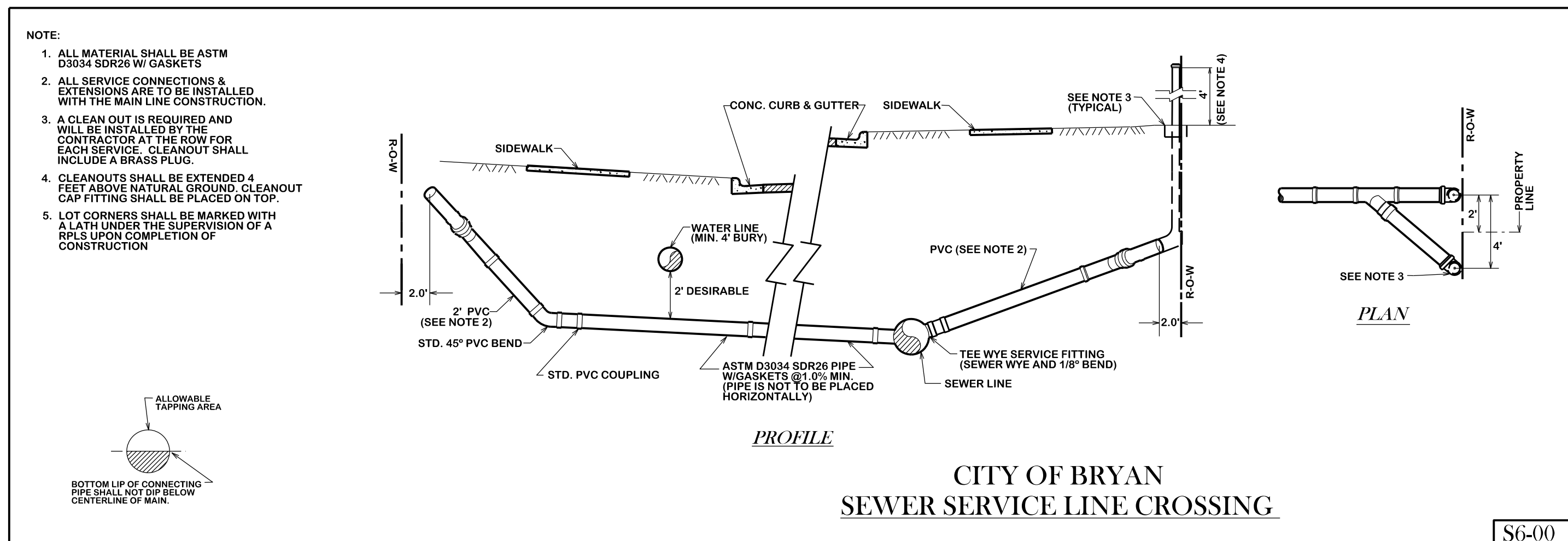
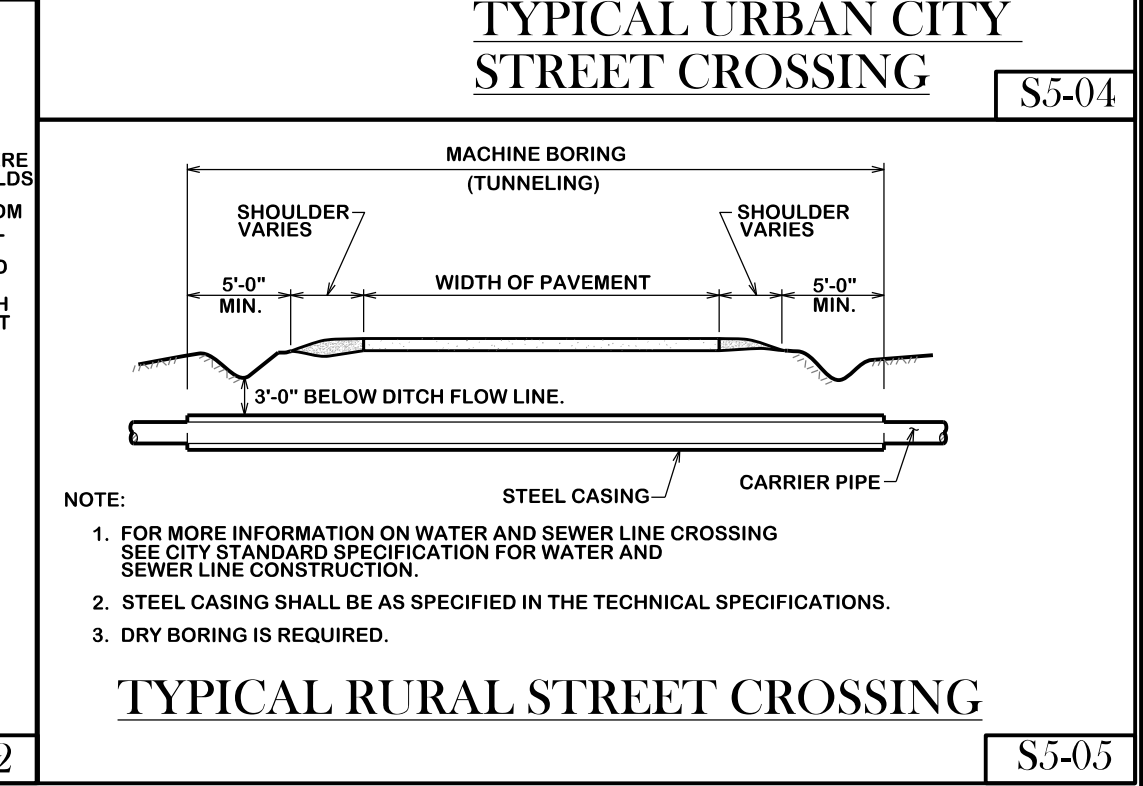
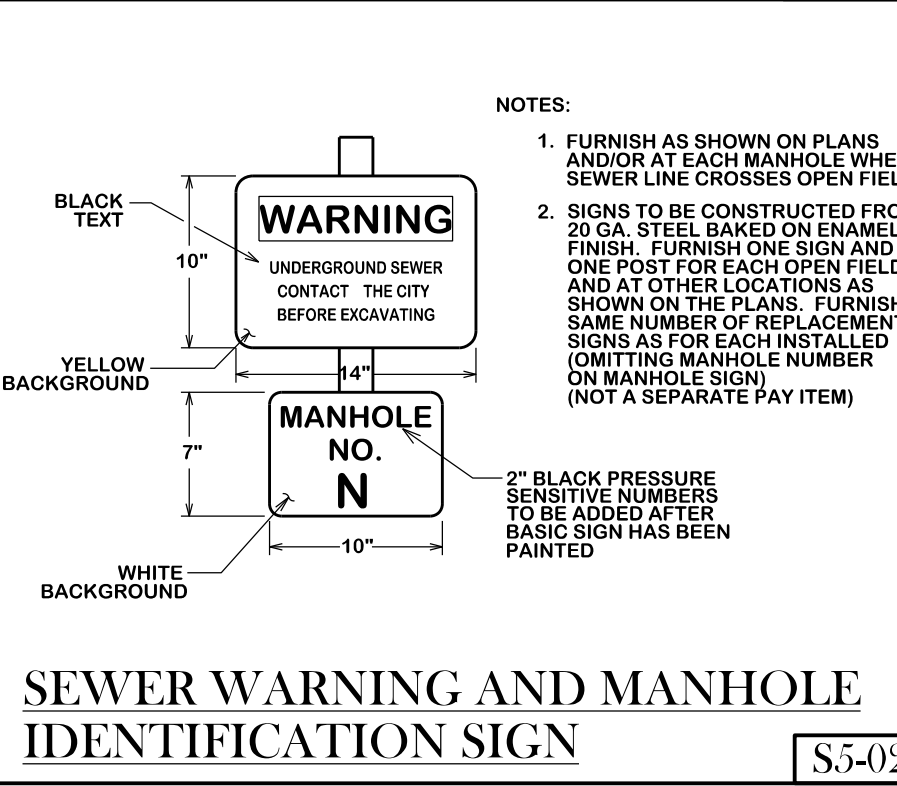
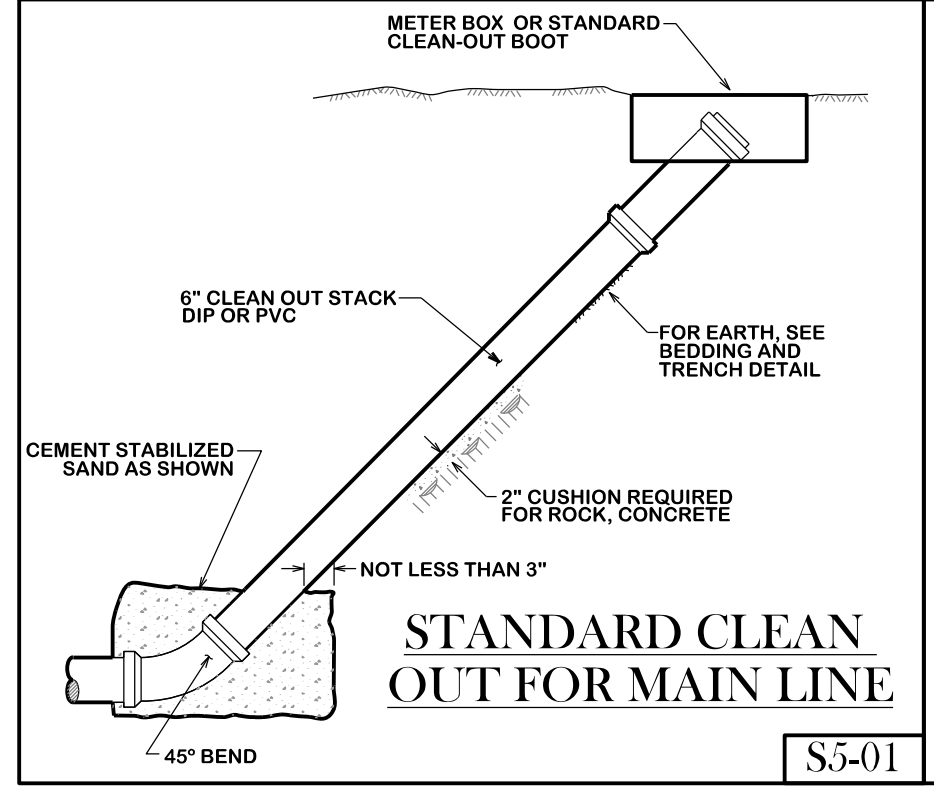
GENERAL NOTES:

ALL AREAS WHERE EXISTING VEGETATION AND GRASS COVER HAVE BEEN BARED BY CONSTRUCTION SHALL BE ADEQUATELY BLOCK SODDED OR HYDROMULCHED AND WATERED UNTIL GROWTH IS ESTABLISHED. IN DEVELOPED AREAS WHERE GRASS IS PRESENT, BLOCK SOD WILL BE REQUIRED. BARED AREAS SHALL BE SEEDED OR SODDED WITHIN 14 CALENDAR DAYS OF LAST DISTURBANCE.

APPROVED EROSION CONTROL MEASURES MUST BE INSTALLED DURING THE ENTIRE TIME THAT EARTH HAS BEEN BARED BY CONSTRUCTION AND SHALL STAY IN PLACE UNTIL ACCEPTABLE VEGETATIVE GROWTH IS ESTABLISHED AFTER CONSTRUCTION IS COMPLETE AND THEN REMOVED BY CONTRACTOR.

ALL EROSION CONTROL MEASURES SHOULD BE CLEANED OF SILT AFTER EVERY RAIN.

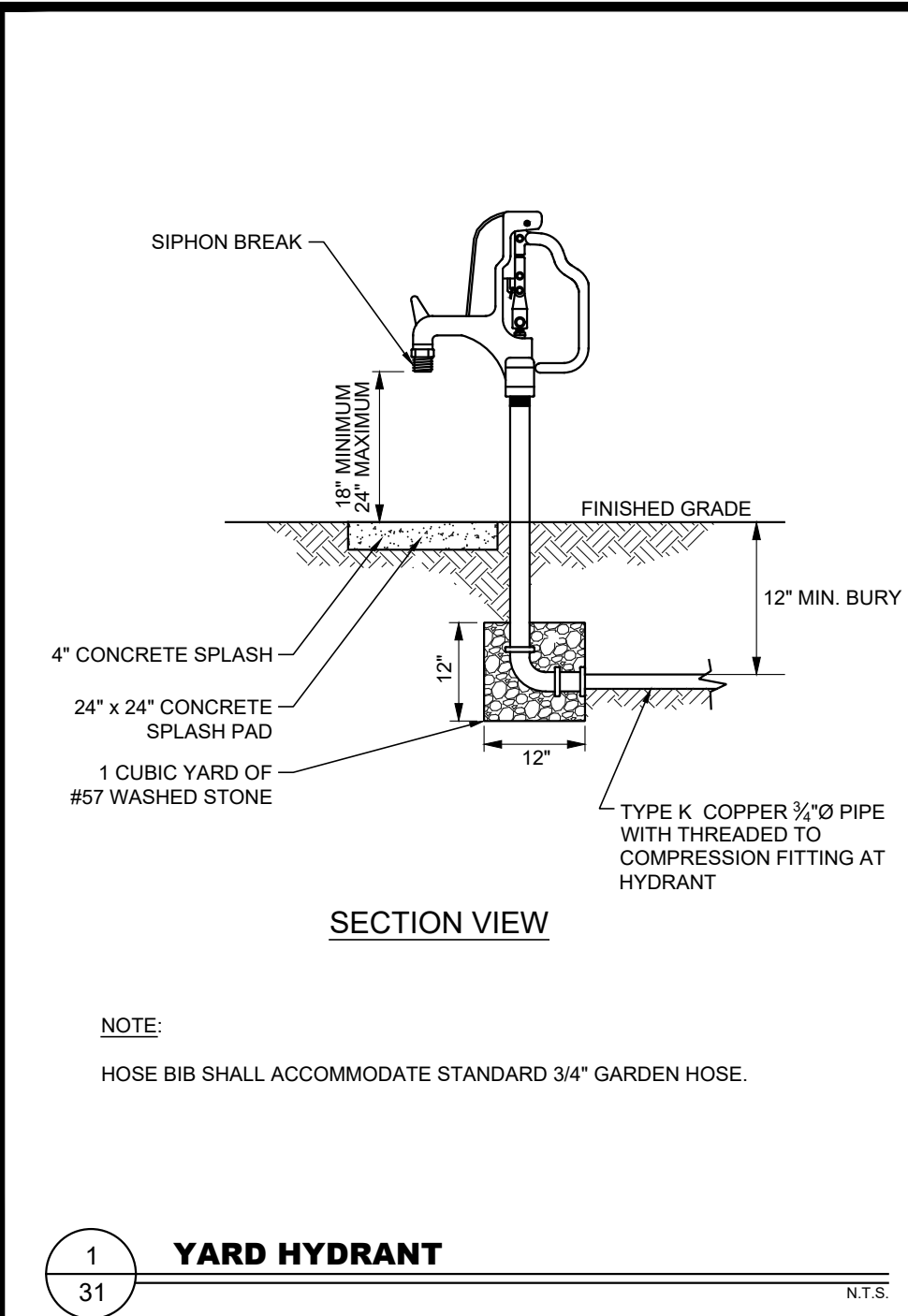
ESTABLISHMENT OF VEGETATION MAY BE A WARRANTY ITEM.



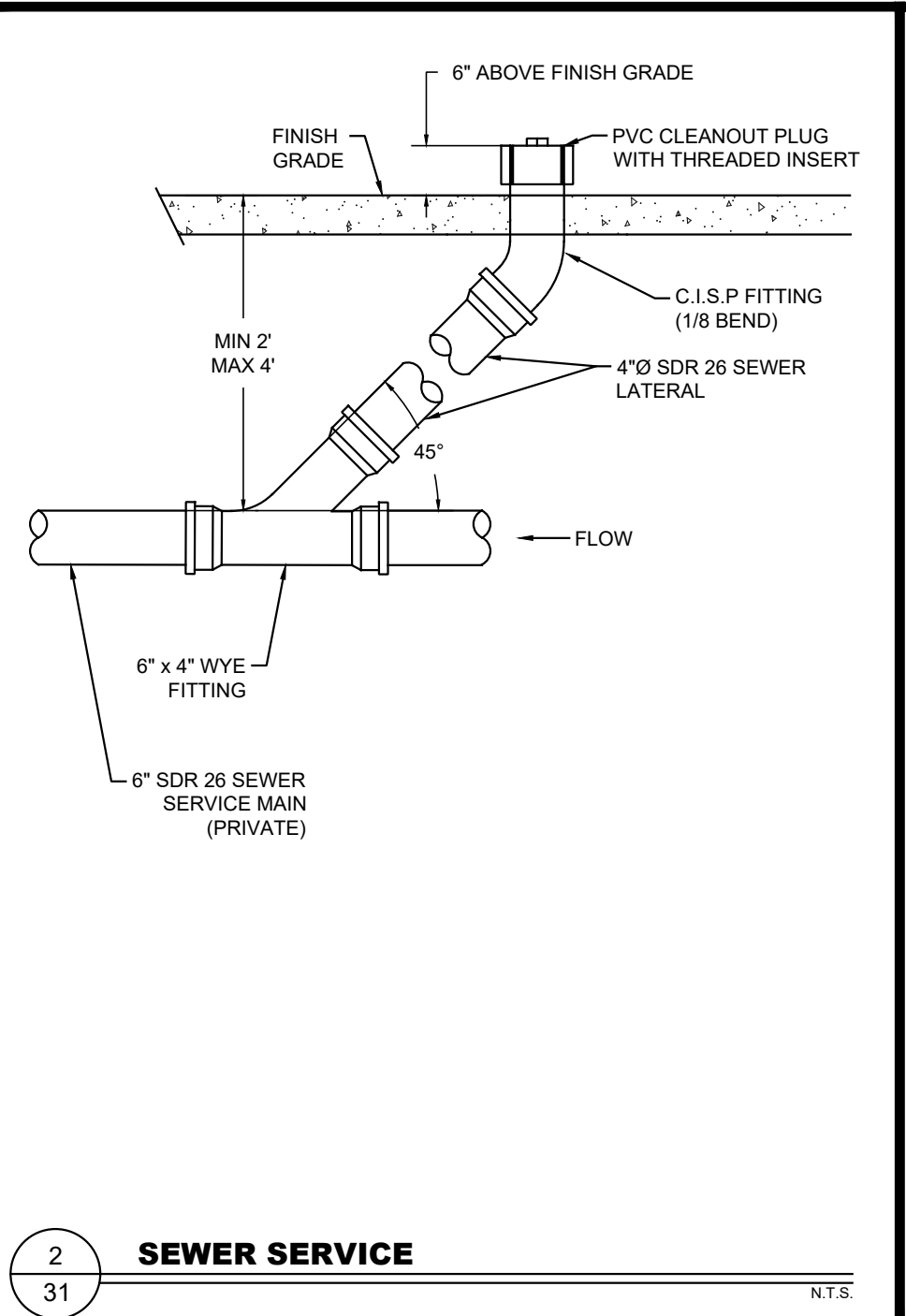
BRYAN - COLLEGE STATION
STANDARD SEWER DETAILS



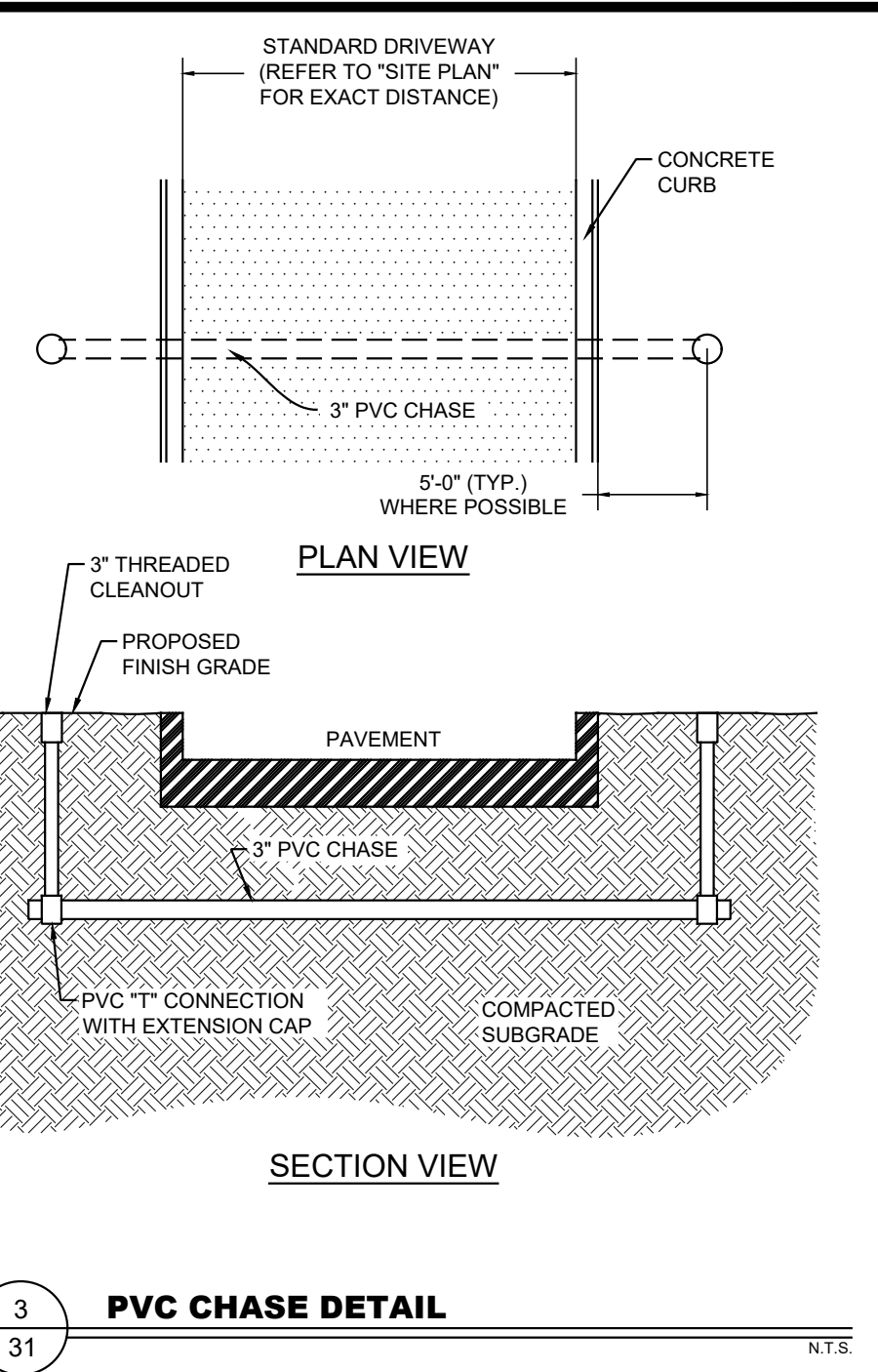
DRAWN BY: C.L.M.
DATE: 08-01-12
SCALE: N T S
APPROVED: W. P. K.
FIGURE:
S2
SHEET 2 OF 2



1 YARD HYDRANT N.T.S.



2 SEWER SERVICE N.T.S.



3 PVC CHASE DETAIL N.T.S.

DESIGN PROFESSIONAL



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WOODSON DEVELOPMENT

ISSUE/REVISION RECORD

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PROJECT NAME

WOODSON MIXED USE DEVELOPMENT

500-604 WOODSON DRIVE
BRYAN, TEXAS TBD

GREAT ESCAPES AT BRYAN SUBDIVISION,
LOT 1, BLOCK 1, 84.936 ACRES

PROJECT NUMBER

20006

DRAWING FILE

20006-DETL.DWG

SCALE N.T.S.

PROFESSIONAL SEAL



PROJECT STATUS

CONCEPT

SHEET TITLE

PRIVATE UTILITY DETAILS

SHEET NUMBER

31 of 33

TBD

CITY OF BRYAN APPROVAL BLOCK



SECTION 1: GENERAL NOTES

- 1. APPLICABLE CODES AND STANDARDS - ALL CODES AND STANDARDS REFERENCED SHALL BE THE LATEST EDITION.
2. ANY REQUIRED CHANGES TO THE STRUCTURAL DRAWINGS DUE TO THE ACCEPTANCE OR INCLUSION OF ALTERNATES OR SUBSTITUTIONS ARE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW.
3. THE CONTRACTOR SHALL COMPARE THE STRUCTURAL DRAWINGS WITH THE CIVIL DRAWINGS AND REPORT ANY DISCREPANCY TO THE ENGINEER PRIOR TO FABRICATION OR INSTALLATION OF STRUCTURAL MEMBERS.
4. JOB SITE SAFETY SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL, AS A MINIMUM, ADHERE TO OCCUPATIONAL SAFETY AND HEALTH (OSHA) REGULATIONS TO PROTECT PERSONNEL.

SECTION 1 : GENERAL TECHNICAL NOTES

- 1.01 DESCRIPTION
A. WORK SHALL CONSIST OF DESIGNING, FURNISHING AND CONSTRUCTION OF A MODULAR BLOCK WALL SYSTEM IN ACCORDANCE WITH THESE SPECIFICATIONS AND IN REASONABLY CLOSE CONFORMITY WITH THE LINES, GRADES, DESIGN, AND DIMENSIONS SHOWN ON THE PLANS. NO ALTERNATE WALL SYSTEMS WILL BE CONSIDERED.
B. WORK INCLUDES PREPARING FOUNDATION SOIL, FURNISHING AND INSTALLING LEVELING PAD, UNIT DRAINAGE FILL AND BACKFILL TO THE LINES AND GRADES SHOWN ON THE CONSTRUCTION DRAWINGS.
C. WORK INCLUDES FURNISHING AND INSTALLING GEOGRID SOIL REINFORCEMENT OF THE TYPE, SIZE, LOCATION, AND LENGTHS DESIGNATED ON THE CONSTRUCTION DRAWINGS.

- 1.02 RELATED SECTIONS
A. EARTHWORK GENERAL NOTES

- 1.03 REFERENCE DOCUMENTS
A. AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)
1. ASTM C140 SAMPLING AND TESTING CONCRETE MASONRY UNITS
2. ASTM C1372 SPECIFICATION FOR DRY-CAST SEGMENTAL RETAINING WALL UNITS
3. ASTM D422 PARTICLE-SIZE ANALYSIS OF SOILS
4. ASTM D698 LABORATORY COMPACTION CHARACTERISTICS OF SOIL - STANDARD EFFORT
5. ASTM D1557 LABORATORY COMPACTION CHARACTERISTICS OF SOIL - MODIFIED EFFORT
6. ASTM D3034 POLYVINYL CHLORIDE PIPE (PVC)
7. ASTM D4518 LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX OF SOILS
8. ASTM D4475 HORIZONTAL SHEAR STRENGTH OF PULTRUDED REINFORCED PLASTIC RODS
9. ASTM D4478 FLEXURAL PROPERTIES OF FIBER REINFORCED PULTRUDED PLASTIC RODS
10. ASTM D4595 TENSILE PROPERTIES OF GEOTEXTILES - WIDE WIDTH STRIP
11. ASTM D5282 UNCONFINED TENSION CREEP BEHAVIOR OF GEOSYNTHETICS
12. ASTM D5818 EVALUATE INSTALLATION DAMAGE OF GEOSYNTHETICS
13. ASTM D6637 TENSILE PROPERTIES OF GEOGRIDS - SINGLE OR MULTI-RIB
14. ASTM D6638 CONNECTION STRENGTH - REINFORCEMENT/SEGMENTAL UNITS
15. ASTM D6706 GEOSYNTHETIC PULLOUT RESISTANCE IN SOIL
16. ASTM D6916 SHEAR STRENGTH BETWEEN SEGMENTAL CONCRETE UNITS

- B. AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO)
1. AASHTO M 252 CORRUGATED POLYETHYLENE DRAINAGE PIPE
2. AASHTO M 288 GEOTEXTILE SPECIFICATION FOR HIGHWAY APPLICATIONS

- C. NATIONAL CONCRETE MASONRY ASSOCIATION (NCMA)
1. NCMA SRWU-1 TEST METHOD FOR DETERMINING CONNECTION STRENGTH OF SRW
2. NCMA SRWU-2 TEST METHOD FOR DETERMINING SHEAR STRENGTH OF SRW

- 1.04 SUBMITTALS / CERTIFICATION
A. CONTRACTOR SHALL SUBMIT A MANUFACTURER'S CERTIFICATION, PRIOR TO START OF WORK, THAT THE RETAINING WALL SYSTEM COMPONENTS MEET THE REQUIREMENTS OF THIS SPECIFICATION AND THE STRUCTURE DESIGN.
B. RETAINING WALL SUBCONTRACTOR SHALL PROVIDE A NCMA CERTIFICATION STATEMENT FOR THE CONSTRUCTION OF RETAINING WALLS PRIOR TO BIDDING.

- 1.05 QUALITY ASSURANCE
A. CONTRACTOR SHALL SUBMIT A LIST OF FIVE (5) PREVIOUSLY CONSTRUCTED PROJECTS OF SIMILAR SIZE AND MAGNITUDE BY THE WALL INSTALLER WHERE THE COMPAC RETAINING WALL SYSTEM HAS BEEN CONSTRUCTED SUCCESSFULLY. CONTACT NAMES AND TELEPHONE NUMBERS SHALL BE LISTED FOR EACH PROJECT.
B. CONTRACTOR SHALL PROVIDE EVIDENCE THAT THE DESIGN ENGINEER HAS A MINIMUM OF FIVE YEARS OF DOCUMENTAL EXPERIENCE IN THE DESIGN FOR REINFORCED SOIL STRUCTURES. THE DESIGN ENGINEER SHALL PROVIDE PROOF OF CURRENT PROFESSIONAL LIABILITY INSURANCE WITH AN AGGREGATE COVERAGE LIMIT OF NOT LESS THAN \$2,000,000.
C. OWNER SHALL MAKE PROVIDE SOIL TESTING AND QUALITY ASSURANCE INSPECTION DURING EARTHWORK AND WALL CONSTRUCTION OPERATIONS. CONTRACTOR SHALL PROVIDE ALL QUALITY CONTROL TESTING OR INSPECTION NOT PROVIDED BY THE OWNER. OWNER'S QUALITY ASSURANCE PROGRAM DOES NOT RELIEVE THE CONTRACTOR OF RESPONSIBILITY FOR QUALITY CONTROL AND WALL PERFORMANCE.

- 1.06 DELIVERY, STORAGE AND HANDLING
A. CONTRACTOR SHALL CHECK ALL MATERIALS UPON DELIVERY TO ASSURE THAT THE PROPER TYPE, GRADE, COLOR, AND CERTIFICATION HAVE BEEN RECEIVED.
B. CONTRACTOR SHALL PROTECT ALL MATERIALS FROM DAMAGE DUE TO JOBSITE CONDITIONS AND IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. DAMAGED MATERIALS SHALL NOT BE INCORPORATED INTO THE WORK.

SECTION 2: PRODUCTS

- 2.01 DEFINITIONS
A. MODULAR BLOCK UNIT - A CONCRETE RETAINING WALL ELEMENT MACHINE MADE FROM PORTLAND CEMENT, WATER, AND AGGREGATES.
B. STRUCTURAL GEOGRID - A STRUCTURAL ELEMENT FORMED BY A REGULAR NETWORK OF INTEGRALLY CONNECTED TENSILE ELEMENTS WITH APERTURES OF SUFFICIENT SIZE TO ALLOW INTERLOCKING WITH SURROUNDING SOIL, ROCK, OR EARTH AND FUNCTION PRIMARILY AS REINFORCEMENT.
C. UNIT DRAINAGE FILL - DRAINAGE AGGREGATE THAT IS PLACED WITHIN AND IMMEDIATELY BEHIND THE KEYSTONE CONCRETE UNITS.
D. REINFORCED BACKFILL - COMPACTED SOIL THAT IS PLACED WITHIN THE REINFORCED SOIL VOLUME AS OUTLINED ON THE PLANS.

- 2.02 CONCRETE RETAINING WALL UNITS
A. MODULAR BLOCK UNITS SHALL CONFORM TO THE FOLLOWING REQUIREMENTS:
1. FACE COLOR - CONCRETE GRAY, UNLESS OTHERWISE SPECIFIED. THE OWNER MAY SPECIFY STANDARD MANUFACTURER'S COLORS.
2. FACE FINISH - HARD SPLIT IN ANGULAR TRI-PLANE OR STRAIGHT FACE CONFIGURATION. OTHER FACE FINISHES WILL NOT BE ALLOWED WITHOUT WRITTEN APPROVAL OF OWNER.
3. BOND CONFIGURATION - RUNNING WITH BONDS NOMINALLY LOCATED AT MIDPOINT VERTICALLY ADJACENT UNITS, IN BOTH STRAIGHT AND CURVED ALIGNMENTS.
4. EXPOSED SURFACES OF UNITS SHALL BE FREE OF CHIPS, CRACKS OR OTHER IMPERFECTIONS WHEN VIEWED FROM A DISTANCE OF 10 FEET (3 M) UNDER DIFFUSED LIGHTING.

- B. MODULAR BLOCK UNITS SHALL CONFORM TO THE REQUIREMENTS OF ASTM C1372 - STANDARD SPECIFICATIONS FOR SEGMENTAL RETAINING WALL UNITS.
C. MODULAR BLOCK UNITS SHALL CONFORM TO THE FOLLOWING STRUCTURAL AND GEOMETRIC REQUIREMENTS MEASURED IN ACCORDANCE WITH ASTM C140 SAMPLING AND TESTING CONCRETE MASONRY UNITS:
1. COMPRESSIVE STRENGTH: 3000 PSI (21 MPA);
2. ABSORPTION: 8 % FOR STANDARD WEIGHT AGGREGATES;
3. DIMENSIONAL TOLERANCES: ± 1/8" (3 MM) FROM NOMINAL UNIT DIMENSIONS NOT INCLUDING ROUGH SPLIT FACE;
4. UNIT SIZE: 8" (203 MM) [H] X 18" (457 MM) [W] X 12" (304 MM) [D] MINIMUM;
5. UNIT WEIGHT: 67 - LBS/UNIT (30 KG/UNIT) MINIMUM FOR STANDARD WEIGHT AGGREGATES.

- D. KEYSTONE CONCRETE UNITS SHALL CONFORM TO THE FOLLOWING PERFORMANCE TESTING:
1. INTER UNIT SHEAR STRENGTH IN ACCORDANCE WITH ASTM D6916 (NCMA SRWU-2): 600-PLF (8 KN/M) MINIMUM AT 2-PSI (13 KPA) NORMAL PRESSURE;
2. GEOGRID/UNIT PEAK CONNECTION STRENGTH IN ACCORDANCE WITH ASTM D6638 (NCMA SRWU-1): 500-PLF (7 KN/M) MINIMUM AT 2-PSI (13 KPA) NORMAL FORCE.

- E. MODULAR BLOCK UNITS UNITS SHALL CONFORM TO THE FOLLOWING CONSTRUCTABILITY REQUIREMENTS:
1. VERTICAL SETBACK: REFER TO DESIGN PARAMETERS IN SECTION 4
2. ALIGNMENT AND GRID POSITIONING MECHANISM - FIBERGLASS PINS, TWO PER UNIT;
3. MAXIMUM HORIZONTAL GAP BETWEEN ERRECTED UNITS SHALL BE 1/2 INCH.

- 2.03 SHEAR AND REINFORCEMENT PIN CONNECTORS
A. SHEAR AND REINFORCEMENT PIN CONNECTORS SHALL BE 1/2-INCH (12 MM) DIAMETER THERMOSET ISOPHTHALIC POLYESTER RESIN, PULTRUDED FIBERGLASS REINFORCEMENT RODS TO PROVIDE CONNECTION BETWEEN VERTICALLY AND HORIZONTAL ADJACENT UNITS AND GEOSYNTHETIC REINFORCEMENT, WITH THE FOLLOWING REQUIREMENTS:
1. FLEXURAL STRENGTH IN ACCORDANCE WITH ASTM D4478: 128,000 PSI (882 MPA) MINIMUM;
2. SHORT BEAM SHEAR IN ACCORDANCE WITH ASTM D4475: 6,400 PSI (44 MPA) MINIMUM.

- B. SHEAR AND REINFORCEMENT PIN CONNECTORS SHALL BE CAPABLE OF HOLDING THE GEOGRID IN THE PROPER DESIGN POSITION DURING GRID PRE-TENSIONING AND BACKFILLING.

- 2.04 BASE LEVELING PAD MATERIAL
A. MATERIAL SHALL CONSIST OF A COMPACTED CRUSHED STONE BASE OR NONREINFORCED CONCRETE AS SHOWN ON THE CONSTRUCTION DRAWINGS.

- 2.05 UNIT DRAINAGE FILL
A. UNIT DRAINAGE FILL SHALL CONSIST OF CLEAN 1" (25 MM) MINUS CRUSHED STONE OR CRUSHED GRAVEL MEETING THE FOLLOWING GRADATION TESTED IN ACCORDANCE WITH ASTM D-422:
SIEVE SIZE PERCENT PASSING
1 INCH (25 MM) 100%
3/4-INCH (19 MM) 75 - 100%
NO. 4 (4.75MM) 0 - 10%
NO. 50 (300UM) 0 - 5%

- B. DRAINAGE FILL SHALL BE PLACED WITHIN THE CORES OF, BETWEEN, AND BEHIND THE UNITS AS INDICATED ON THE DESIGN DRAWINGS. NOT LESS THAN 1.3 CUBIC FOOT (0.036 M3) OF DRAINAGE FILL SHALL BE USED FOR EACH SQUARE FOOT (0.093 M2) OF WALL FACE UNLESS OTHERWISE SPECIFIED.

- 2.06 REINFORCED BACKFILL
A. REINFORCED BACKFILL SHALL BE FREE OF DEBRIS AND MEET THE FOLLOWING GRADATION TESTED IN ACCORDANCE WITH ASTM D-422:
SIEVE SIZE PERCENT PASSING
2 INCH (50 MM) 100%
3/4-INCH (19 MM) 100-75%
NO. 40 (425UM) 0-60%
NO. 200 (75UM) 0-35%
PLASTICITY INDEX (PI) <15 AND LIQUID LIMIT <40 PER ASTM D-4318.

- B. THE MAXIMUM AGGREGATE SIZE SHALL BE LIMITED TO 3/4 INCH (19 MM) UNLESS INSTALLATION DAMAGE TESTS HAVE BEEN PERFORMED TO EVALUATE POTENTIAL STRENGTH REDUCTIONS TO THE GEOGRID DESIGN DUE TO DAMAGE DURING CONSTRUCTION.

- C. MATERIAL CAN BE SITE-EXCAVATED SOILS WHERE THE ABOVE REQUIREMENTS CAN BE MET. UNSUITABLE SOILS FOR BACKFILL (HIGH PLASTIC CLAYS OR ORGANIC SOILS) SHALL NOT BE USED IN THE BACKFILL OR IN THE REINFORCED SOIL MASS.

- D. CONTRACTOR SHALL SUBMIT REINFORCED FILL SAMPLE AND LABORATORY TEST RESULTS TO THE ARCHITECT/ENGINEER FOR APPROVAL PRIOR TO THE USE OF ANY PROPOSED REINFORCED FILL MATERIAL.

- 2.07 GEOGRID SOIL REINFORCEMENT
A. GEOSYNTHETIC REINFORCEMENT SHALL CONSIST OF GEOGRIDS MANUFACTURED SPECIFICALLY FOR SOIL REINFORCEMENT APPLICATIONS AND SHALL BE MANUFACTURED FROM HIGH TENACITY POLYESTER YARN OR HIGH DENSITY POLYETHYLENE. POLYESTER GEOGRID SHALL BE MADE FROM HIGH TENACITY POLYESTER FILAMENT YARN WITH A MOLECULAR WEIGHT EXCEEDING 25,000 G/M AND A CARBOXYL END GROUP VALUES LESS THAN 30. POLYESTER GEOGRID SHALL BE COATED WITH AN IMPREGNATED PVC COATING THAT RESISTS PEELING, CRACKING, AND STRIPPING.
B. TA LONG TERM ALLOWABLE TENSILE DESIGN LOAD, OF THE GEOGRID MATERIAL SHALL BE DETERMINED AS FOLLOWS:
TA = TULT / (RF*CR*RFD*RFID*FS)
TA SHALL BE EVALUATED BASED ON A 75-YEAR DESIGN LIFE.
1. TULT, SHORT TERM ULTIMATE TENSILE STRENGTH SHALL BE DETERMINED IN ACCORDANCE WITH ASTM D4595 OR ASTM D6637. TULT IS BASED ON THE MINIMUM AVERAGE ROLL VALUES (MARV).
2. RF*CR, REDUCTION FACTOR FOR LONG TERM TENSION CREEP
RF*CR SHALL BE DETERMINED FROM 10,000-HOUR CREEP TESTING PERFORMED IN ACCORDANCE WITH ASTM D5282. REDUCTION VALUE = 1.45 MINIMUM.
3. RFD, REDUCTION FACTOR FOR DURABILITY
RFD SHALL BE DETERMINED FROM POLYMER SPECIFIC DURABILITY TESTING COVERING THE RANGE OF EXPECTED SOIL ENVIRONMENTS. RFD = 1.10 MINIMUM.
4. RFID, REDUCTION FACTOR FOR INSTALLATION DAMAGE
RFID SHALL BE DETERMINED FROM PRODUCT SPECIFIC CONSTRUCTION DAMAGE TESTING PERFORMED IN ACCORDANCE WITH ASTM D5818. TEST RESULTS SHALL BE PROVIDED FOR EACH PRODUCT TO BE USED WITH PROJECT SPECIFIC OR MORE SEVERE SOIL TYPE. RFID = 1.05 MINIMUM.
5. FS, OVERALL DESIGN FACTOR OF SAFETY
FS SHALL BE 1.5 UNLESS OTHERWISE NOTED FOR THE MAXIMUM ALLOWABLE WORKING STRESS CALCULATION.

SECTION 2: CONT.

- C. THE MAXIMUM DESIGN TENSILE LOAD OF THE GEOGRID SHALL NOT EXCEED THE LABORATORY TESTED ULTIMATE STRENGTH OF THE GEOGRID/FACING UNIT CONNECTION DIVIDED BY A FACTOR OF SAFETY OF 1.5. THE CONNECTION STRENGTH TESTING AND COMPUTATION PROCEDURES SHALL BE IN ACCORDANCE WITH ASTM D6638 CONNECTION STRENGTH BETWEEN GEOSYNTHETIC REINFORCEMENT AND SEGMENTAL CONCRETE UNITS (NCMA SRWU-1).
D. SOIL INTERACTION COEFFICIENT, CI, CI VALUES SHALL BE DETERMINED PER ASTM D6706 AT A MAXIMUM 0.75-INCH (19 MM) DISPLACEMENT.
E. MANUFACTURING QUALITY CONTROL - THE GEOGRID MANUFACTURER SHALL HAVE A MANUFACTURING QUALITY CONTROL PROGRAM THAT INCLUDES QC TESTING BY AN INDEPENDENT LABORATORY. THE QC TESTING SHALL INCLUDE:
TENSILE STRENGTH TESTING
MELT FLOW INDEX (HDPE)
MOLECULAR WEIGHT (POLYESTER)

- 2.08 DRAINAGE PIPE
A. IF REQUIRED, THE DRAINAGE PIPE SHALL BE PERFORATED OR SLOTTED PVC PIPE MANUFACTURED IN ACCORDANCE WITH ASTM D-3034 OR CORRUGATED HDPE PIPE MANUFACTURED IN ACCORDANCE WITH AASHTO M252.

- 2.09 GEOTEXTILE FILTER FABRIC
A. WHEN REQUIRED, GEOTEXTILE FILTER FABRIC SHALL BE A NEEDLE PUNCHED, NONWOVEN FABRIC THAT MEETS THE REQUIREMENTS OF AASHTO M288.

SECTION 3: CONSTRUCTION

- 3.01 EXCAVATION
A. CONTRACTOR SHALL EXCAVATE TO THE LINES AND GRADES SHOWN ON THE CONSTRUCTION DRAWINGS. OWNERS OR CONTRACTORS Q/A/QC REPRESENTATIVE SHALL INSPECT THE EXCAVATION AND APPROVE PRIOR TO PLACEMENT OF LEVELING MATERIAL OR FILL SOILS. PROOF ROLL FOUNDATION AREA AS DIRECTED TO DETERMINE IF REMEDIAL WORK IS REQUIRED.
B. OVER EXCAVATION AND REPLACEMENT OF UNSUITABLE FOUNDATION SOILS AND REPLACEMENT WITH APPROVED COMPACTED FILL WILL BE COMPENSATED AS AGREED UPON WITH THE OWNER.

- 3.02 BASE LEVELING PAD
A. LEVELING PAD MATERIAL SHALL BE PLACED TO THE LINES AND GRADES SHOWN ON THE CONSTRUCTION DRAWINGS, TO A MINIMUM THICKNESS OF 6 INCHES (150 MM) AND EXTEND LATERALLY A MINIMUM OF 6" (150 MM) IN FRONT AND BEHIND THE KEYSTONE WALL UNIT.
B. SOIL LEVELING PAD MATERIALS SHALL BE COMPACTED TO A MINIMUM OF 95 % STANDARD PROCTOR DENSITY PER ASTM D-698 OR 92% MODIFIED PROCTOR DENSITY PER ASTM D1557.

- C. LEVELING PAD SHALL BE PREPARED TO INSURE FULL CONTACT TO THE BASE SURFACE OF THE CONCRETE UNITS.

- 3.03 UNIT INSTALLATION
A. FIRST COURSE OF UNITS SHALL BE PLACED ON THE LEVELING PAD AT THE APPROPRIATE LINE AND GRADE. ALIGNMENT AND LEVEL SHALL BE CHECKED IN ALL DIRECTIONS AND INSURE THAT ALL UNITS ARE IN FULL CONTACT WITH THE BASE AND PROPERLY SEATED.
B. PLACE THE FRONT OF UNITS SIDE-BY-SIDE. DO NOT LEAVE GAPS BETWEEN ADJACENT UNITS. LAYOUT OF CORNERS AND CURVES SHALL BE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
C. INSTALL SHEAR/CONNECTING DEVICES PER MANUFACTURER'S RECOMMENDATIONS.
D. PLACE AND COMPACT DRAINAGE FILL WITHIN AND BEHIND WALL UNITS. PLACE AND COMPACT BACKFILL SOIL BEHIND DRAINAGE FILL. FOLLOW WALL ERECTION AND DRAINAGE FILL CLOSELY WITH STRUCTURE BACKFILL.
E. MAXIMUM STACKED VERTICAL HEIGHT OF WALL UNITS, PRIOR TO UNIT DRAINAGE FILL AND BACKFILL PLACEMENT AND COMPACTION, SHALL NOT EXCEED TWO COURSES.

- 3.04 STRUCTURAL GEOGRID INSTALLATION
A. GEOGRID SHALL BE ORIENTED WITH THE HIGHEST STRENGTH AXIS PERPENDICULAR TO THE WALL ALIGNMENT.
B. GEOGRID REINFORCEMENT SHALL BE PLACED AT THE STRENGTHS, LENGTHS, AND ELEVATIONS SHOWN ON THE CONSTRUCTION DESIGN DRAWINGS OR AS DIRECTED BY THE ENGINEER.
C. THE GEOGRID SHALL BE LAID HORIZONTALLY ON COMPACTED BACKFILL AND ATTACHED TO THE KEYSTONE WALL PINS AND WITHIN 1 INCH OF THE FACE OF THE UNITS. PLACE THE NEXT COURSE OF KEYSTONE CONCRETE UNITS OVER THE GEOGRID. THE GEOGRID SHALL BE PULLED TAUT, AND ANCHORED PRIOR TO BACKFILL PLACEMENT ON THE GEOGRID.
D. GEOGRID REINFORCEMENTS SHALL BE CONTINUOUS THROUGHOUT THEIR EMBEDMENT LENGTHS AND PLACED SIDE-BY-SIDE TO PROVIDE 100% COVERAGE AT EACH LEVEL. SPliced CONNECTIONS BETWEEN SHORTER PIECES OF GEOGRID OR GAPS GREATER THAN 2 INCHES BETWEEN ADJACENT PIECES OF GEOGRID ARE NOT PERMITTED.

- 3.05 REINFORCED BACKFILL PLACEMENT
A. REINFORCED BACKFILL SHALL BE PLACED, SPREAD, AND COMPACTED IN SUCH A MANNER THAT MINIMIZES THE DEVELOPMENT OF SLACK IN THE GEOGRID AND INSTALLATION DAMAGE.
B. REINFORCED BACKFILL SHALL BE PLACED AND COMPACTED IN LIFTS NOT TO EXCEED 6 INCHES (150 MM) WHERE HAND COMPACTION IS USED, OR 4 - 10 INCHES (203 TO 254 MM) WHERE HEAVY COMPACTION EQUIPMENT IS USED. LIFT THICKNESS SHALL BE DECREASED TO ACHIEVE THE REQUIRED DENSITY AS REQUIRED.
C. REINFORCED BACKFILL SHALL BE COMPACTED TO A MINIMUM OF 95 % STANDARD PROCTOR DENSITY PER ASTM D-698 OR 92% MODIFIED PROCTOR DENSITY PER ASTM D1557. THE MOISTURE CONTENT OF THE BACKFILL MATERIAL PRIOR TO AND DURING COMPACTION SHALL BE UNIFORMLY DISTRIBUTED THROUGHOUT EACH LAYER AND SHALL BE DRY OF OPTIMUM, + 0%, - 3%.
D. ONLY LIGHTWEIGHT HAND-OPERATED EQUIPMENT SHALL BE ALLOWED WITHIN 3 FEET (1 M) FROM THE TAIL OF THE KEYSTONE CONCRETE UNIT.
E. TRACKED CONSTRUCTION EQUIPMENT SHALL NOT BE OPERATED DIRECTLY UPON THE GEOGRID REINFORCEMENT. A MINIMUM FILL THICKNESS OF 6 INCHES (150 MM) IS REQUIRED PRIOR TO OPERATION OF TRACKED VEHICLES OVER THE GEOGRID. TRACKED VEHICLE TURNING SHOULD BE KEPT TO A MINIMUM TO PREVENT TRACKS FROM DISPLACING THE FILL AND DAMAGING THE GEOGRID.
F. RUBBER Tired EQUIPMENT MAY PASS OVER GEOGRID REINFORCEMENT AT SLOW SPEEDS, LESS THAN 10 MPH (15 KPH). SUDDEN BRAKING AND SHARP TURNING SHALL BE AVOIDED.
G. AT THE END OF EACH DAY'S OPERATION, THE CONTRACTOR SHALL SLOPE THE LAST LIFT OF REINFORCED BACKFILL AWAY FROM THE WALL UNITS TO DIRECT RUNOFF AWAY FROM WALL FACE. THE CONTRACTOR SHALL NOT ALLOW SURFACE RUNOFF FROM ADJACENT AREAS TO ENTER THE WALL CONSTRUCTION SITE.

- 3.06 CAP INSTALLATION
A. CAP UNITS SHALL BE GULIED TO UNDERLYING UNITS WITH AN ALL-WEATHER CONCRETE CONSTRUCTION ADHESIVE.

- 3.07 AS-BUILT CONSTRUCTION TOLERANCES
A. VERTICAL ALIGNMENT: ± 1.5" (40 MM) OVER ANY 10' (3 M) DISTANCE.
B. WALL BATTER: WITHIN 2 DEGREES OF DESIGN BATTER.
C. HORIZONTAL ALIGNMENT: ± 1.5" (40 MM) OVER ANY 10' (3 M) DISTANCE. CORNERS, BENDS & CURVES: ± 1 FOOT (300 MM) TO THEORETICAL LOCATION.
D. MAXIMUM HORIZONTAL GAP BETWEEN ERRECTED UNITS SHALL BE 1/2 INCH (13 MM).

- 3.08 FIELD QUALITY CONTROL
A. QUALITY ASSURANCE - THE OWNER SHALL MAY ENGAGE INSPECTION AND TESTING SERVICES, INCLUDING INDEPENDENT LABORATORIES, TO PROVIDE QUALITY ASSURANCE AND TESTING SERVICES DURING CONSTRUCTION. THIS DOES NOT RELIEVE THE CONTRACTOR FROM SECURING THE NECESSARY CONSTRUCTION QUALITY CONTROL TESTING.
B. QUALITY ASSURANCE SHOULD INCLUDE FOUNDATION SOIL INSPECTION, VERIFICATION OF GEOTECHNICAL DESIGN PARAMETERS, AND VERIFICATION THAT THE CONTRACTOR'S QUALITY CONTROL TESTING IS ADEQUATE AS A MINIMUM. QUALITY ASSURANCE SHALL ALSO INCLUDE OBSERVATION OF CONSTRUCTION FOR GENERAL COMPLIANCE WITH DESIGN DRAWINGS AND PROJECT SPECIFICATIONS. (QUALITY ASSURANCE IS USUALLY BEST PERFORMED BY THE SITE GEOTECHNICAL ENGINEER.)
C. QUALITY CONTROL - THE CONTRACTOR SHALL ENGAGE INSPECTION AND TESTING SERVICES TO PERFORM THE MINIMUM QUALITY CONTROL TESTING DESCRIBED IN THE RETAINING WALL DESIGN PLANS AND SPECIFICATIONS. ONLY QUALIFIED AND EXPERIENCED TECHNICIANS AND ENGINEERS SHALL PERFORM TESTING AND INSPECTION SERVICES.
D. QUALITY CONTROL TESTING SHALL INCLUDE SOIL AND BACKFILL TESTING TO VERIFY SOIL TYPES AND COMPACTION AND VERIFICATION THAT THE RETAINING WALL IS BEING CONSTRUCTED IN ACCORDANCE WITH THE DESIGN PLANS AND PROJECT SPECIFICATIONS.

SECTION 4: COORDINATION OF TRADES

- C. THE MAXIMUM DESIGN TENSILE LOAD OF THE GEOGRID SHALL NOT EXCEED THE LABORATORY TESTED ULTIMATE STRENGTH OF THE GEOGRID/FACING UNIT CONNECTION DIVIDED BY A FACTOR OF SAFETY OF 1.5. THE CONNECTION STRENGTH TESTING AND COMPUTATION PROCEDURES SHALL BE IN ACCORDANCE WITH ASTM D6638 CONNECTION STRENGTH BETWEEN GEOSYNTHETIC REINFORCEMENT AND SEGMENTAL CONCRETE UNITS (NCMA SRWU-1).
D. SOIL INTERACTION COEFFICIENT, CI, CI VALUES SHALL BE DETERMINED PER ASTM D6706 AT A MAXIMUM 0.75-INCH (19 MM) DISPLACEMENT.
E. MANUFACTURING QUALITY CONTROL - THE GEOGRID MANUFACTURER SHALL HAVE A MANUFACTURING QUALITY CONTROL PROGRAM THAT INCLUDES QC TESTING BY AN INDEPENDENT LABORATORY. THE QC TESTING SHALL INCLUDE:
TENSILE STRENGTH TESTING
MELT FLOW INDEX (HDPE)
MOLECULAR WEIGHT (POLYESTER)

- 2.08 DRAINAGE PIPE
A. IF REQUIRED, THE DRAINAGE PIPE SHALL BE PERFORATED OR SLOTTED PVC PIPE MANUFACTURED IN ACCORDANCE WITH ASTM D-3034 OR CORRUGATED HDPE PIPE MANUFACTURED IN ACCORDANCE WITH AASHTO M252.

- 2.09 GEOTEXTILE FILTER FABRIC
A. WHEN REQUIRED, GEOTEXTILE FILTER FABRIC SHALL BE A NEEDLE PUNCHED, NONWOVEN FABRIC THAT MEETS THE REQUIREMENTS OF AASHTO M288.

SECTION 5: REQUIRED INSPECTIONS

- 5.01 REQUIRED TESTING
A. DESIGN ENGINEER SHALL RECEIVE A COPY OF THE SUBGRADE COMPACTION REPORT FURNISHED BY GEOTECH ENGINEER PRIOR TO FORMWORK BEING INSTALLED.

- 5.02 REQUIRED INSPECTIONS
A. DESIGN ENGINEER SHALL RECEIVE A COPY OF THE SUBGRADE COMPACTION REPORT PRIOR TO FORMWORK BEING INSTALLED.
B.

SECTION 6: DESIGN NOTES

- 4.01 WALL UNIT PARAMETERS
WALL SEGMENT WEIGHT WALL FACE AREA SETBACK
KEYSTONE COMPAC III 83 LBS 1 SF 1' / COURSE

- 4.02 DESIGN PARAMETERS
A. DESIGN OF THE REINFORCED SOIL STRUCTURE IS BASED ON THE FOLLOWING PARAMETER:
WALL SEGMENT FRIC ANGLE COHESION UNIT WEIGHT
REINFORCE BACKFILL 34° 0 PSF 115 PCF
RETAINED BACKFILL 22° 0 PSF 115 PCF
FOUNDATION 25° 150 PSF 115 PCF

- B. INTERNAL STABILITY OF WALLS
MINIMUM FACTOR OF SAFETY ON GEOGRID STRENGTH..... 1.6
MINIMUM FACTOR OF SAFETY ON GEOGRID PULL OUT..... 1.5
MINIMUM FACTOR OF SAFETY ON CONNECTIONS (PEAK LOAD CRITERION)..... 1.5
MINIMUM FACTOR OF SAFETY ON CONNECTIONS (SERVICEABILITY CRITERION)..... 1.0
MINIMUM FACTOR OF SAFETY ON GEOGRID STRENGTH..... 100%

- C. EXTERNAL STABILITY OF WALLS
MINIMUM FACTOR OF SAFETY AGAINST SLIDING..... 1.5
MINIMUM FACTOR OF SAFETY AGAINST OVERTURNING..... 2.0
MINIMUM FACTOR OF SAFETY (GLOBAL STABILITY)..... 1.5
DEAD LOAD..... SOIL ONLY
LIVE LOAD TYPE..... TRAFFIC
UNIFORM LIVE LOAD..... 250 PSF
BACK FILL SLOPE..... NONE

- D. FACTOR OF SAFETY SEISMIC CONDITIONS..... 0.75 x STATIC (FS)

- E. HYDROSTATIC LOADING..... NONE

- F. SEISMIC ACCELERATION COEFFICIENT (A)..... 0.03 g
PSEUDO-STATIC SEISMIC COEFFICIENT (K)..... 0.04

DESIGN PROFESSIONAL



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PH: 512.820.3265
FIRM # 18863

WWW.M3ENGINEERING.COM

CIVIL ENGINEERING | BUILDING DESIGN
CONSTRUCTION MANAGEMENT

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WOODSON DEVELOPMENT

ISSUE/REVISION RECORD

FOR BIDDING PURPOSES ONLY

SECTION 6: DESIGN NOTES

- 4.01 WALL UNIT PARAMETERS
WALL SEGMENT WEIGHT WALL FACE AREA SETBACK
KEYSTONE COMPAC III 83 LBS 1 SF 1' / COURSE

- 4.02 DESIGN PARAMETERS
A. DESIGN OF THE REINFORCED SOIL STRUCTURE IS BASED ON THE FOLLOWING PARAMETER:
WALL SEGMENT FRIC ANGLE COHESION UNIT WEIGHT
REINFORCE BACKFILL 34° 0 PSF 115 PCF
RETAINED BACKFILL 22° 0 PSF 115 PCF
FOUNDATION 25° 150 PSF 115 PCF

- B. INTERNAL STABILITY OF WALLS
MINIMUM FACTOR OF SAFETY ON GEOGRID STRENGTH..... 1.6
MINIMUM FACTOR OF SAFETY ON GEOGRID PULL OUT..... 1.5
MINIMUM FACTOR OF SAFETY ON CONNECTIONS (PEAK LOAD CRITERION)..... 1.5
MINIMUM FACTOR OF SAFETY ON CONNECTIONS (SERVICEABILITY CRITERION)..... 1.0
MINIMUM FACTOR OF SAFETY ON GEOGRID STRENGTH..... 100%

- C. EXTERNAL STABILITY OF WALLS
MINIMUM FACTOR OF SAFETY AGAINST SLIDING..... 1.5
MINIMUM FACTOR OF SAFETY AGAINST OVERTURNING..... 2.0
MINIMUM FACTOR OF SAFETY (GLOBAL STABILITY)..... 1.5
DEAD LOAD..... SOIL ONLY
LIVE LOAD TYPE..... TRAFFIC
UNIFORM LIVE LOAD..... 250 PSF
BACK FILL SLOPE..... NONE

- D. FACTOR OF SAFETY SEISMIC CONDITIONS..... 0.75 x STATIC (FS)

- E. HYDROSTATIC LOADING..... NONE

- F. SEISMIC ACCELERATION COEFFICIENT (A)..... 0.03 g
PSEUDO-STATIC SEISMIC COEFFICIENT (K)..... 0.04

PROJECT NAME

WOODSON MIXED USE DEVELOPMENT

500-604 WOODSON DRIVE
BRYAN, TEXAS TBD

MAP GRID # TBD
MAPSCO # TBD

PROJECT NUMBER

20006

DRAWING FILE
20006-WALL.DWG

SCALE

PROFESSIONAL SEAL



PROJECT STATUS
CONCEPT

SHEET TITLE

RETAINING WALL

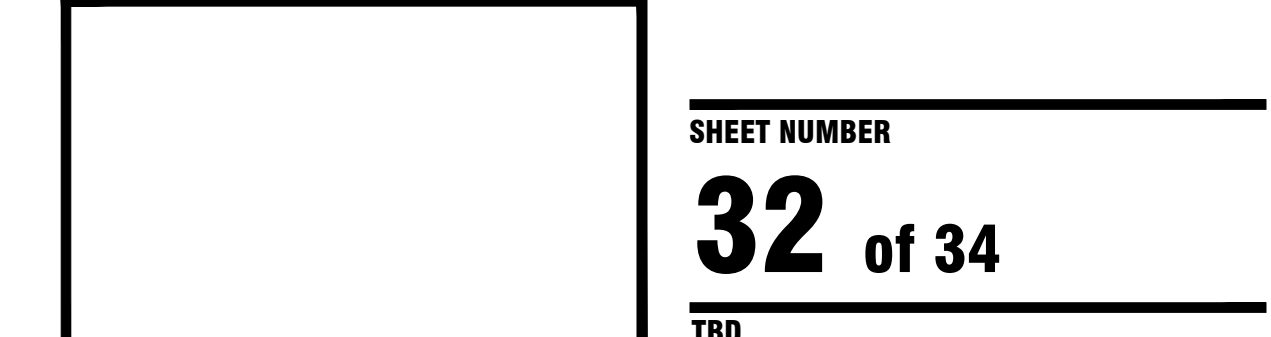
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SHEET NUMBER

32 of 34

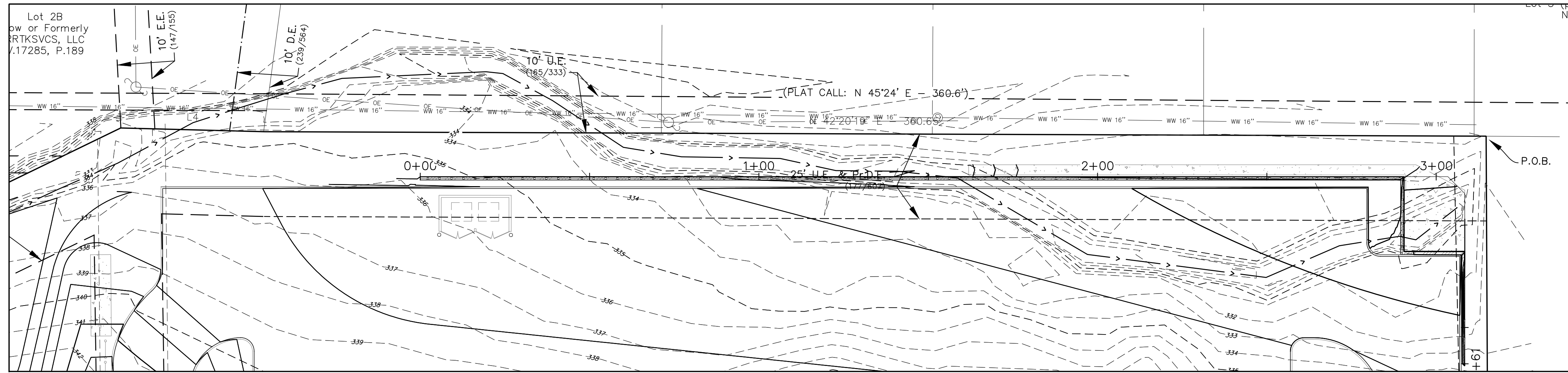
TBD

CITY OF BRYAN APPROVAL BLOCK

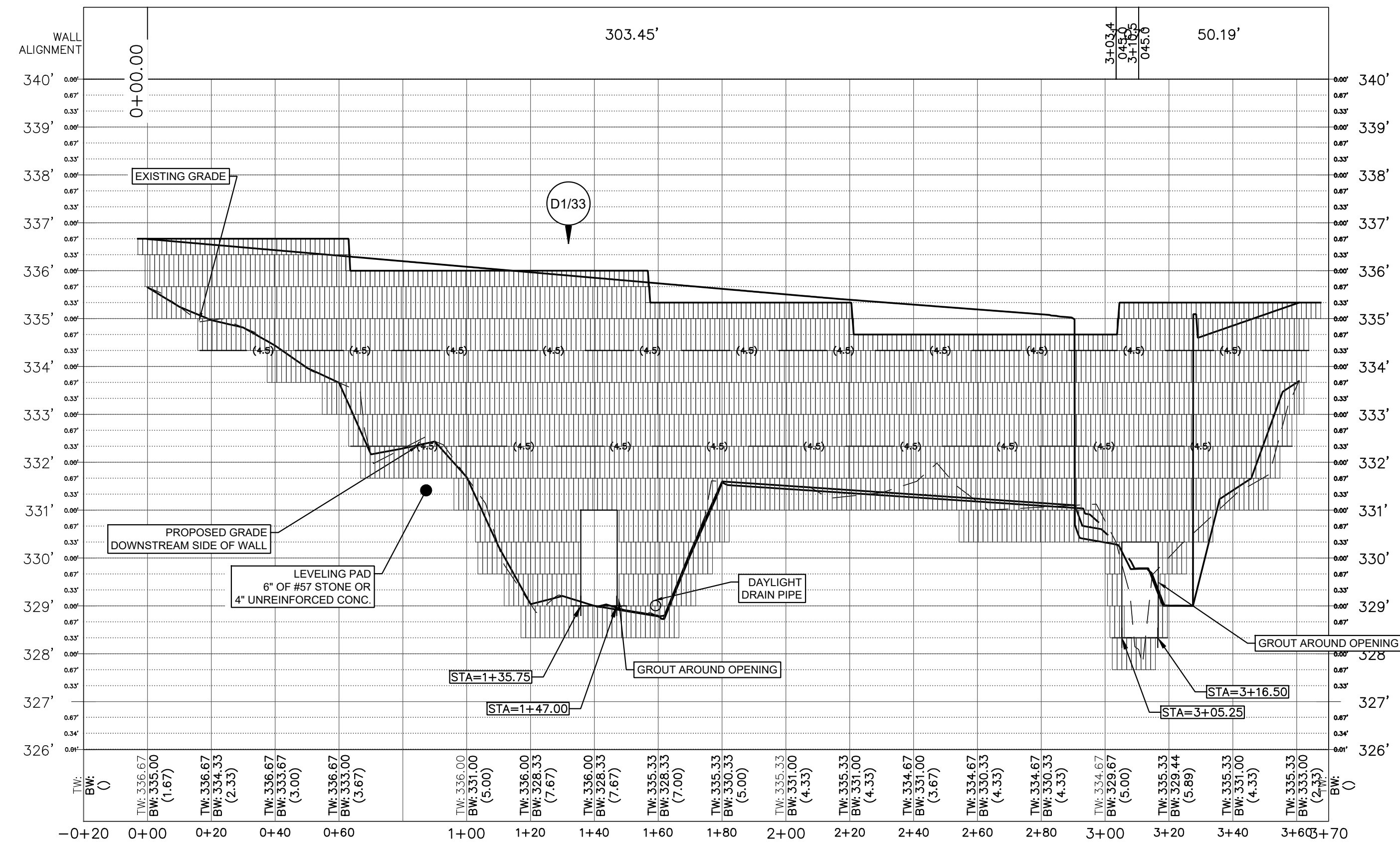


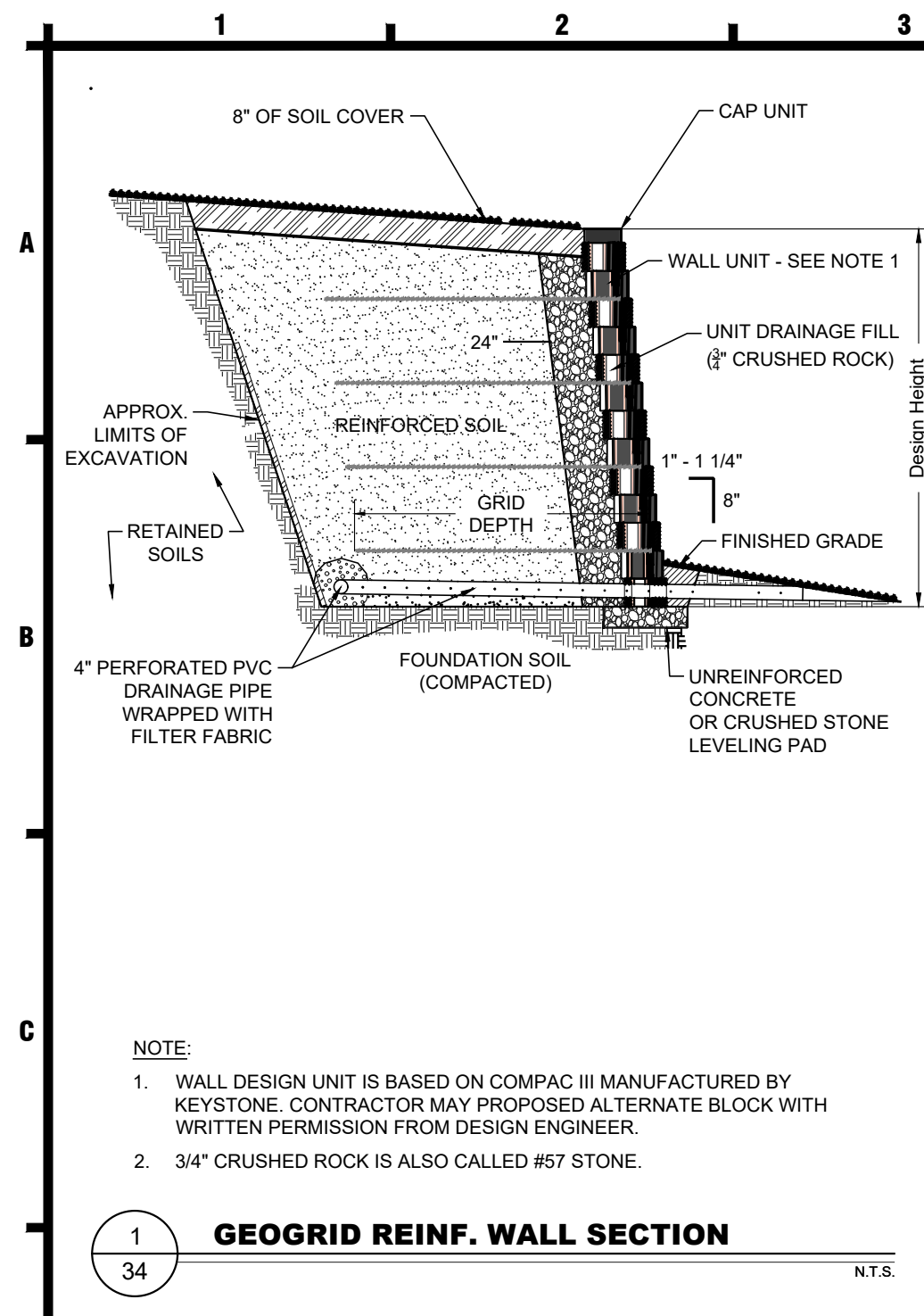
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A
B
C
D
E
F
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I
J

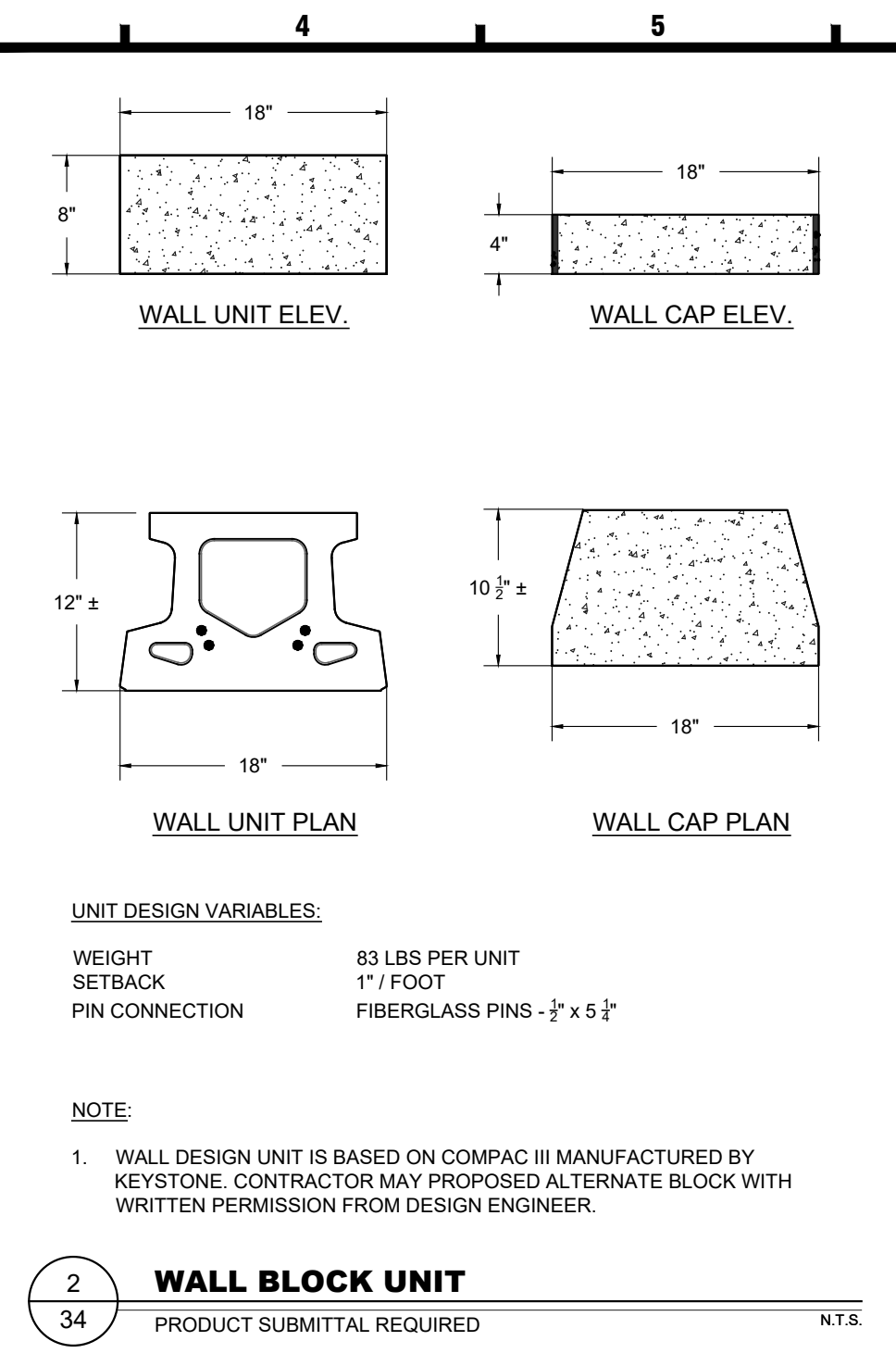


START=0+20 | END=3+70
 HORZ.1"=30' | VERT.1"=2'





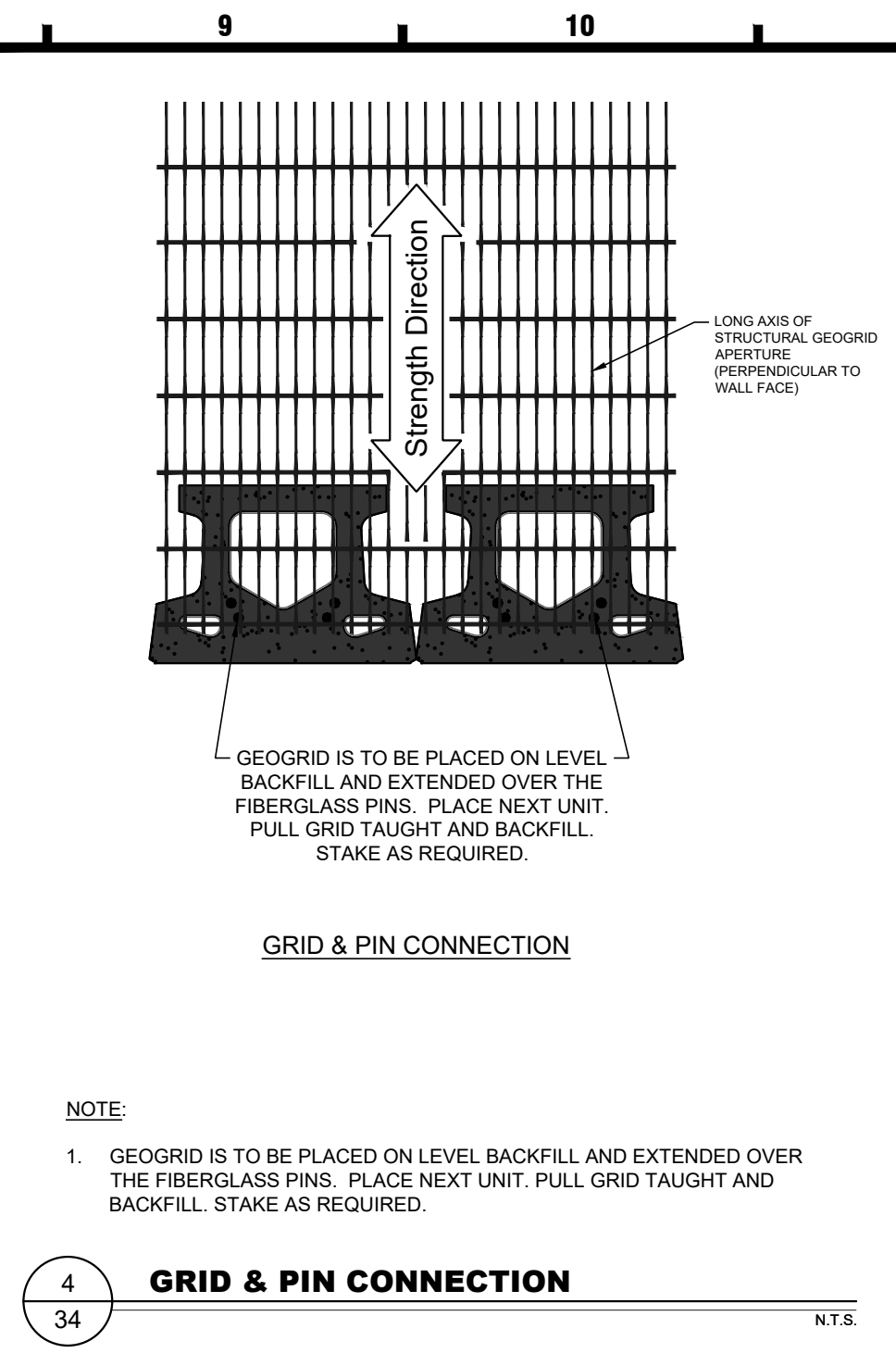
1 GEOGRID REINF. WALL SECTION N.T.S.



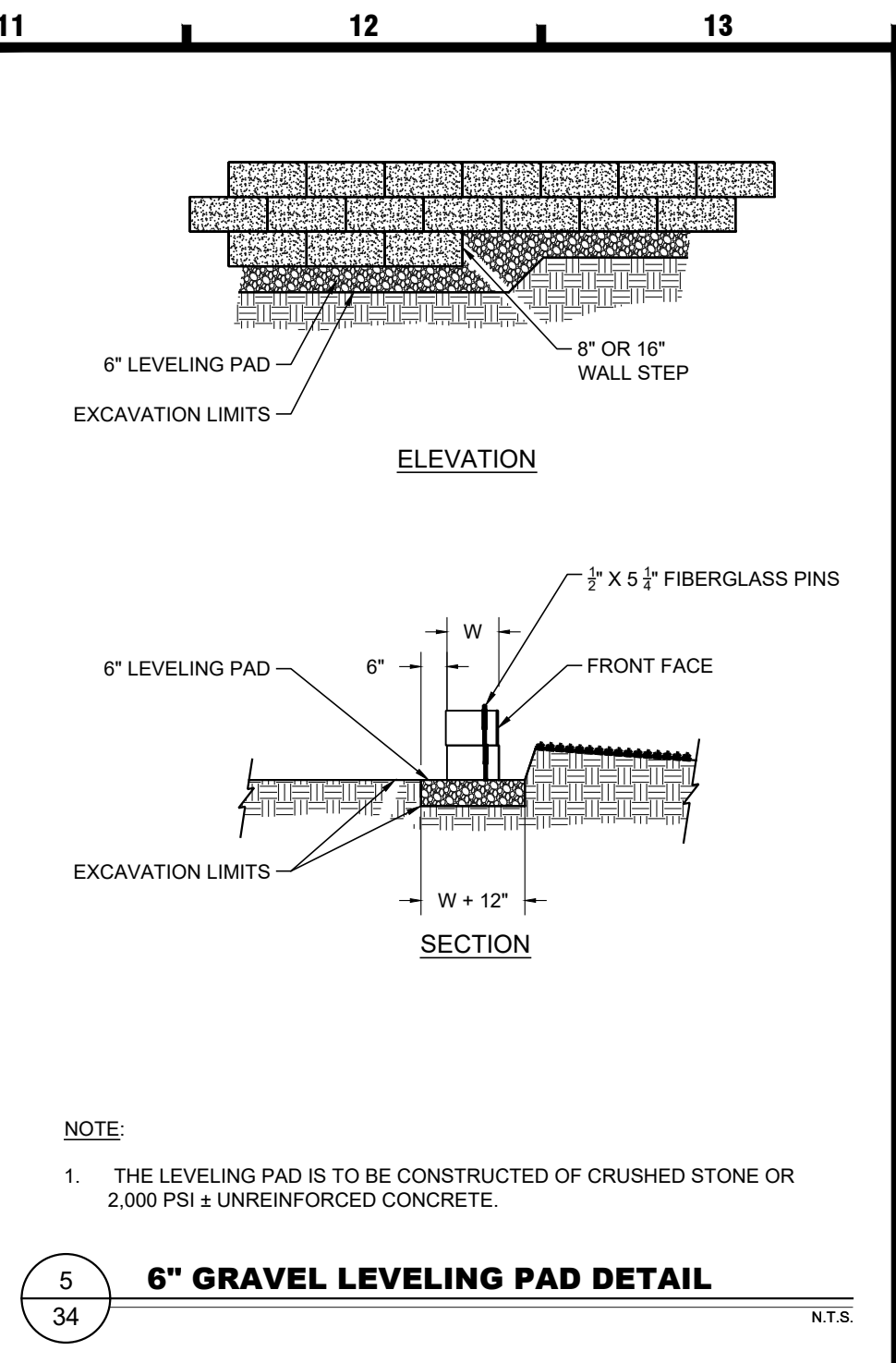
2 WALL BLOCK UNIT N.T.S.
PRODUCT SUBMITTAL REQUIRED



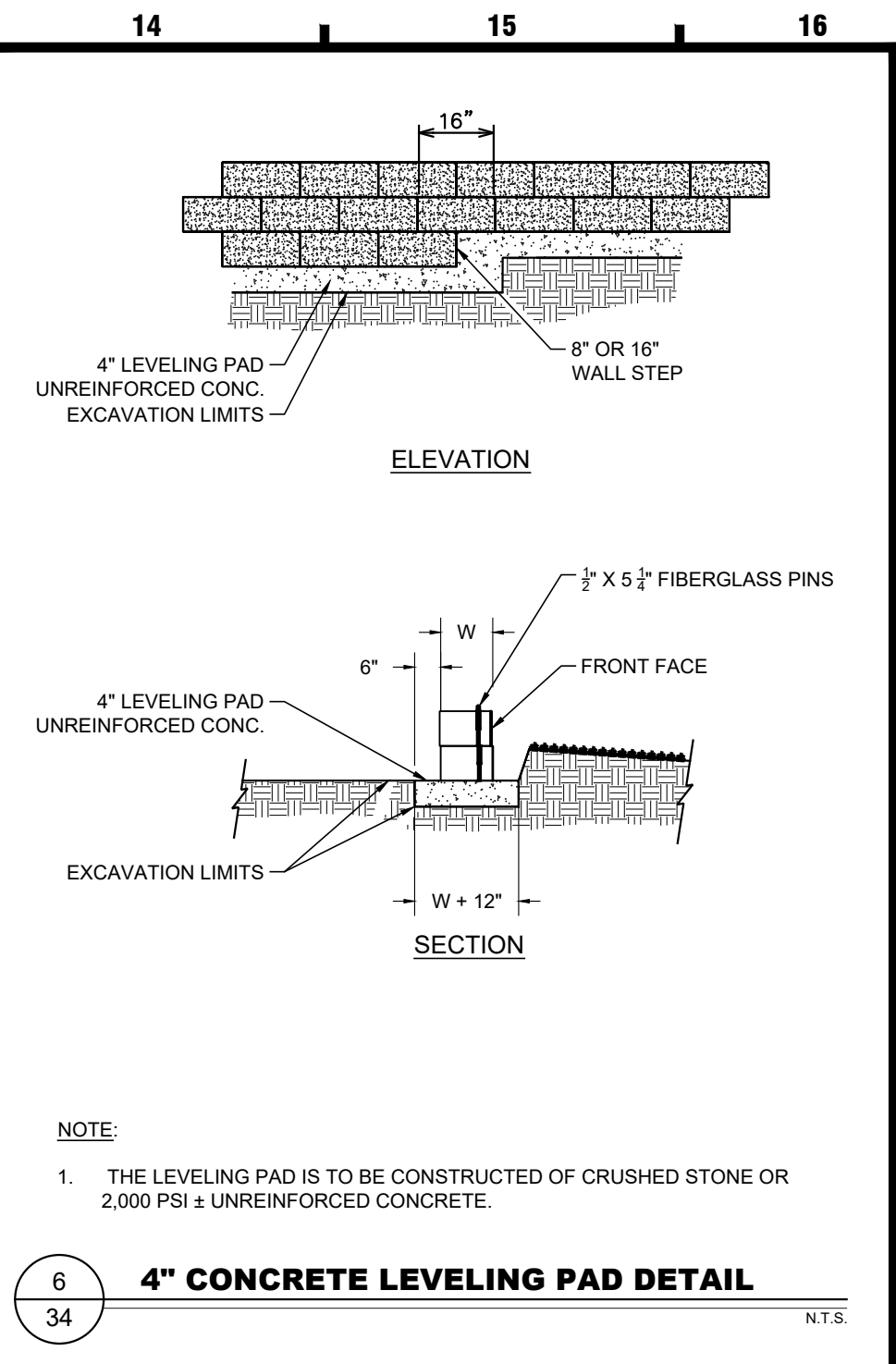
3 FENCING N.T.S.



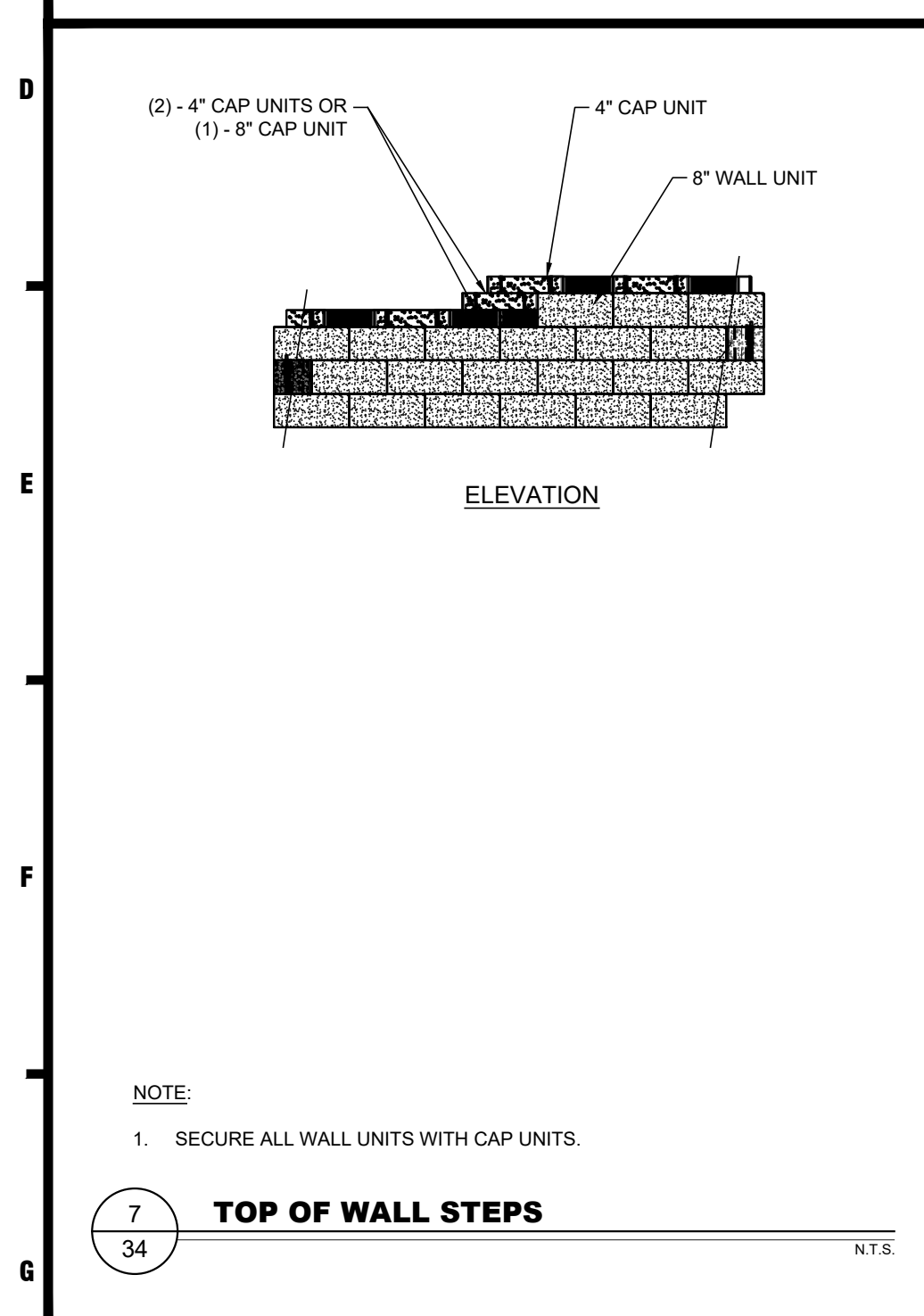
4 GRID & PIN CONNECTION N.T.S.



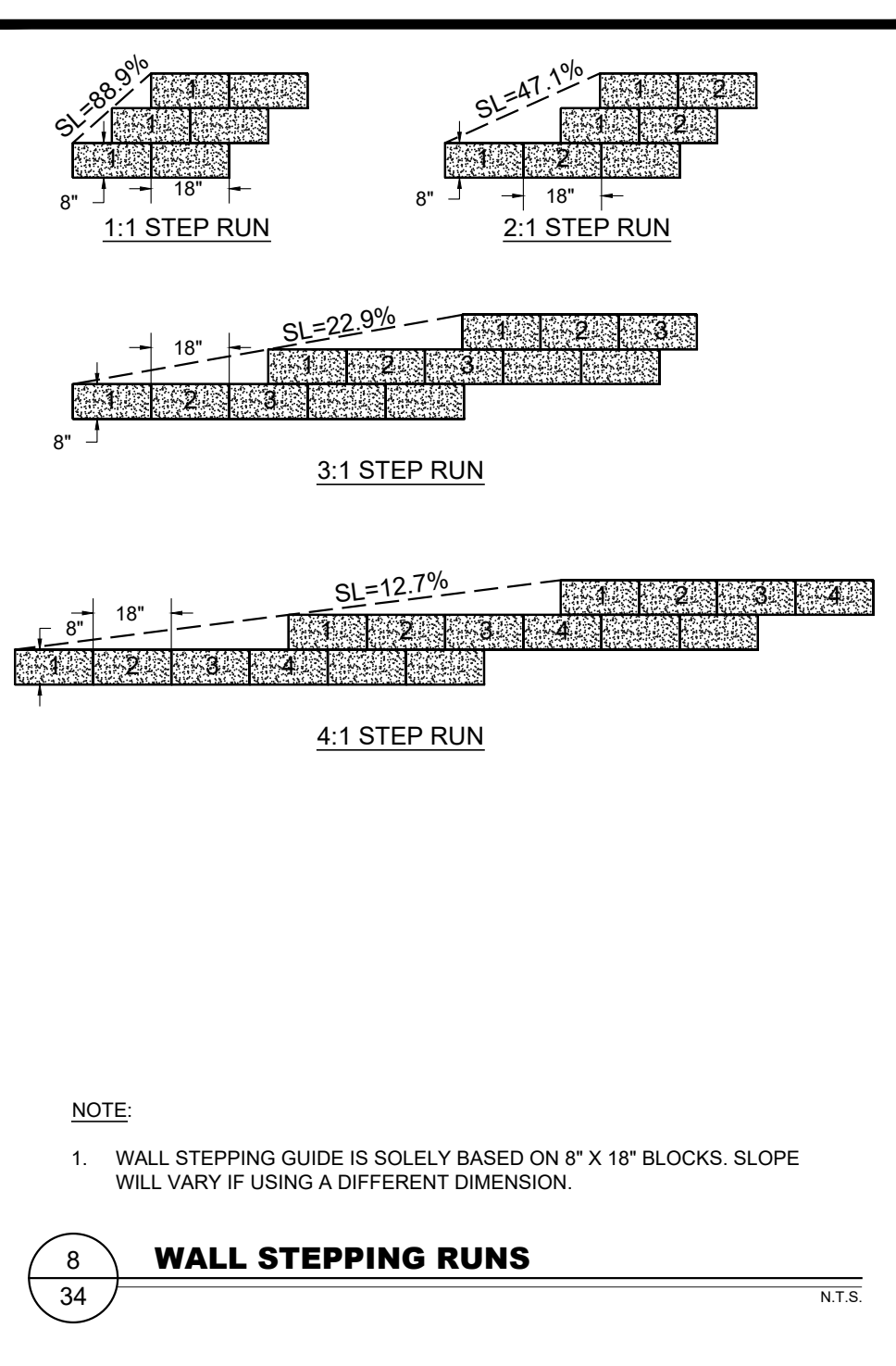
5 6\"/>



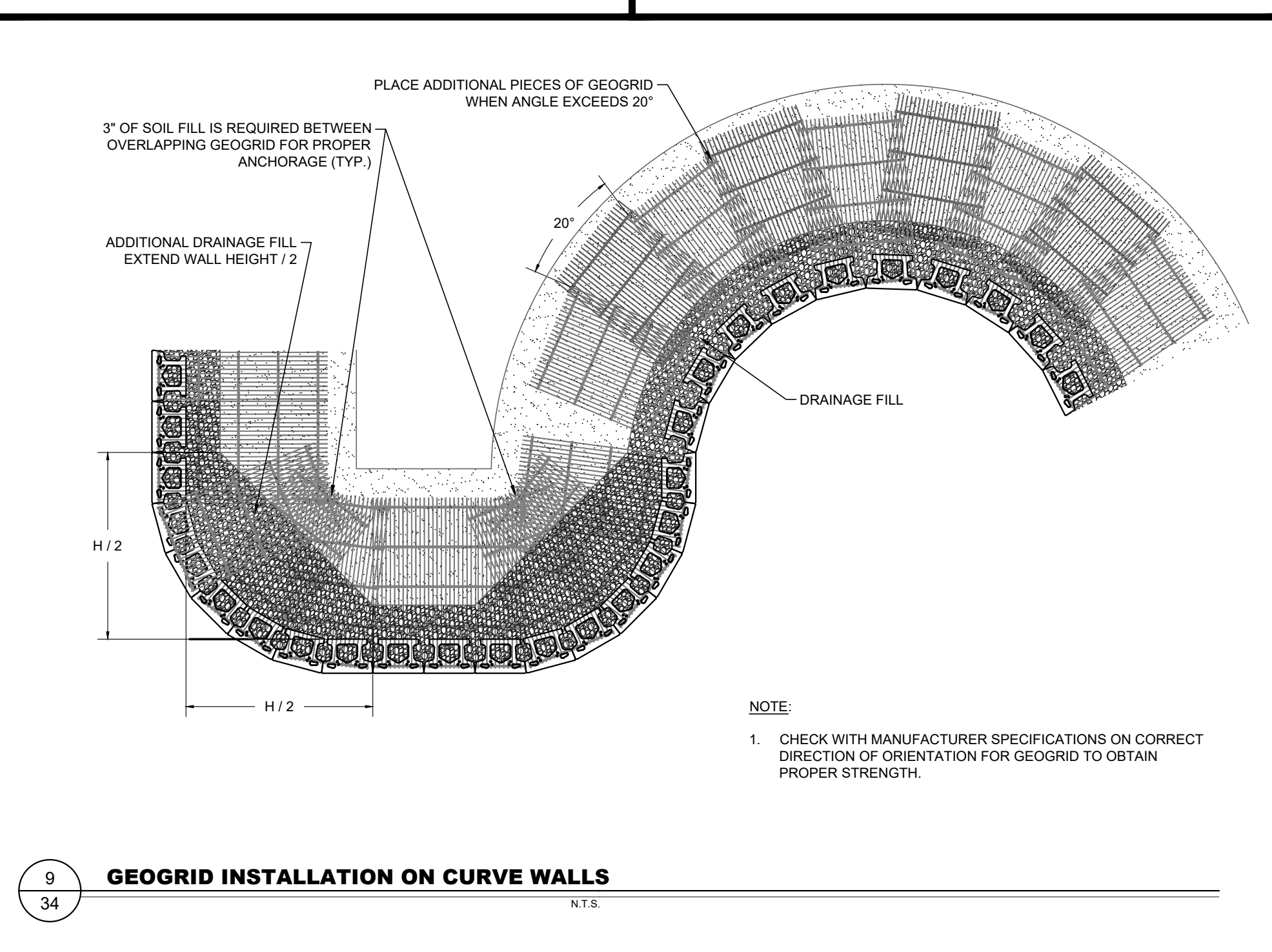
6 4\"/>



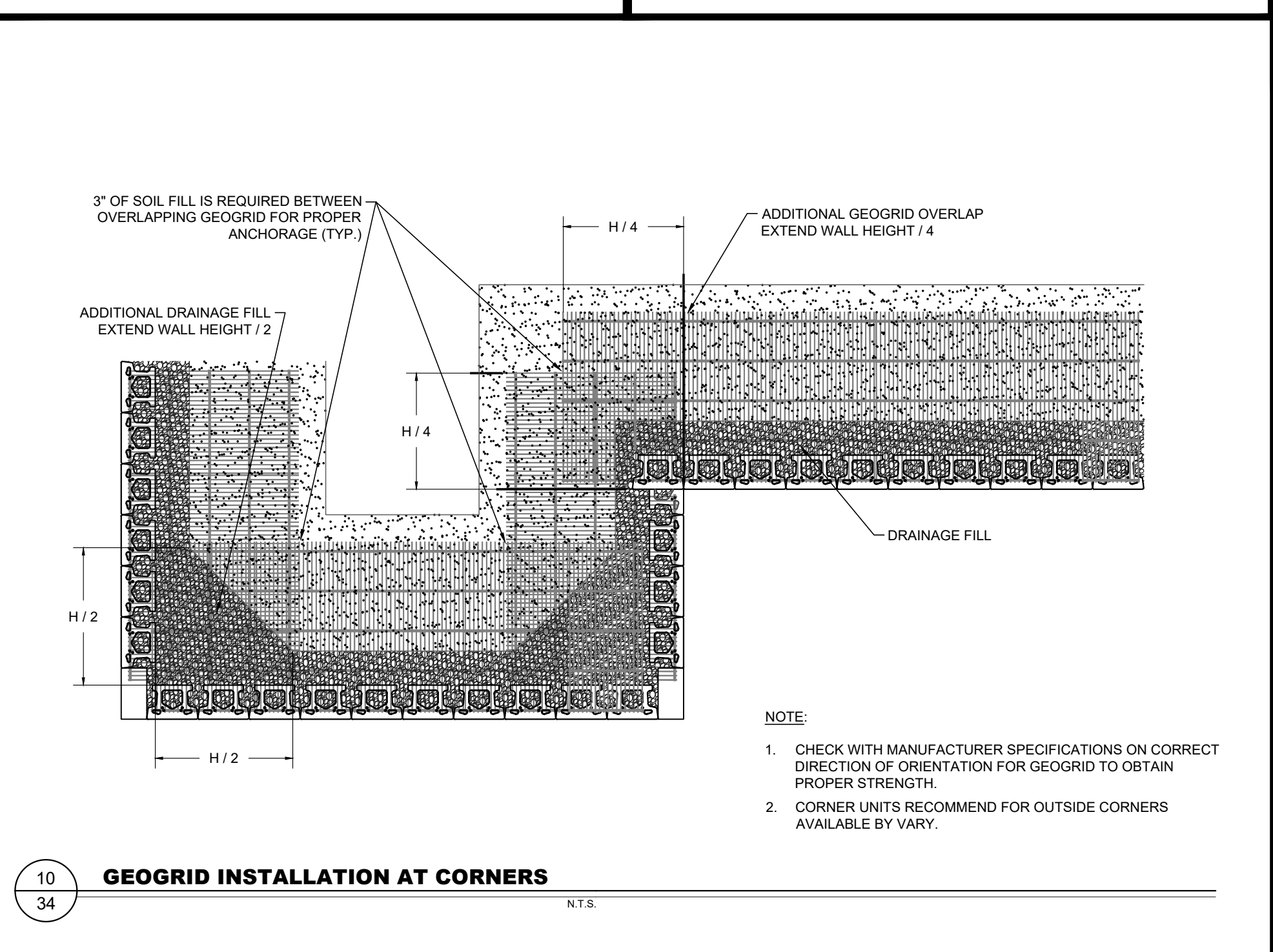
7 TOP OF WALL STEPS N.T.S.



8 WALL STEPPING RUNS N.T.S.



9 GEOGRID INSTALLATION ON CURVE WALLS N.T.S.



10 GEOGRID INSTALLATION AT CORNERS N.T.S.

DESIGN PROFESSIONAL

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**WOODSON
DEVELOPMENT**

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**WOODSON MIXED
USE DEVELOPMENT**

500-604 WOODSON DRIVE
BRYAN, TEXAS TBD

MAP GRID # TBD
MAPSCO # TBD

PROJECT NUMBER
20006

DRAWING FILE
20006-WALL.DWG

SCALE

PROFESSIONAL SEAL

Troy Lee Moore

PROJECT STATUS
CONCEPT

SHEET TITLE
**RETAINING WALL
DETAILS**

SHEET NUMBER
34 of 34

TBD

CITY OF BRYAN APPROVAL BLOCK

