



PROJECT LOCATION MAP

SCALE: N.T.S.

PROJECT BENCHMARK

TBM # A
CUT SQUARE IN B/C
N: 13,789,608.85
E: 2,247,964.28
ELEV: 729.47

TBM # B
CUT SQUARE IN B/C
N: 13,788,431.86
E: 2,248,989.36
ELEV: 694.86

PLEASE NOTE: NBU REQUIRES GPS POINTS FOR CERTAIN ELECTRIC, WATER AND WASTEWATER ATTRIBUTES, SOME OF WHICH MUST BE TAKEN PRIOR TO BACKFILL DURING CONSTRUCTION.

GPS points shall be required from the Developer's Contractor or Engineer. A minimum of three coordinate points for georeferencing shall be required. The water and wastewater GPS points shall be to survey grade. The electric GPS points shall be to map grade.

Water
Vertical bends and edge of steel casing (if applicable) prior to backfill
Horizontal bends prior to backfill
Tees prior to backfill
Fittings (reducers and couplings) prior to backfill
Fire hydrants (top of flange)
Valves
Meters (top center of box)
Blow off assembly
Corner slab of water tank & gate valve on water tank

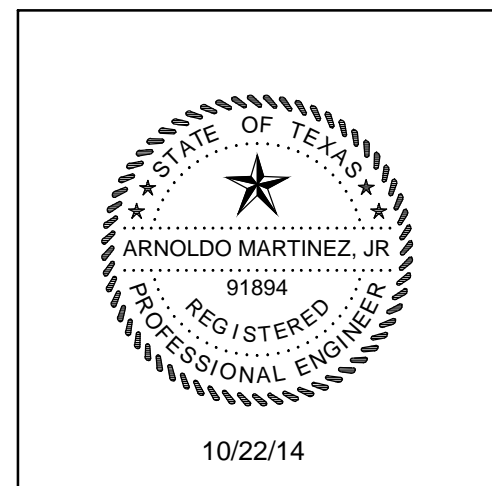
Wastewater
Manholes
Cleanouts
Corner slab of lift station

Electric
Poles
Transformers, both above and underground (front lock)
Pull boxes
Street lights

COORDINATE GPS REQUIREMENTS WITH NBU INSPECTOR

GENERAL NOTES:

- IF CONSTRUCTION HAS NOT COMMENCED WITHIN ONE-YEAR OF CITY APPROVAL FOR CONSTRUCTION INSPECTION, THAT APPROVAL IS NO LONGER VALID.
- THE MOST CURRENT EDITIONS OF THE CITY OF SAN ANTONIO STANDARD SPECIFICATIONS AND THE TEXAS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION OF HIGHWAYS, STREETS AND BRIDGES SHALL FOLLOWED FOR ALL CONSTRUCTION EXCEPT AS AMENDED BY THE CITY OF NEW BRAUNFELS STANDARD DETAILS.
- ALL RESPONSIBILITY FOR THE ADEQUACY OF THESE PLANS REMAINS WITH THE ENGINEER OF RECORD. IN ACCEPTING THESE PLANS, THE CITY OF NEW BRAUNFELS MUST RELY UPON THE ADEQUACY OF THE WORK OF THE ENGINEER IN RECORD.
- PRIOR TO THE START OF CONSTRUCTION, CONTRACTOR SHALL CONTACT THE CITY OF NEW BRAUNFELS 48-HOUR IN ADVANCE TO SET UP THE START OF PRE-CONSTRUCTION MEETING. ALL SUBSEQUENT INSPECTIONS SHALL REQUIRE A 48-HOUR ADVANCE NOTIFICATION TO THE CITY OF NEW BRAUNFELS BY:
 - ALL INSPECTIONS ARE TO BE CALLED IN AT (830) 221-4068 (PHONE)
 - FAXED IN AT (830) 608-2117 (FAX)
 - EMAILED AT INSPECTIONS@NBTEXAS.ORG (EMAILED)
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO SEE THAT ALL TEMPORARY AND PERMANENT TRAFFIC CONTROL DEVICES ARE PROPERLY INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE PLANS AND LATEST EDITION OF THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES. IF THE NEED ARISES, ADDITIONAL TEMPORARY TRAFFIC CONTROL DEVICES MAY BE ORDERED BY THE ENGINEERING REPRESENTATIVE AT THE CONTRACTOR'S EXPENSE.
- DRAINAGE IMPROVEMENTS SUFFICIENT TO MITIGATE OFFSITE IMPACT OF CONSTRUCTION MUST BE COMPLETED AND IN PLACE PRIOR TO ADDING IMPERVIOUS COVER TO THE SITE.
- THE PROPOSED DEVELOPMENT IS A TYPE 3 DEVELOPMENT.
- THIS SUBDIVISION IS LOCATED WITHIN THE SPECIAL FLOOD HAZARD ZONE "X", AND IS NOT WITHIN THE 100-YEAR FLOOD BOUNDARY, AS DEFINED BY THE GUADALUPE COUNTY, TEXAS COMMUNITY PANEL NUMBER 48187C0115F, EFFECTIVE DATE NOVEMBER 2, 2007 AS PREPARED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY.
- THE SUBDIVISION IS NOT LOCATED WITHIN ANY OF THE EDWARDS AQUIFER JURISDICTIONAL BOUNDARIES.



ALL RESPONSIBILITY FOR THE ADEQUACY OF THESE PLANS REMAINS WITH THE ENGINEER OF RECORD. IN ACCEPTING THESE PLANS, THE CITY OF NEW BRAUNFELS MUST RELY UPON THE ADEQUACY OF THE WORK OF THE ENGINEER OF RECORD.

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PREPARED BY:



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NOTE TO CONTRACTOR:

BY THE ACT OF SUBMITTING A BID FOR THIS PROPOSED CONTRACT, THE BIDDER WARRANTS THAT THE BIDDER, AND ALL SUBCONTRACTORS AND MATERIAL SUPPLIERS HE INTENDS TO USE HAVE CAREFULLY AND THOROUGHLY REVIEWED THE DRAWINGS, SPECIFICATIONS AND ALL OTHER CONTRACT DOCUMENTS AND HAVE FOUND THEM COMPLETE AND FREE FROM ANY AMBIGUITIES AND SUFFICIENT FOR THE PURPOSE INTENDED. THE BIDDER FURTHER WARRANTS THAT TO THE BEST OF HIS OR HIS SUBCONTRACTORS' AND MATERIAL SUPPLIERS' KNOWLEDGE, ALL MATERIALS AND PRODUCTS SPECIFIED OR INDICATED HEREIN ARE ACCEPTABLE FOR ALL APPLICABLE CODES AND AUTHORITIES.

THE LOCATION OF ALL EXISTING UTILITIES SHOWN ON THESE PLANS HAS BEEN BASED UPON RECORD INFORMATION ONLY AND MAY NOT MATCH LOCATIONS AND/OR DEPTHS AS CONSTRUCTED. THE CONTRACTOR SHALL CONTACT EACH OF THE INDIVIDUAL UTILITIES FOR ASSISTANCE IN DETERMINING EXISTING UTILITY LOCATIONS AND DEPTHS PRIOR TO BEGINNING ANY CONSTRUCTION. CONTRACTOR SHALL FIELD VERIFY LOCATIONS OF ALL UTILITY CROSSINGS PRIOR TO BEGINNING ANY CONSTRUCTION.

SUNGATE UNIT 8
CIVIL SITE CONSTRUCTION PLANS

GENERAL NOTES:

ALL MATERIALS AND CONSTRUCTION PROCEDURES WITHIN THE SCOPE OF THIS CONTRACT SHALL COMPLY WITH:

A. CURRENT CITY OF NEW BRAUNFELS CONSTRUCTION SPECIFICATIONS AND STANDARDS AS OF THE DATE OF THIS CONTRACT

B. THE MOST CURRENT EDITION OF TEXAS DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION OF HIGHWAYS, STREETS, AND BRIDGES".

ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE MOST CURRENT TEXAS DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION OF HIGHWAYS, STREETS, AND BRIDGES." ALONG WITH CURRENT CITY OF SAN ANTONIO AND COMAL COUNTY SPECIFICATIONS. ANY DISCREPANCIES BETWEEN SPECIFICATIONS SHALL BE RESOLVED BY THE ENGINEER PRIOR TO PROCEEDING WITH CONSTRUCTION.

CONTRACTOR SHALL PROCURE ALL PERMITS AND LICENSES, PAY ALL CHARGES, FEES, AND TAXES AREA AND GIVE ALL NOTICES NECESSARY AND INCIDENTAL TO THE DUE AND LAWFUL PROSECUTION OF THE WORK.

ANY EXISTING OFF-SITE IMPROVEMENTS THAT ARE DAMAGED OR UNDERCUT BY THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED OR REPLACED AS DIRECTED BY THE ENGINEER AND APPROVED BY THE OWNER OF THE EXISTING IMPROVEMENT AT THE CONTRACTOR'S EXPENSE. (NO SEPARATE PAY ITEM)

WORK COMPLETED BY THE CONTRACTOR WHICH HAS NOT RECEIVED A WORK ORDER OR CONSENT OF THE OWNER OR ENGINEER WILL BE SUBJECT TO REMOVAL AND REPLACEMENT BY AND AT THE EXPENSE OF THE CONTRACTOR.

CONTRACTOR IS RESPONSIBLE FOR REMOVAL OF ALL WASTE MATERIALS UPON PROJECT COMPLETION. THE CONTRACTOR SHALL NOT PLACE ANY WASTE MATERIAL IN THE 100YR FLOOD PLAIN WITHOUT FIRST OBTAINING AN APPROVED FLOOD PLAIN DEVELOPMENT PERMIT.

BARRICADES AND WARNING SIGNS SHALL CONFORM TO THE "TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" AND SHALL BE LOCATED TO PROVIDE MAXIMUM PROTECTION TO THE PUBLIC AS WELL AS CONSTRUCTION PERSONNEL AND EQUIPMENT WHILE PROVIDING CONTINUOUS TRAFFIC FLOW AT ALL TIMES DURING CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING ALL DEVICES DURING CONSTRUCTION.

CONTRACTOR IS REQUIRED TO VERIFY PROJECT ELEVATIONS. THE TERM "MATCH EXISTING" SHALL BE UNDERSTOOD TO SIGNIFY BOTH HORIZONTAL AND VERTICAL ALIGNMENT.

WHEN MATCHING EXISTING PAVEMENTS, CURBS, DRIVES, AND WALKS, THEY SHALL BE SAW CUT FULL DEPTH AND REMOVED TO ALLOW FOR PROPOSED CONSTRUCTION. IF ANY EXISTING JOINT IS ENCOUNTERED, PRECAUTION SHALL BE TAKEN DURING REMOVAL OF CONCRETE SO AS NOT TO DAMAGE EXISTING DOWELS. ALL EXISTING DOWELS SHALL BE EXPOSED AND CLEANED.

ITEM OF WORK DESIGNATED "BY OTHERS" SHALL NOT BE CONSIDERED PART OF THIS CONTRACT.

ALL "COMPACTED SUBGRADE" SHALL CONSIST OF NATIVE MATERIAL SCARIFIED TO A MINIMUM DEPTH OF SIX INCHES AND COMPACTED TO 95% DENSITY ACCORDING TO DENSITY TEST METHOD TEX-115E OR ACCORDING TO ASTM D-698 AND TESTED BY ASTM D-2922.

ALL "FLEXIBLE BASE" SHALL BE TYPE "A", GRADE 4, ACCORDING TO TXDOT ITEM 247, COMPACTED TO 95% MODIFIED DENSITY AT A MOISTURE CONTENT BETWEEN +2 AND +3 OF OPTIMUM PERCENT. MOISTURE ACCORDING TO ASTM D-1557 (MODIFIED PROCTOR) AND TESTED BY ASTM D-2922.

ASPHALT PAVEMENT SHALL BE THE TYPE SPECIFIED ON THE PLANS AND ACCORDING TO TXDOT ITEM 340 "HOT MIX ASPHALT CONCRETE PAVEMENT".

PRIME COAT USING MC-30 AT A RATE OF 0.2 GALLONS PER SQUARE YARD SHALL BE PLACED OVER PREPARED BASE AT LEAST ONE DAY PRIOR TO LAYING ASPHALTIC CONCRETE PAVEMENT. ANY NECESSARY TACK COAT SHALL BE MC-30 AT 0.05 GALLONS PER SQUARE YARD. IT IS REQUIRED THAT BOTH THE PRIME COAT AND THE TACK COAT BE APPLIED AT THE TEMPERATURE SPECIFIED UNDER TXDOT ITEM 300.3.

CONCRETE SHALL BE CLASS "A" ACCORDING TO TXDOT ITEM 421 UNLESS OTHERWISE ON PLANS.

REINFORCING STEEL SHALL BE FROM NEW BILLET AND SHALL CONFORM TO TXDOT ITEM 440. ALL DIMENSIONS RELATING TO REINFORCING STEEL ARE TO CENTER OF BARS EXCEPT WHEN REFERRING TO CLEARANCE.

ALL SAWED JOINTS SHALL BE SAWED WITHIN 24 HOURS OF POURING.

ABSOLUTELY NO WELDING OF REINFORCING BARS OR TORCHING TO BEND REINFORCING BARS SHALL BE ALLOWED WITHOUT THE SPECIFIC APPROVAL OF THE ENGINEER.

ORDINARY COMPACTION CONTROL IS REQUIRED ON THIS PROJECT.

ALL ROLLING FOR COMPACTION OF ASPHALTIC CONCRETE PAVEMENT SHALL BE COMPLETED BEFORE THE MIXTURE TEMPERATURE DROPS BELOW 175 DEG. (F).

ALL FILL MATERIAL SHALL BE SUBJECT TO THE ENGINEER'S APPROVAL.

CONTRACTOR AGREES TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND SHALL NOT BE LIMITED TO THE NORMAL WORKING HOURS; AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE OWNERS AND THE ENGINEER AND HIS EMPLOYEES, PARTNERS, OFFICES, DIRECTORS, OR CONSULTANTS, HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF THE WORK ON THIS PROJECT, EXCEPTING FROM LIABILITY ARISING FROM SOLE NEGLIGENCE OF THE OWNER OR ENGINEER, ENGINEER'S DIRECTORS, OFFICERS, EMPLOYEES, OR CONSULTANTS.

ALL CMP (CORRUGATED METAL PIPE) USED ON THIS PROJECT SHALL HAVE A MANNING'S "N" VALUE OF 0.024., UNLESS OTHERWISE SHOWN ON PLANS.

CONTRACTOR WILL BE RESPONSIBLE FOR ALL CONSTRUCTION TESTING PER CURRENT CITY OF NEW BRAUNFELS REQUIREMENTS. ALL TEST RESULTS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL. ENGINEER AND OWNER RESERVE THE RIGHT TO HAVE THE CONTRACTOR REMOVE AND REPLACE ANY MATERIAL THAT WAS NOT TESTED OR FAILED TESTING. ALL COST ASSOCIATED WITH THE REMOVAL, REPLACEMENT AND TESTING SHALL BE PAID BY THE CONTRACTOR.

ALL PVC SLEEVES SHALL BE INSTALLED 3 FEET BELOW FINISHED GRADE AND ENDS SHALL BE MARKED SO THAT LOCATIONS OF SLEEVES CAN BE EASILY IDENTIFIED.

PRE-CONSTRUCTION CONFERENCE IS REQUIRED. ENGINEER WILL ARRANGE SUCH CONFERENCE IN COORDINATION WITH CITY OF NEW BRAUNFELS STREET INSPECTOR & NEW BRAUNFELS UTILITIES INSPECTOR. NO CONSTRUCTION MAY BEGIN PRIOR TO THE PRE-CONSTRUCTION AND SHARED TRENCHING SHALL BE UTILIZED. CUTTING THE STREETS AFTER COMPLETION BY DRY UTILITIES SHALL NOT BE ACCEPTABLE.

AS PER PLATTING ORDINANCE SECTION 118-38M.: WHEN ALL IMPROVEMENTS ARE FOUND TO BE CONSTRUCTED AND COMPLETED IN ACCORDANCE WITH THE APPROVED PLANS AND SPECIFICATIONS AND WITH THE CITY'S STANDARDS, AND UPON RECEIPT OF ONE SET OF "RECORD DRAWINGS" PLANS, AND A DIGITAL COPY OF ALL PLANS (AUTOCAD 2000 MINIMUM) THE CITY ENGINEER SHALL ACCEPT SUCH IMPROVEMENTS FOR THE CITY OF NEW BRAUNFELS, SUBJECT TO THE GUARANTY OF MATERIAL AND WORKMANSHIP PROVISIONS IN THIS SECTION.

EROSION / SEDIMENTATION CONTROL:

AT A MINIMUM, THESE CONTROLS SHALL CONSIST OF ROCK BERMS AND/OR SILT FENCES CONSTRUCTED PARALLEL TO AND DOWN GRADIENT FROM THE TRENCHES. THE ROCK BERM OR SILT FENCES SHALL BE INSTALLED IN A MANNER SUCH THAT ANY RAINFALL RUNOFF SHALL BE FILTERED. HAY BALES SHALL NOT BE USED FOR TEMPORARY EROSION AND SEDIMENTATION CONTROLS.

ALL TEMPORARY EROSION AND SEDIMENTATION CONTROLS MUST BE INSTALLED PRIOR TO CONSTRUCTION AND SHALL BE MAINTAINED DURING CONSTRUCTION BY THE CONTRACTOR. THE CONTRACTOR SHALL REMOVE THE CONTROLS WHEN VEGETATION IS ESTABLISHED AND THE CONSTRUCTION AREA IS STABILIZED [31 TAC 313.5 (C)(12)]. ADDITIONAL PROTECTION MAY BE REQUIRED IF EXCESSIVE SOLIDS ARE BEING DISCHARGED FROM THE SITE.

ALL TEMPORARY EROSION AND SEDIMENTATION CONTROLS SHALL BE REMOVED BY THE CONTRACTOR AT FINAL ACCEPTANCE OF THE PROJECT BY THE OWNER/ENGINEER.

PLACEMENT OF TEMPORARY EROSION AND SEDIMENTATION CONTROLS SHALL BE IN ACCORDANCE WITH THE CONSTRUCTION PLANS. ACTUAL LOCATIONS MAY VARY SLIGHTLY FROM THE PLANS, BUT WILL BE VERIFIED BY THE ENGINEER/INSPECTOR IN THE FIELD PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL INSPECT THE CONTROLS AT WEEKLY INTERVALS AND AFTER EVERY SIGNIFICANT RAINFALL TO INSURE DISTURBANCE OF THE STRUCTURE HAS NOT OCCURRED. SEDIMENT DEPOSITED AFTER A RAINFALL SHALL BE REMOVED FROM THE SITE OR PLACED IN AN ENGINEER APPROVED DESIGNATED DISPOSAL AREA.

CONTRACTOR SHALL BE RESPONSIBLE TO INSURE THAT NO EROSION CONTROL MEASURES BLOCK THE DRAINAGE SYSTEM FROM WORKING AS DESIGNED.

UTILITIES

LOCATION AND DEPTH OF EXISTING UTILITIES SHOWN HERE ARE APPROXIMATE ONLY. ACTUAL LOCATIONS AND DEPTHS MUST BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTION OF ALL EXISTING UTILITIES ENCOUNTERED DURING CONSTRUCTION, INCLUDING THOSE NOT SHOWN ON THE DRAWINGS.

ANY EXISTING UTILITIES, ON OR OFF THE SITE, THAT ARE DAMAGED OR UNDERCUT BY THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED OR REPLACED AS DIRECTED BY THE ENGINEER AND APPROVED BY THE RESPECTIVE UTILITY COMPANY AT THE CONTRACTOR'S EXPENSE.

CONTRACTOR SHALL NOTIFY APPROPRIATE UTILITY COMPANIES AND GOVERNMENTAL AGENCIES AT LEAST 48 HOURS PRIOR TO CONSTRUCTION AT:

THE CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITY COMPANIES 48 HOURS PRIOR TO EXCAVATION

NEW BRAUNFELS UTILITIES (WATER AND SEWER)	(830) 608-8971
NEW BRAUNFELS UTILITIES (ELECTRIC)	(830) 608-8951
TIME WARNER CABLE	(830) 625-3408
CENTERPOINT ENERGY (GAS)	(830) 643-6434
AT&T	(830) 303-1333
TEXAS ONE CALL SYSTEM	(800) 245-4545

DUE TO FEDERAL REGULATIONS TITLE 49, PART 192(8), GAS COMPANIES MUST MAINTAIN ACCESS TO GAS VALVES AT ALL TIMES. THE CONTRACTOR MUST PROTECT THE WORK AROUND ANY GAS VALVES THAT ARE IN THE PROJECT AREA.

CONTRACTOR SHALL REFERENCE NEW BRAUNFELS UTILITIES PLANS FOR FINAL ELECTRICAL LINE DESIGNS AND LAYOUT.

SEWER NOTES

- THE CONTRACTOR SHALL MAINTAIN SERVICE TO EXISTING SANITARY SEWERS AT ALL TIMES DURING CONSTRUCTION.
- A MINIMUM OF 8" WASTEWATER PIPE AND FITTINGS (PVC SDR-26, ASTM D-3034, D-3212, F-477) ARE REQUIRED ON ALL NEW INSTALLATION.
- ALL RESIDENTIAL WASTEWATER SERVICE LATERALS SHALL BE EXTENDED TO THE PROPERTY LINE AND A CLEANOUT SHALL BE INSTALLED AT THE PROPERTY LINE. SERVICES TO LOTS WILL EXTEND SEVEN (7) FEET PAST THE UNDERGROUND ELECTRIC CONDUIT IF ELECTRIC IS INSTALLED IN THE FRONT EASEMENT.
- PIPE BEDDING OF WASTEWATER LINES SHALL BE MANUFACTURED SAND OR PEA GRAVEL AS PER NBU SPECIFICATIONS.
- SECONDARY BACKFILL OF SEWER LINES SHALL GENERALLY CONSIST OF MATERIALS REMOVED FROM THE TRENCH AND SHALL BE FREE FROM BRUSH, DEBRIS, AND TRASH, NO ROCKS OR STONES HAVING ANY DIMENSION LARGER THAN 6 INCHES AT THE LARGEST DIMENSION.
- ALL SEWER PIPES SHALL HAVE COMPRESSION OR MECHANICAL JOINTS AS PER 30 TAC 217.53 (C) (2).
- FOR WASTEWATER LINES LESS THAN 24" IN DIAMETER, SELECT INITIAL BACKFILL MATERIAL SHALL BE PLACED IN TWO LIFTS.

A. THE FIRST LIFT SHALL BE SPREAD UNIFORMLY AND SIMULTANEOUSLY ON EACH SIDE AND UNDER THE SHOULDERS OF THE PIPE TO THE MID POINT OF SPRING LINE OF THE PIPE.

B. THE SECOND LIFT SHALL BE PLACED TO A DEPTH AS SHOWN ON THE PIPE BACKFILL DETAIL FOR PIPES LARGER THAN 24", 12" MAXIMUM LIFTS SHALL BE USED.
- ALL MANHOLES MUST BE WATER TIGHT. EITHER MONOLITHIC, CAST-IN-PLACE CONCRETE STRUCTURES OR PREFABRICATED MANHOLES SPECIFICALLY APPROVED BY NBU. THE MANHOLES SHALL HAVE WATER TIGHT RINGS AND COVERS. WHEREVER THEY ARE WITHIN THE 100 YEAR FLOODPLAIN, THE MANHOLE COVERS SHALL BE BOLTED. EVERY FOURTH MANHOLE IN SEQUENCE SHALL HAVE AN ALTERNATIVE MEANS OF VENTING [30 TAC 213.5(C)(3)(A) AND 30 TAC 217.55(O)].
- ALL MANHOLES SHALL BE CONSTRUCTED SO THAT THE TOP OF THE RING IS 2" ABOVE THE SURROUNDING GROUND EXCEPT WHEN LOCATED IN PAVED AREAS. IN PAVED AREAS, THE MANHOLE RING SHALL BE FLUSH WITH PAVEMENT.
- ALL NEW MANHOLES ARE TO HAVE COVERS WITH 32" OPENINGS. MANHOLES SHALL BE CONSTRUCTED OF OR LINED WITH A CORROSION RESISTANT MATERIAL. WHERE NEW CONSTRUCTION TIES INTO AN EXISTING MANHOLE, THE EXISTING MANHOLE MUST BE LINED, COATED, OR REPLACED WITH A CORROSION RESISTANT MATERIAL.
- WASTEWATER PIPE CONNECTIONS TO PRE-CAST MANHOLES WILL BE COMPRESSION JOINTS OF MECHANICAL "BOOT TYPE" JOINT AS APPROVED BY NBU.
- WASTEWATER LINES SHALL BE TESTED FROM MANHOLE TO MANHOLE.
- IN AREAS WHERE A NEW WASTEWATER MANHOLE IS TO BE CONSTRUCTED OVER AN EXISTING WASTEWATER SYSTEM, IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO TEST THE EXISTING MANHOLES BEFORE CONSTRUCTION. AFTER PROPOSED MANHOLE HAS BEEN BUILT, THE CONTRACTOR SHALL RE-TEST THE EXISTING SYSTEM TO THE SATISFACTION OF THE CONSTRUCTION INSPECTOR. (NO SEPARATE PAY ITEM).
- WHERE THE MINIMUM 9 FOOT SEPARATION DISTANCE BETWEEN WASTEWATER LINES AND WATER LINES/MAINS CANNOT BE MAINTAINED, THE INSTALLATION OF WASTEWATER LINES SHALL BE IN STRICT ACCORDANCE WITH TCEQ. THE WASTEWATER LINE SHALL BE CONSTRUCTED OF CAST IRON, DUCTILE IRON, OR PVC MEETING THE ASTM SPECIFICATION FOR BOTH PIPES AND JOINTS OF 150 PSI AND SHALL BE IN ACCORDANCE WITH 30 TAC 217.53(D)(3)(A)(I).
- AFTER CONSTRUCTION TESTING WILL BE DONE BY TV CAMERA BY THE CONTRACTOR AND OBSERVED BY THE INSPECTOR OR WATER SYSTEMS ENGINEERING PERSONNEL. AS THE CAMERA IS RUN THROUGH THE LINES (NSPI), ANY ABNORMALITIES FOUND IN THE LINE, SUCH AS BROKEN PIPE OR MISALIGNED JOINTS, MUST BE REPLACED BY THE CONTRACTOR AT HIS EXPENSE. CONTRACTOR TO PROVIDE TV TAPES TO CONSTRUCTION INSPECTION FOR REVIEW PRIOR TO FINAL INSPECTION OF THE PROJECT.
- WATER JETTING THE BACKFILL WITHIN A STREET WILL NOT BE PERMITTED. SANITARY SEWER TRENCHES SUBJECT TO TRAFFIC SHALL CONFORM TO NBU CONNECTION & CONSTRUCTION POLICY MANUAL.
- NO TESTING WILL BE PERFORMED PRIOR TO 30 DAYS FROM COMPLETE INSTALLATION OF THE SANITARY SEWER LINES. THE FOLLOWING SEQUENCE WILL BE STRICTLY ADHERED TO:

A. PULL MANDREL

B. PERFORM AIR TEST

C. CLEANING OF ANY DEBRIS

D. FLUSHING OF SYSTEM

E. TV INSPECTION (WITHIN 72 HOURS OF FLUSHING)
- A MINIMUM OF 3 FEET OF COVER IS TO BE MAINTAINED OVER THE SANITARY SEWER MAIN AND LATERALS AT SUBGRADE, OTHERWISE CONCRETE ENCASEMENT WILL BE REQUIRED.
- SANITARY SEWER MAIN CONNECTIONS MADE DIRECTLY TO EXISTING MANHOLES WILL REQUIRE SUCCESSFUL TESTING OF THE MANHOLE IN ACCORDANCE WITH NBU CONNECTION & CONSTRUCTION POLICY MANUAL.
- TCEQ AND EPA REQUIRE EROSION AND SEDIMENTATION CONTROL FOR CONSTRUCTION OF SEWER COLLECTION SYSTEMS. CONTRACTOR SHALL PROVIDE EROSION AND SEDIMENTATION CONTROL PER THE PROJECT PLANS. ALL TEMPORARY EROSION AND SEDIMENTATION CONTROLS SHALL BE REMOVED BY THE CONTRACTOR AT FINAL ACCEPTANCE OF THE PROJECT BY NBU WATER SYSTEMS.
- ALL MANHOLES NOT WITHIN PAVED STREETS SHALL HAVE LOCKING CONCRETE COLLAR TO SECURE RING AND COVER TO MANHOLE CONE PER NBU DETAIL DRAWING #329. (NO SEPARATE PAY ITEM)
- ALL MANHOLES OVER THE EDWARD'S AQUIFER RECHARGE ZONE SHALL HAVE LOCKING CONCRETE COLLAR TO SECURE RING AND COVER TO MANHOLE CONE PER NBU DETAIL DRAWING #329. (NO

SEPARATE PAY ITEM)

- ALL SEWER SERVICES SHALL HAVE CLEANOUTS INSTALLED AT PROPERTY LINE PER NBU DRAWING #302 AND #303. (NO SEPARATE PAY ITEM)
- EACH LOT OWNER SHALL BE RESPONSIBLE FOR VERIFYING THE DEPTH OF THE SEWER SERVICE STUB OUT, AND DETERMINE THE MINIMUM SERVICEABLE FINISHED FLOOR ELEVATION.
- VERTICAL SEWER SERVICE STACKS SHALL BE REQUIRED WHERE THE TOP OF THE SEWER MAIN IS AT A DEPTH OF 8 FEET OF GREATER, UNLESS SHOWN OTHERWISE ON PLANS.
- DUE TO FEDERAL REGULATIONS TITLE 49, PART 192.181 CENTER POINT ENERGY MUST MAINTAIN ACCESS TO GAS VALVES AT ALL TIMES. THE CONTRACTOR MUST PROTECT AND WORK AROUND GAS VALVES THAT ARE IN THE PROJECT AREAS.

WATER NOTES:

- ALL WATER MAINS SHALL BE AWWA C900 (CLASS 150 OR GREATER).
- WATER SERVICES SHALL BE SINGLE 1" COPPER TUBING.
- WATER LINE IS TO BE CONSTRUCTED IN ACCORDANCE WITH THE NBU SYSTEMS CONNECTION & CONSTRUCTION POLICY.
- WATER MAIN SHALL HAVE A MINIMUM OF 42 INCHES OF COVER, OTHERWISE CONCRETE ENCASEMENT WILL BE REQUIRED.
- EACH UNIT IN A DUPLEX, TRIPLEX, FOURPLEX, OR CONDOMINIUM SHALL BE PROVIDED WITH AN INDIVIDUAL WATER METER. A MASTER METER CAN BE CONSIDERED FOR SEPARATE BUILDINGS, HOWEVER, THOSE BUILDINGS MUST BE PLUMBED TO ALLOW SEPARATE METERS FOR FUTURE CONSIDERATION.
- CONTRACTOR WILL KEEP THE AREA ON TOP OF AND AROUND THE WATER METER BOX FREE OF ALL OBJECTS AND DEBRIS.
- INITIAL BACKFILL OF WATER LINES SHALL BE MANUFACTURED SAND OR PEA GRAVEL AS PER NBU SYSTEMS CONNECTION & CONSTRUCTION POLICY.
- SECONDARY BACKFILL OF WATER LINES SHALL GENERALLY CONSIST OF MATERIAL REMOVED FROM THE TRENCH AND SHALL BE FREE FROM BRUSH, DEBRIS AND TRASH OR STONES HAVING ANY DIMENSION LARGER THAN 6" INCHES AT THE LARGEST DIMENSION.
- HYDROSTATIC TESTING IS DONE FROM VALVE TO VALVE.
- NO METER BOXES TO BE SET IN DRIVEWAYS OR SIDEWALKS. ANY METER BOXES SET IN DRIVEWAYS OR SIDEWALKS WILL BE RELOCATED AT CONTRACTOR'S AND/OR DEVELOPER'S EXPENSE.
- METER BOXES MUST BE SET AT THE PROPOSED GRADE. ANY METER BOXES THAT ARE NOT SET AT THE FINAL GRADE WILL BE ADJUSTED AT CONTRACTOR'S AND/OR DEVELOPER'S EXPENSE.
- ACCEPTABLE METER BOXES ARE D13-BAMR AND D15-BAMR. NEW RESIDENTIAL LOTS ARE REQUIRED TO USE THE D15-BAMR METER BOXES (DOUBLE AMR). COMMERCIAL LOTS SHOULD CHOOSE WHICH BOX APPLIES TO THE DOMESTIC AND/OR IRRIGATION METER LAYOUT.
- THRUST BLOCKS WILL NOT BE ALLOWED ON THE SYSTEM WITHOUT SPECIAL APPROVAL. JOINTS WILL BE RESTRAINED WITH RESTRAINING SYSTEMS APPROVED BY NBU AND RESTRAINT LENGTH SHALL BE SUBMITTED TO NBU AT THE TIME OF PLAN SUBMITTAL.
- CONTRACTOR SHALL PLACE TRACER WIRE ON TOP OF THE WATER MAINS. TRACER WIRE SHOULD RUN FROM VALVE TO VALVE AND EXIT AT THE VALVE BOX. THE TRACER WIRE SHOULD BE ATTACHED TO THE TOP OF THE PIPE USING TAPE. EXCESS WIRE SHOULD BE LEFT WITHIN VALVE BOXES TO BE PLACED WITHIN LID OF COVER.

CITY OF NEW BRAUNFELS CONSTRUCTION NOTES

GROUNDWATER

IT SHALL BE THE RESPONSIBILITY OF THE DEVELOPER, CONTRACTOR, SUBCONTRACTORS, BUILDERS, GEOTECHNICAL ENGINEER, AND PROJUECT ENGINEER TO IMMEDIATELY NOTIFY THE OFFICE OF THE CITY ENGINEER AND PROJECT ENGINEER IF THE PRESENCE OF GROUNDWATER WITHIN THE SITE IS EVIDENT. UPON NOTIFICATION THE PROJECT ENGINEER SHALL RESPOND WITH PLAN REVISIONS FOR THE MITIGATION OF THE GROUNDWATER ISSUE. THE CITY ENGINEER SHALL RESPOND WITHIN TWO (2) BUSINESS DAYS UPON RECEIPT OF THE MITIGATION PLAN. ALL CONSTRUCTION ACTIVITY, IMPACTED BY THE DISCOVERY OF GROUNDWATER, SHALL BE SUSPENDED UNTIL THE CITY ENGINEER GRANTS A WRITTEN APPROVAL OF THE GROUNDWATER MITIGATION PLAN.

RECORD DRAWINGS

AS PER PLATTING ORDINANCE SECTION 118-38M.: WHEN ALL OF THE IMPROVEMENTS ARE FOUND TO BE CONSTRUCTED AND COMPLETED IN ACCORDANCE WITH THE APPROVED PLANS AND SPECIFICATIONS AND WITH THE CITY'S STANDARDS, AND UPON RECEIPT OF ONE SET OF "RECORD DRAWING" PLANS, AND A DIGITAL COPY OF ALL PLANS (AUTOCAD 2000 MINIMUM) THE CITY ENGINEER SHALL ACCEPT SUCH IMPROVEMENTS FOR THE CITY OF NEW BRAUNFELS, SUBJECT TO THE GUARANTY OF MATERIAL AND WORKMANSHIP PROVISIONS IN THIS SECTION.

CONSTRUCTION NOTE

ENGINEER OF RECORD IS RESPONSIBLE TO INSURE THAT EROSION CONTROL MEASURES AND STORMWATER CONTROL SUFFICIENT TO MITIGATE OFF SITE IMPACTS ARE IN PLACE AT ALL STAGES OF CONSTRUCTION.

DRAINAGE NOTE

DRAINAGE IMPROVEMENTS SUFFICIENT TO MITIGATE THE IMPACT OF CONSTRUCTION SHALL BE INSTALLED PRIOR TO ADDING IMPERVIOUS COVER.

FINISHED FLOOR ELEVATIONS

THE ELEVATION OF THE LOWEST FLOOR SHALL BE AT LEAST 10 INCHES ABOVE THE FINISHED GRADE OF THE SURROUNDING GROUND, WHICH SHALL BE SLOPED IN A FASHION SO AS TO DIRECT STORMWATER AWAY FROM THE STRUCTURE. PROPERTIES ADJACENT TO STORMWATER CONVEYANCE STRUCTURES MUST HAVE FLOOR SLAB ELEVATION OR BOTTOM OF FLOOR JOISTS A MINIMUM OF ONE FOOT ABOVE THE 100-YEAR WATER FLOW ELEVATION IN THE STRUCTURE. DRIVEWAYS SERVING HOUSES ON THE DOWNHILL SIDE OF THE STREET SHALL HAVE A PROPERLY SIZED CROSS SWALE PREVENTING RUNOFF FROM ENTERING THE GARAGE.

ROADWAY

ALL ROADWAY COMPACTION TESTS SHALL BE THE RESPONSIBILITY OF THE DEVELOPER'S GEO-TECHNICAL ENGINEER. FLEXIBLE BASE OR FILL MATERIAL, INCLUSIVE OF SUBGRADE, SHALL BE COMPACTED AS A SPECIFIED AND TESTED FOR DENSITY AND MOISTURE IN ACCORDANCE WITH TEST METHODS TEX-113-E, TEX-114-E, TEX-115-E. THE NUMBER AND LOCATION OF REQUIRED TESTS SHALL BE DETERMINED BY THE GEO-TECHNICAL ENGINEER AND APPROVED BY THE CITY OF NEW BRAUNFELS STREET INSPECTOR. UPON COMPLETION OF TESTING THE GEO-TECHNICAL ENGINEER WILL PROVIDE THE CITY OF NEW BRAUNFELS STREET INSPECTOR WITH ALL TESTING DOCUMENTATION AND A CERTIFICATION STATING THAT THE PLACEMENT OF FLEXIBLE BASE, AND FILL MATERIAL, AND SUBGRADE, HAS BEEN COMPLETED IN ACCORDANCE WITH THE PLANS.

ITEM 340

ASPHALTIC CONCRETE PAVEMENT SHALL BE TYPE "D" HOT MIX ASPHALT AS DEFINED IN TXDOT'S STANDARD SPECIFICATIONS FOR TXDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION OF HIGHWAYS, STREET AND BRIDGES, 2004.

THE CITY OF NEW BRAUNFELS WILL NOT ACCEPT THE USE OF RECLAIMED ASPHALT PAVEMENT

(RAP) IN ASPHALT MIXTURES FOR NEW ROADWAYS.

THE ASPHALTIC CONCRETE SURFACE COURSE SHALL BE PLANT MIXED, HOT LAID TYPE "D" MEETING THE SPECIFICATION REQUIREMENTS OF 2004 TXDOT ITEM 340. THE MIX SHALL BE DESIGNED FOR A STABILITY OF AT LEAST 35 AND SHALL BE COMPACTED TO BETWEEN 91 AND 95 PERCENT OF THE MAXIMUM THEORETICAL DENSITY AS DETERMINED BY TXDOT TEST METHOD TEX-227-F. THE ASPHALT CEMENT CONTENT BY PERCENT OF TOTAL MIXTURE WEIGHT SHALL FALL WITHIN A TOLERANCE OF +0.5 PERCENT FROM A SPECIFIC MIX DESIGN.

UTILITY TRENCH COMPACTION

ALL UTILITY TRENCH COMPACTION TESTS WITHIN THE STREET PAVEMENT SECTION SHALL BE THE RESPONSIBILITY OF THE DEVELOPER'S GEO-TECHNICAL ENGINEER. FILL MATERIAL SHALL BE PLACED IN UNIFORM LAYERS NOT TO EXCEED TWELVE INCHES (12") LOOSE. EACH LAYER OF MATERIAL SHALL BE COMPACTED TO A MINIMUM 95% DENSITY AND TESTED FOR DENSITY AND MOISTURE IN ACCORDANCE WITH TEST METHODS TEX-113-E, TEX-114-E, TEX-115-E. THE NUMBER AND LOCATION OF REQUIRED TESTS SHALL BE DETERMINED BY THE GEO-TECHNICAL ENGINEER AND APPROVED BY THE CITY OF NEW BRAUNFELS STREET INSPECTOR. AT A MINIMUM, TESTS SHALL BE TAKEN EVERY 100LF FOR EACH LIFT. UPON COMPLETION OF TESTING THE GEO-TECHNICAL ENGINEER SHALL PROVIDE THE CITY OF NEW BRAUNFELS STREET INSPECTOR WITH ALL TESTING DOCUMENTATION AND A CERTIFICATION STATING THAT THE PLACEMENT OF FILL MATERIAL HAS BEEN COMPLETED IN ACCORDANCE WITH THE PLANS.

CURB CUT

- DUE TO CONSTRUCTION OF NEW RIGHT-OF-WAY CONSTRUCTION:
- SAWCUT EXISTING STREET AND MATCH TO NEW CONSTRUCTION.
- SAWCUT EXISTING CURB TO TIE INTO EXISTING CONSTRUCTION.

CONSTRUCTION STABILIZED ENTRANCE

SAWCUT CURB FOR CONSTRUCTION ENTRANCE. STABILIZED CONSTRUCTION AREA SHALL BE CONSTRUCTED OF 3"x5" ROCK TO BE PLACED A MINIMUM LENGTH OF 25-FT. AND MAINTAINED SO THAT CONSTRUCTION DEBRIS DOES NOT FALL WITHIN THE CITY RIGHT-OF-WAY. RIGHT-OF-WAY MUST BE CLEARED FROM MUD, ROCKS, ETC. AT ALL TIMES.

SIGNING AND PAVEMENT MARKING PLAN NOTES

THE CONTRACTOR SHALL FURNISH AND INSTALL ALL REGULATORY AND WARNING SIGNS, STREET NAME SIGNS AND SIGN MOUNTS IN ACCORDANCE WITH APPROVED ENGINEERING PLANS. THE CITY WILL INSPECT ALL SIGNS AT FINAL INSPECTION.

THE CONTRACTOR SHALL INSTALL ALL PAVEMENT MARKINGS IN ACCORDANCE WITH APPROVED ENGINEERING PLANS. THE CONTRACTOR SHALL NOTIFY THE CITY AT LEAST TWENTY-FOUR (24) HOURS PRIOR TO THE INSTALLATION OF AL SEALER AND FINAL MARKINGS. THE CITY WILL INSPECT ALL MARKINGS AT FINAL APPLICATION.

SIGNAGE NOTES

INSTALLATION

THE CONTRACTOR SHALL FURNISH AND INSTALL ALL REGULATORY, WARNING AND STREET NAME SIGNS AND SIGN MOUNTS IN ACCORDANCE WITH APPROVED ENGINEERING PLANS.

MOUNTING

THE WEDGE ANCHOR STEEL SYSTEM AND THIN-WALLED TUBING POST SHALL BE USED FOR SIGNS WITH UP TO 10 SQUARE FEET OF SIGN AREA. MATERIALS AND INSTALLATION SHOULD FOLLOW THE TEXAS DEPARTMENT OF TRANSPORTATION (TXDOT) TRAFFIC STANDARDS SMD (GEN) - 08 AND SMD (TWT) - 08.

THE TRIANGULAR SLIP BASE SYSTEM AND 10 BWG TUBING POST SHALL BE USED FOR SIGNS THAT HAVE 10 TO 15 SQUARE FEET OF SIGN AREA. MATERIALS AND INSTALLATION SHOULD FOLLOW THE TXDOT TRAFFIC STANDARDS SMD (GEN) - 08 AND SMD (SLIP-1-3) - 08.

OBJECT MARKERS MATERIALS AND INSTALLATION SHOULD FOLLOW THE TXDOT TRAFFIC STANDARDS D & OM (1 - 5) - 10.

MATERIALS

SIGN MATERIALS INCLUDING ALUMINUM SIGN BLANKS AND SIGN FACE MATERIALS SHOULD FOLLOW THE TXDOT TRAFFIC STANDARDS TSR (1 - 5) - 08 AND DEPARTMENTAL MATERIAL SPECIFICATIONS DMS-7110 AND DMS-8300.

THE CITY OF NEW BRAUNFELS WILL INSPECT ALL SIGNS AT FINAL INSPECTION.

SEQUENCE OF CONSTRUCTION

- INSTALL EROSION CONTROLS PER APPROVED PLAN.
- TEMPORARY CONTROLS TO BE INSPECTED AND MAINTAINED WEEKLY AND PRIOR TO ANTICIPATED RAINFALL EVENTS, AND AFTER RAINFALL EVENTS, AS NEEDED. CONTRACTOR/OWNER SHALL PROVIDE A CONTACT NAME AND NUMBER FOR EROSION CONTROL ISSUES.
- CONDUCT DEMOLITION ACTIVITIES, IF APPLICABLE.
- CONSTRUCT DRAINAGE IMPROVEMENT, IF APPLICABLE.
- AS SOON AS THE CURB INLETS ARE INSTALLED, CURB INLET PROTECTION SHALL BE INSTALLED IF APPLICABLE.
- CONSTRUCT DEVELOPMENT PER APPROVED PLANS.
- INSTALL STREETScape AND/OR LANDSCAPING IMPROVEMENTS.
- REVEGETATE DISTURBED AREAS.
- REMOVE TEMPORARY EROSION CONTROL MEASURES.

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NEW BRAUNFELS,
TEXAS, 78130
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TBE FIRM F-10961

HMT
ENGINEERING & SURVEYING

STATE OF TEXAS
ARNOLDO MARTINEZ, JR.
91894
REGISTERED
PROFESSIONAL ENGINEER
Arnoldo Martinez, Jr.
10/22/14

GENERAL NOTES

CIVIL SITE CONSTRUCTION PLANS

SUNGATE UNIT 8

NB COUNTY LINE PROPERTY, LTD
P.O. BOX 311240
NEW BRAUNFELS, TEXAS 78131

DATE: SEPTEMBER 2014

DRAWN BY: TJB

DESIGNED BY: AM

CHECKED BY: SWH

REVIEWED BY: SCH

PROJECT NO.: 020.012.01

SHEET
2
OF
21

NOTES:

1. REFERENCE BEARING - S 44° 52' 59" W BEING THE SOUTHEASTERLY BOUNDARY LINE OF THE BOARD OF TRUSTEES OF THE NEW BRAUNFELS INDEPENDENT SCHOOL DISTRICT TRACT OF 194.525 ACRES DESCRIBED IN VOLUME 1926, PAGE 532, OFFICIAL PUBLIC RECORDS, GUADALUPE COUNTY, TEXAS.
2. PROPERTY CORNERS WILL BE SET WITH 1/2" IRON PINS WITH PLASTIC CAP LABELED "HMT" WHERE PRACTICAL. OTHERWISE, A MONUMENT THAT IS PERMANENT AND STABLE WILL BE USED.
3. THIS SUBDIVISION IS LOCATED WITHIN THE SPECIAL FLOOD HAZARD ZONE "X" AND IS NOT WITHIN THE 100-YEAR FLOOD BOUNDARY, AS DEFINED BY THE GUADALUPE COUNTY, TEXAS COMMUNITY PANEL NUMBER 48187CD115F, EFFECTIVE DATE, NOVEMBER 2, 2007 AS PREPARED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY.
4. CONTOUR LINES SHOWN HEREON ARE SCALED AND INTERPOLATED OFF OF A MAP PREPARED BY LANDATA GEO SERVICES IN JUNE, 1998. (2' CONTOUR INTERVALS)
5. THIS PROPERTY WILL BE SERVED BY THE FOLLOWING:
ELECTRIC - GUADALUPE VALLEY ELECTRIC COOPERATIVE
TELEPHONE - AT&T
WATER - NEW BRAUNFELS UTILITIES
SEWER - NEW BRAUNFELS UTILITIES
6. THIS PROPERTY LIES IN THE NEW BRAUNFELS INDEPENDENT SCHOOL.
7. THIS PROPERTY LIES IN THE CITY LIMITS OF THE CITY OF NEW BRAUNFELS.
8. GUADALUPE VALLEY ELECTRIC COOPERATIVE (GVEC) WILL MAINTAIN A 5' EASEMENT FOR SERVICE ENTRANCE TO DWELLING. THIS EASEMENT WILL VARY DEPENDING UPON LOCATION OF HOUSE.
9. ALL UNDERGROUND WATER, TELEPHONE, GAS, CABLE T.V. AND ELECTRIC LINES ARE TO BE BURIED A MINIMUM OF 24 INCHES.
10. GVEC TO HAVE A 5' WIDE ELECTRIC EASEMENT ON ALL ROAD CROSSINGS IN WHICH ELECTRIC LINES ARE PLACED.
11. A 4' WIDE SIDEWALK SHALL BE CONSTRUCTED BY THE OWNER/DEVELOPER ADJACENT TO THE CURB ALONG SUN STONE PLACE, SUN BAY DRIVE AND SUN CREEK WAY AT TIME OF BUILDING CONSTRUCTION. THE OWNER/DEVELOPER WILL CONSTRUCT SIDEWALKS ADJACENT TO LOT 257 AND LOT 274 AT THE TIME OF INFRASTRUCTURE CONSTRUCTION.
12. MAINTENANCE OF DRAINAGE EASEMENTS DESIGNATED WITHIN A LOT SHALL BE RESPONSIBILITY OF THE PROPERTY OWNER.
13. DRAINAGE EASEMENTS SHALL BE FREE FROM ALL OBSTRUCTIONS.
14. THE ELEVATION OF THE LOWEST FLOOR SHALL BE AT LEAST 10" ABOVE THE FINISHED GRADE OF THE SURROUNDING GROUND WHICH SHALL BE SLOPED IN A FASHION SO AS TO DIRECT STORMWATER AWAY FROM THE STRUCTURE. PROPERTIES ADJACENT TO STORMWATER CONVEYANCE STRUCTURES MUST HAVE FLOOR SLAB ELEVATION OR BOTTOM OF FLOOR JOISTS A MINIMUM OF ONE FOOT ABOVE THE 100 YEAR WATER ELEVATION IN THE STRUCTURE. DRIVEWAY SERVING HOUSES ON THE DOWNHILL SIDE OF THE STREET SHALL HAVE PROPERLY SIZED CROSS SLOPES PREVENTING RUNOFF ENTERING THE GARAGE.
15. FUTURE DEVELOPMENT IS SUBJECT TO CHAPTER 114 (STREETS, SIDEWALKS AND OTHER PUBLIC SPACES) OF THE NEW BRAUNFELS CODE OF ORDINANCES.
16. THE SIDE ENTRY GARAGE MUST BE SET BACK A MINIMUM OF 20' FROM THE PROPERTY LINE AT THE SIDE STREET FOR LOTS 233, 271 & 275, BLOCK 8.

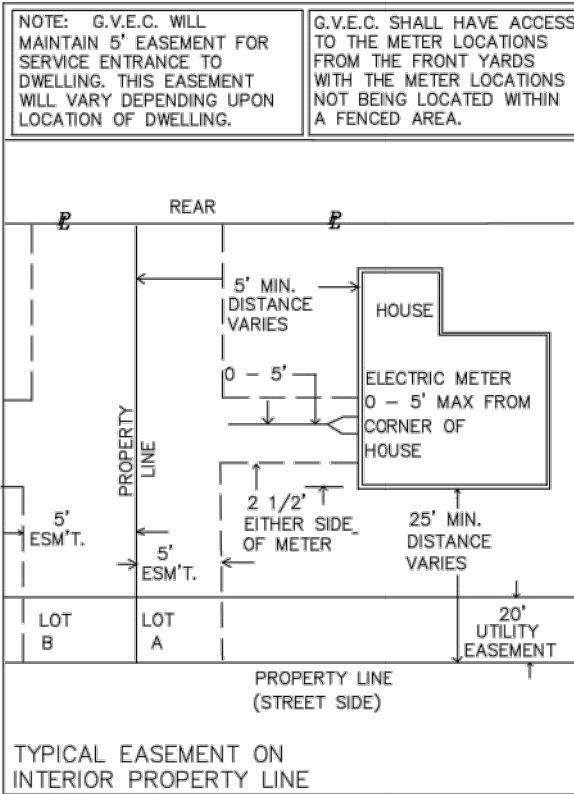
17. LOTS 257 & 274, BLOCK 8 ARE NON-BUILDABLE DRAINAGE AND UTILITY EASEMENTS TO BE MAINTAINED BY DEVELOPER.
18. NUMBER OF BUILDABLE LOTS = 42
19. ALL LOTS MEET MINIMUM SQUARE FOOTAGE REQUIREMENTS.
20. NO STRUCTURES, WALLS OR OTHER OBSTRUCTIONS OF ANY KIND SHALL BE PLACED WITHIN THE LIMITS OF DRAINAGE EASEMENTS SHOWN ON THIS PLAT. NO LANDSCAPING, FENCES, OR OTHER TYPE OF MODIFICATIONS WHICH ALTER THE CROSS SECTIONS OF DRAINAGE EASEMENTS OR DECREASES THE HYDRAULIC CAPACITY OF THE EASEMENT, AS APPROVED, SHALL BE ALLOWED WITHOUT THE APPROVAL OF THE CITY ENGINEER. THE CITY OF NEW BRAUNFELS SHALL HAVE THE RIGHT OF INGRESS AND EGRESS OVER GRANTORS ADJACENT PROPERTY TO REMOVE ANY OBSTRUCTIONS PLACED WITHIN THE LIMITS OF SAID DRAINAGE EASEMENTS AND TO MAKE ANY MODIFICATIONS OR IMPROVEMENTS WITHIN SAID DRAINAGE EASEMENT.
21. PARKLAND AND DEVELOPMENT: IN THE EVENT THIS PLAT IS INCLUDED IN FUTURE SUBDIVISION FOR RESIDENTIAL USES, THE OWNER(S) SHALL IMMEDIATELY CONTACT THE CITY OF NEW BRAUNFELS PER THE PARKLAND ORDINANCE AND BEFORE CERTIFICATE(S) OF OCCUPANCY MAY BE ISSUED BY THE CITY OF NEW BRAUNFELS.

NEW BRAUNFELS UTILITIES NOTES:

- MAINTENANCE OF DEDICATED UTILITY EASEMENTS IS THE RESPONSIBILITY OF THE PROPERTY OWNER. ANY USE OF AN EASEMENT, OR ANY PORTION OF IT, INCLUDING LANDSCAPING OR DRAINAGE FEATURES, IS SUBJECT TO AND SHALL NOT CONFLICT WITH THE TERMS AND CONDITIONS IN THE EASEMENT, MUST NOT ENDANGER OR INTERFERE WITH THE RIGHTS GRANTED BY THE EASEMENT TO NEW BRAUNFELS UTILITIES, ITS SUCCESSORS AND ASSIGNS, AND SHALL BE SUBJECT TO APPLICABLE PERMIT REQUIREMENTS OF THE CITY OF NEW BRAUNFELS OR ANY OTHER GOVERNING BODY. THE PROPERTY OWNER MUST OBTAIN, IN ADVANCE, WRITTEN AGREEMENT WITH THE UTILITIES TO UTILIZE THE EASEMENT, OR ANY PART OF IT.
- UTILITIES WILL POSSESS A 5' WIDE SERVICE EASEMENT TO THE DWELLING ALONG THE SERVICE LINE TO THE SERVICE ENTRANCE. THIS EASEMENT WILL VARY DEPENDING UPON LOCATION OF DWELLING AND SERVICE.
- UTILITIES SHALL HAVE ACCESS TO THE METER LOCATIONS FROM THE FRONT YARD AND METER LOCATIONS SHALL NOT BE LOCATED WITHIN A FENCED AREA.
- EACH LOT MUST HAVE ITS OWN WATER AND SEWER SERVICE AT THE OWNER'S/DEVELOPER'S EXPENSE.
- DO NOT COMBINE ANY NEW UTILITY EASEMENTS (U.E.) WITH DRAINAGE EASEMENTS (D.E.) OR MAKE CHANGES IN GRADE WITHIN THE UTILITY EASEMENTS (U.E.) WITH OUT WRITTEN APPROVAL FROM NEW BRAUNFELS UTILITIES.
- EACH TRACT IS SUBJECT TO FLOATING GUY WIRE EASEMENT(S) AND ITS DIMENSIONS SHALL BE DETERMINED BY THE NEED OF THE UTILITIES.

PLAT ESTABLISHING
SUNGATE,
UNIT 8

BEING 14.291 ACRES OF LAND OUT OF THE WILLIAM PATE SURVEY NO. 22, ABSTRACT NO. 259 IN GUADALUPE COUNTY, TEXAS AND BEING OUT OF A 97.343 ACRE TRACT DESCRIBED IN VOLUME 1980, PAGES 168 OF THE OFFICIAL PUBLIC RECORDS OF GUADALUPE COUNTY, TEXAS.



STATE OF TEXAS
COUNTY OF GUADALUPE

I, THE UNDERSIGNED OWNER OF THE LAND SHOWN ON THIS PLAT, AND DESIGNATED HEREIN AS SUNGATE, UNIT 8, A SUBDIVISION TO THE CITY OF NEW BRAUNFELS, COUNTY OF GUADALUPE, TEXAS, AND WHOSE NAME IS SUBSCRIBED HERETO, DO HEREBY SUBDIVIDE SUCH PROPERTY AND DEDICATE TO THE USE OF THE PUBLIC ALL STREETS, ALLEYS, PARKS, DRAINS, EASEMENTS, AND PUBLIC PLACES THEREON SHOWN FOR THE PURPOSES AND CONSIDERATION THEREIN EXPRESSED.

NB COUNTY LINE PROPERTY, LTD.
BY: NB COUNTY LINE PROPERTY, INC., ITS GENERAL PARTNER
BY: EDWARDS BADOUH, JR., VICE-PRESIDENT
P.O. BOX 311240
NEW BRAUNFELS, TX 78130

STATE OF TEXAS
COUNTY OF COMAL

THIS INSTRUMENT WAS ACKNOWLEDGED BEFORE ME ON THIS DAY OF _____ 20____ BY _____

NOTARY PUBLIC, STATE OF TEXAS
MY COMMISSION EXPIRES: _____

KNOW ALL MEN BY THESE PRESENTS:

I, THE UNDERSIGNED, DOUGLAS B. COTTLE, A REGISTERED PROFESSIONAL LAND SURVEYOR IN THE STATE OF TEXAS, HEREBY CERTIFY THAT THIS PLAT IS TRUE AND CORRECTLY MADE UNDER MY SUPERVISION AND IN COMPLIANCE WITH CITY AND STATE SURVEY REGULATIONS AND LAWS AND MADE ON THE GROUND AND THAT THE CORNER MONUMENTS WERE PROPERLY PLACED UNDER MY SUPERVISION.

PRELIMINARY, THIS DOCUMENT SHALL NOT BE RECORDED FOR ANY PURPOSE.

DOUGLAS B. COTTLE
REGISTERED PROFESSIONAL LAND SURVEYOR NO. 6149
410 N. SEGUIN AVE., NEW BRAUNFELS, TEXAS 78130

APPROVED THIS THE _____ DAY OF _____, 2012,
BY THE PLANNING COMMISSION OF THE CITY OF NEW BRAUNFELS, TEXAS.

CHAIRMAN _____

APPROVED FOR ACCEPTANCE

DATE _____ PLANNING DIRECTOR _____
DATE _____ CITY ENGINEER _____
DATE _____ NEW BRAUNFELS UTILITIES _____

STATE OF TEXAS
COUNTY OF GUADALUPE

I, _____, COUNTY CLERK OF GUADALUPE COUNTY, DO HEREBY CERTIFY THAT THE FOREGOING INSTRUMENT OF WRITING WITH ITS CERTIFICATE OF AUTHENTICATION WAS FILED FOR RECORD IN MY OFFICE ON THE _____ DAY OF _____, A.D., 20____ AT _____, M. AND DULY RECORDED AT _____, A.D. 20____. I, _____, CLERK OF GUADALUPE COUNTY IN BOOK VOLUME _____, ON PAGE _____, TESTIMONY WHEREOF WITNESS MY HAND AND OFFICIAL SEAL OF OFFICE THIS _____ DAY OF _____, 20____.

COUNTY CLERK, GUADALUPE COUNTY, TEXAS

DEPUTY _____

020.012.101

PAGE 1 OF 1



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TBPE FIRM F-10961

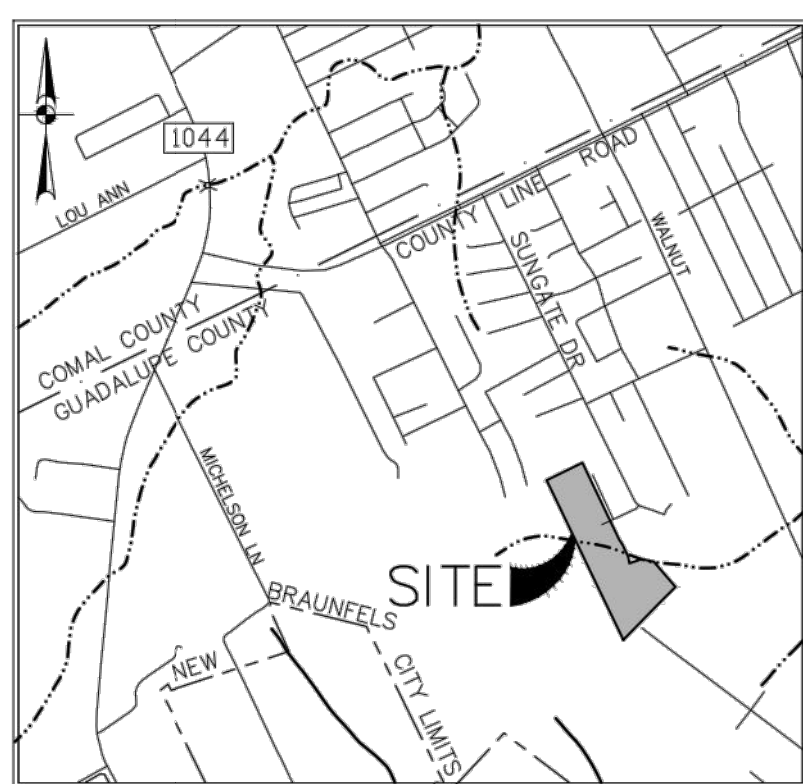
CURVE TABLE					
CURVE	LENGTH	RADIUS	DELTA	TANGENT	CHORD LENGTH
C1	23.70'	15.00'	090°31'13"	15.14'	21.31'
C2	23.43'	15.00'	089°28'47"	14.86'	21.12'
C3	47.88'	25.00'	109°46'00"	35.55'	40.90'
C4	9.48'	10.00'	054°18'53"	5.13'	9.13'
C5	251.88'	50.00'	288°37'46"	-35.91'	58.33'
C6	9.48'	10.00'	054°18'53"	5.13'	9.13'
C7	9.48'	10.00'	054°18'53"	5.13'	9.13'
C8	190.59'	50.00'	218°23'45"	-143.60'	94.44'
C9	9.48'	10.00'	054°18'53"	5.13'	9.13'

LINE TABLE		
LINE #	LENGTH	BEARING
L1	30.00'	N26°05'30"W
L2	10.00'	S63°54'30"W

SCALE: 1"=100'

LEGEND:

B.L. = BUILDING SETBACK LINE
U.E. = UTILITY EASEMENT
D.E. = DRAINAGE EASEMENT
R.O.W. = RIGHT-OF-WAY



LOCATION MAP
SCALE: NTS

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10/22/14

SUBDIVISION PLAT

CIVIL SITE CONSTRUCTION PLANS

SUNGATE UNIT 8

NB COUNTY LINE PROPERTY, LTD
P.O. BOX 311240
NEW BRAUNFELS, TEXAS 78131

DATE: SEPTEMBER 2014

DRAWN BY: TJB

DESIGNED BY: AM

CHECKED BY: SWH

REVIEWED BY: SCH

PROJECT NO.: 020.012.101

SHEET

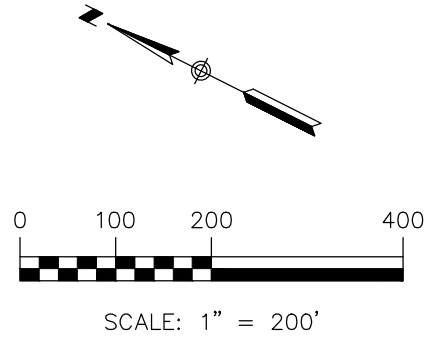
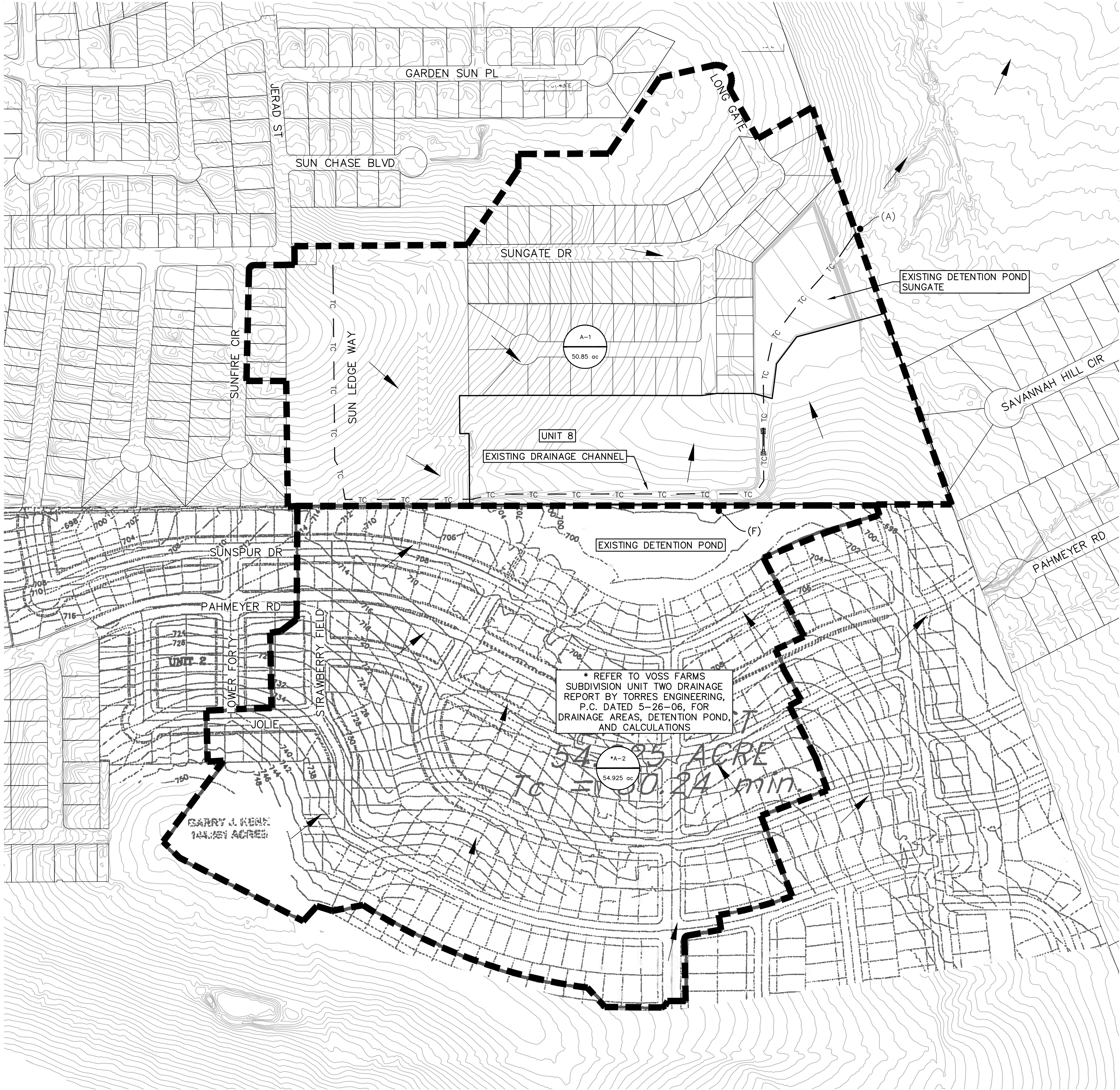
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OF 21

Drawing Name: N:_Projects\020 - Badauh\020.012 - Sungate Unit 8 Construction Drawings\CONSTRUCTION PLANS\020.012.101 DRNG.dwg User: amodem Nov 04, 2014 - 3:27pm

Sungate 8 - Existing Onsite Hydrology Calculations Summary																
PT.	Area ID	Area (ac)	"C" Value	Tc (min)	I2 (in/hr)	I10 (in/hr)	I25 (in/hr)	I100 (in/hr)	K2	K10	K25	K100	Q2 (cfs)	Q10 (cfs)	Q25 (cfs)	Q100 (cfs)
A	(A1)+(**A2)	105.78	0.50	38.3	2.5	3.72	4.46	5.84	1.00	1.00	1.10	1.25	134.04	198.67	261.82	389.46
F	(**A2)	*Re-calculated Q based on Drainage Areas from Drainage Report by Torres Engineering											53.47	79.40	112.55	191.76

*See HMT Drainage Report for Sungate Unit-6A & 7A **Time of Concentration and drainage Area for drainage area A2 derived from Drainage Report Prepared by Torres Engineering, P.C. dated 5-26-06, for Voss Farms Unit 2/Sungate Culvert



- LEGEND**
- 700 — EXISTING CONTOURS
 - 700 — PROPOSED CONTOURS
 - B.L. BUILDING SETBACK LINE
 - U.E. UTILITY EASEMENT
 - D.E. DRAINAGE EASEMENT
 - DRAINAGE AREA
 - TC — TC — TIME OF CONCENTRATION
 - (A) POINT OF CONCENTRATION
 - ← DRAINAGE FLOW DIRECTION
 - C-7
5.4 ac DRAINAGE AREA LABEL

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EXISTING DRAINAGE
AREA MAP

CIVIL SITE CONSTRUCTION PLANS

SUNGATE UNIT 8

NB COUNTY LINE PROPERTY, LTD
P.O. BOX 311240
NEW BRAUNFELS, TEXAS 78131

DATE:	SEPTEMBER 2014
DRAWN BY:	TJB
DESIGNED BY:	AM
CHECKED BY:	SMH
REVIEWED BY:	SCH
PROJECT NO.:	020.012.101

Drawing Name: N:_Projects\020 - Bahaui\020.012 - Sungate Unit 8 Construction Drawings\CONSTRUCTION PLANS\020.012.101 DRNG.dwg User: amodem Nov 04, 2014 - 3:27pm

Sungate 8 - Proposed Onsite Hydrology Calculations Summary																	
PT.	Area ID	Area (ac)	"C" Value	Tc (min)	I2 (in/hr)	I10 (in/hr)	I25 (in/hr)	I100 (in/hr)	K2	K10	K25	K100	Q2 (cfs)	Q10 (cfs)	Q25 (cfs)	Q100 (cfs)	
D	(**B1)+(B4.1)+(B4.2)+(B5)+(B6.1)+(B6.2)	71.57	0.41	31.6	2.8	4.19	5.02	6.56	1.00	1.00	1.10	1.25	84.05	124.51	163.94	243.66	
E	(**B1)+(B4.1)+(B4.2)+(B5)	62.17	0.40	31.0	2.9	4.24	5.08	6.64	1.00	1.00	1.10	1.25	70.72	104.78	137.95	205.01	
G	(B5)	2.72	0.53	16.9	4.0	5.9	7.1	9.3	1.00	1.00	1.10	1.25	5.72	8.56	11.26	16.73	
H	(B7)	4.98	0.53	21.9	3.5	5.2	6.2	8.1	1.00	1.00	1.10	1.25	9.19	13.67	17.98	26.72	
I	(B4.1)+(B5)	6.65	0.53	22.5	3.4	5.93	6.11	7.98	1.00	1.00	1.10	1.25	12.11	18.00	23.68	35.17	
J	B6.1	3.57	0.53	17.6	3.9	5.8	7.0	9.1	1.00	1.00	1.10	1.25	7.37	11.01	14.48	21.53	
K	(B8)	1.27	0.53	15.0	4.2	6.3	7.5	9.9	1.00	1.00	1.10	1.25	2.83	4.24	5.59	8.31	
Voss Farms																	
F	Q's from Voss Farms Drainage Report performed by Torres Engineering												N/A	69.55	91.78	136.69	
F	(**B1)	*Re-calculated Q based on Drainage Areas from Drainage Report by Torres Engineering												53.47	79.40	112.55	191.76

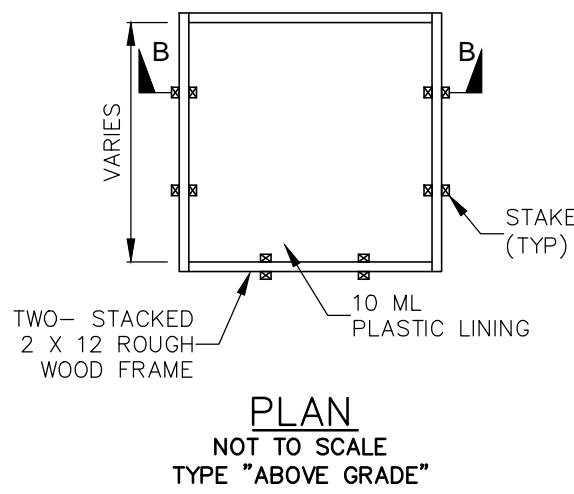
*See HMT Drainage Report for Sungate Unit-6A & 7A **Time of Concentration and drainage Area for drainage area B1 derived from Drainage Report Prepared by Torres Engineering, P.C. dated 5-26-06, for Voss Farms Unit 2/Sungate Culvert



Drawing Name: N:_Projects\020 - Baha\020.012 - Sungate Unit 8 Construction Drawings\CONSTRUCTION PLANS\020.012.01 EROS.dwg User: erodim Nov 04, 2014 - 3:27pm

THE LOCATION OF ALL EXISTING UNDERGROUND UTILITIES ARE SHOWN IN APPROXIMATE LOCATIONS ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES AND BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE INCURRED BY THEIR FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES, STRUCTURES OR FACILITIES. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES 24 - HOURS PRIOR TO COMMENCING CONSTRUCTION.

NOTES
1. ACTUAL LAYOUT DETERMINED IN FIELD.



SECTION B-B
NOT TO SCALE

CONCRETE WASHOUT AREAS

THE PURPOSE OF CONCRETE WASHOUT AREAS IS TO PREVENT OR REDUCE THE DISCHARGE OF POLLUTANTS TO STORMWATER FROM CONCRETE WASTE BY CONDUCTING WASHOUT OFFSITE, PERFORMING ONSITE WASHOUT IN A DESIGNATED AREA, AND TRAINING EMPLOYEES AND SUBCONTRACTORS.

THE FOLLOWING STEPS WILL HELP REDUCE STORMWATER POLLUTION FROM CONCRETE WASTES:

- INCORPORATE REQUIREMENTS FOR CONCRETE WASTE MANAGEMENT INTO MATERIAL SUPPLIER AND SUBCONTRACTOR AGREEMENTS.
- AVOID MIXING EXCESS AMOUNTS OF FRESH CONCRETE.
- PERFORM WASHOUT OF CONCRETE TRUCKS IN DESIGNATED AREAS ONLY.
- DO NOT WASH OUT CONCRETE TRUCKS INTO STORM DRAINS, OPEN DITCHES, STREETS, OR STREAMS.
- DO NOT ALLOW EXCESS CONCRETE TO BE DUMPED ONSITE, EXCEPT IN DESIGNATED AREAS.

FOR ONSITE WASHOUT:

- LOCATE WASHOUT AREA AT LEAST 50 FEET FROM SENSITIVE FEATURES, STORM DRAINS, OPEN DITCHES, OR WATER BODIES. DO NOT ALLOW RUNOFF FROM THIS AREA BY CONSTRUCTING A TEMPORARY PIT OR BERMED AREA LARGE ENOUGH FOR LIQUID AND SOLID WASTE.
- WASH OUT WASTES INTO THE TEMPORARY PIT WHERE THE CONCRETE CAN SET, BE BROKEN UP, AND THEN DISPOSED PROPERLY.

BELOW GRADE CONCRETE WASHOUT FACILITIES ARE TYPICAL. THESE CONSIST OF A LINED EXCAVATION SUFFICIENTLY LARGE TO HOLD EXPECTED VOLUME OF WASHOUT MATERIAL. ABOVE GRADE FACILITIES ARE USED IF EXCAVATION IS NOT PRACTICAL. TEMPORARY CONCRETE WASHOUT FACILITY (TYPE ABOVE GRADE) SHOULD BE CONSTRUCTED AS SHOWN ON THE DETAILS AT THE END OF THIS SECTION, WITH SUFFICIENT QUANTITY AND VOLUME TO CONTAIN ALL LIQUID AND CONCRETE WASTE GENERATED BY WASHOUT OPERATIONS. PLASTIC LINING MATERIAL SHOULD BE A MINIMUM OF 10 MIL IN POLYETHYLENE SHEETING AND SHOULD BE FREE OF HOLES, TEARS, OR OTHER DEFECTS THAT COMPROMISE THE IMPERMEABILITY OF THE MATERIAL.

WHEN TEMPORARY CONCRETE WASHOUT FACILITIES ARE NO LONGER REQUIRED FOR THE WORK, THE HARDENED CONCRETE SHOULD BE REMOVED AND DISPOSED OF. MATERIALS USED TO CONSTRUCT TEMPORARY CONCRETE WASHOUT FACILITIES SHOULD BE REMOVED FROM THE SITE OF THE WORK AND DISPOSED OF. HOLES, DEPRESSIONS OR OTHER GROUND DISTURBANCE CAUSED BY THE REMOVAL OF THE TEMPORARY CONCRETE WASHOUT FACILITIES SHOULD BE BACKFILLED AND REPAIRED.

SILT FENCE

MATERIALS:

- SILT FENCE MATERIAL SHOULD BE POLYPROPYLENE, POLYETHYLENE OR POLYAMIDE WOVEN OR NONWOVEN FABRIC. THE FABRIC WIDTH SHOULD BE 36 INCHES, WITH A MINIMUM UNIT WEIGHT OF 4.5 OZ/YD, MULLEN BURST STRENGTH EXCEEDING 190 LB/IN², ULTRAVIOLET STABILITY EXCEEDING 70%, AND MINIMUM APPARENT OPENING SIZE OF U.S. SIEVE NO. 30.
- FENCE POSTS SHOULD BE MADE OF HOT ROLLED STEEL, AT LEAST 4 FEET LONG WITH TEE OR YBAR CROSS SECTION, SURFACE PAINTED OR GALVANIZED, MINIMUM NOMINAL WEIGHT 1.25 LB/FT², AND BRINELL HARDNESS EXCEEDING 140.
- WOVEN WIRE BACKING TO SUPPORT THE FABRIC SHOULD BE GALVANIZED 2" X 4" WELDED WIRE, 12 GAUGE MINIMUM.

INSTALLATION:

- STEEL POSTS, WHICH SUPPORT THE SILT FENCE, SHOULD BE INSTALLED ON A SLIGHT ANGLE TOWARD THE ANTICIPATED RUNOFF SOURCE. POST MUST BE EMBEDDED A MINIMUM OF 1- FOOT DEEP AND SPACED NOT MORE THAN 8 FEET ON CENTER. WHERE WATER CONCENTRATES, THE MAXIMUM SPACING SHOULD BE 6 FEET.
- LAY OUT FENCING DOWN-SLOPE OF DISTURBED AREA, FOLLOWING THE CONTOUR AS CLOSELY AS POSSIBLE. THE FENCE SHOULD BE SITED SO THAT THE MAXIMUM DRAINAGE AREA IS ¼ ACRE/100 FEET OF FENCE.
- THE TOE OF THE SILT FENCE SHOULD BE TRENCHED IN WITH A SPADE OR MECHANICAL TRENCHER, SO THAT THE DOWN-SLOPE FACE OF THE TRENCH IS FLAT AND PERPENDICULAR TO THE LINE OF FLOW. WHERE FENCE CANNOT BE TRENCHED IN (E.G., PAVEMENT OR ROCK OUTCROP), WEIGHT FABRIC FLAP WITH 3 INCHES OF PEA GRAVEL ON UPHILL SIDE TO PREVENT FLOW FROM SEEPING UNDER FENCE.
- THE TRENCH MUST BE A MINIMUM OF 6 INCHES DEEP AND 6 INCHES WIDE TO ALLOW FOR THE SILT FENCE FABRIC TO BE LAID IN THE GROUND AND BACKFILLED WITH COMPACTED MATERIAL.
- SILT FENCE SHOULD BE SECURELY FASTENED TO EACH STEEL SUPPORT POST OR TO WOVEN WIRE, WHICH IS IN TURN ATTACHED TO THE STEEL FENCE POST. THERE SHOULD BE A 3-FOOT OVERLAP, SECURELY FASTENED WHERE ENDS OF FABRIC MEET.
- SILT FENCE SHOULD BE REMOVED WHEN THE SITE IS COMPLETELY STABILIZED SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.

INSPECTION AND MAINTENANCE GUIDELINES:

- INSPECT ALL FENCING WEEKLY, AND AFTER ANY RAINFALL.
- REMOVE SEDIMENT WHEN BUILDUP REACHES 6 INCHES.
- REPLACE ANY TORN FABRIC OR INSTALL A SECOND LINE OF FENCING PARALLEL TO THE TORN SECTION.
- REPLACE OR REPAIR ANY SECTIONS CRUSHED OR COLLAPSED IN THE COURSE OF CONSTRUCTION ACTIVITY. IF A SECTION OF FENCE IS OBSTRUCTING VEHICULAR ACCESS, CONSIDER RELOCATING IT TO A SPOT WHERE IT WILL PROVIDE EQUAL PROTECTION, BUT WILL NOT OBSTRUCT VEHICLES. A TRIANGULAR FILTER DIKE MAY BE PREFERABLE TO A SILT FENCE AT COMMON VEHICLE ACCESS POINTS.
- WHEN CONSTRUCTION IS COMPLETE, THE SEDIMENT SHOULD BE DISPOSED OF IN A MANNER THAT WILL NOT CAUSE ADDITIONAL SILTATION AND THE PRIOR LOCATION OF THE SILT FENCE SHOULD BE REVEGETATED. THE FENCE ITSELF SHOULD BE DISPOSED OF IN AN APPROVED LANDFILL.

STABILIZED CONSTRUCTION ENTRANCE / EXIT

MATERIALS:

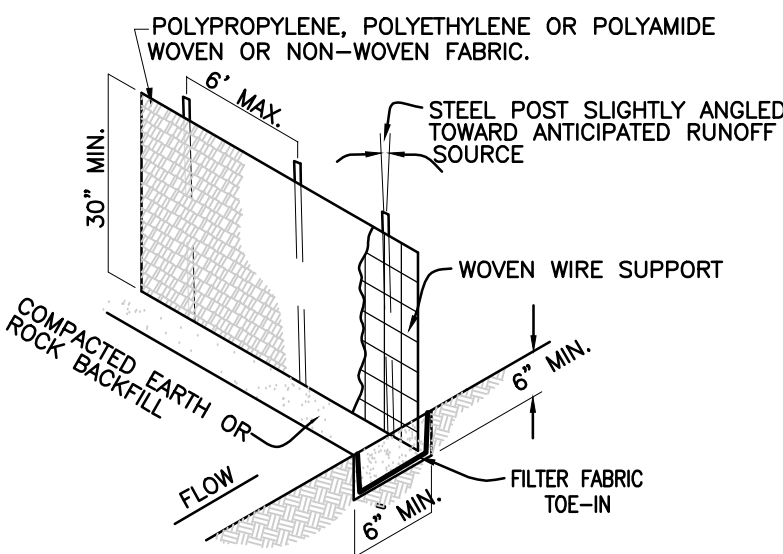
- THE AGGREGATE SHOULD CONSIST OF 3 TO 5 INCH WASHED STONE OVER A STABLE FOUNDATION AS SPECIFIED IN THE PLAN.
- THE AGGREGATE SHOULD BE PLACED WITH A MINIMUM THICKNESS OF 8 INCHES.
- THE GEOTEXTILE FABRIC SHOULD BE DESIGNED SPECIFICALLY FOR USE AS A SOIL FILTRATION MEDIA WITH AN APPROXIMATE WEIGHT OF 6 OZ/YD², A MULLEN BURST RATING OF 140 LB/IN², AND AN EQUIVALENT OPENING SIZE GREATER THAN A NUMBER 50 SIEVE.
- IF A WASHING FACILITY IS REQUIRED, A LEVEL AREA WITH A MINIMUM OF 4 INCH DIAMETER WASHED STONE OR COMMERCIAL RACK SHOULD BE INCLUDED IN THE PLANS. DIVERT WASTEWATER TO A SEDIMENT TRAP OR BASIN.

INSTALLATION:

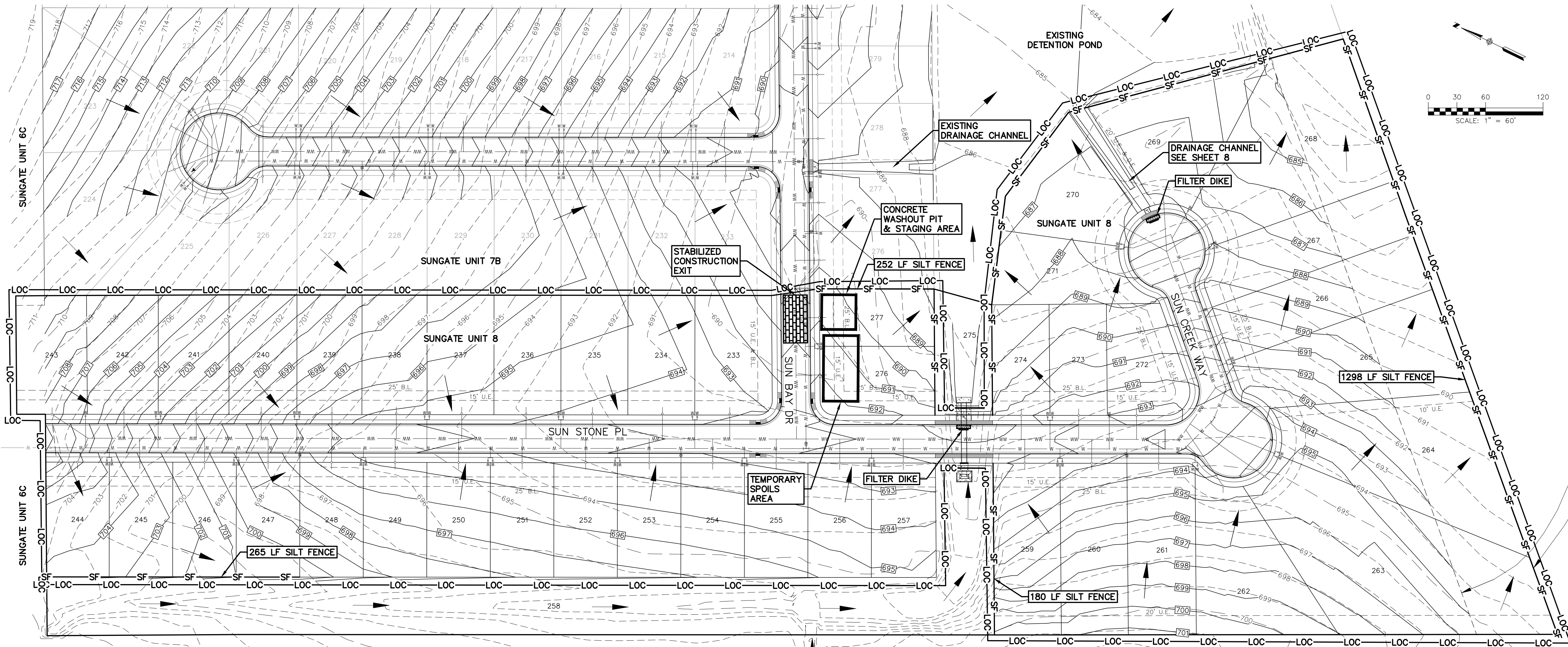
- AVOID CURVES ON PUBLIC ROADS AND STEEP SLOPES. REMOVE VEGETATION AND OTHER OBJECTIONABLE MATERIAL FROM THE FOUNDATION AREA. GRADE CROWN FOUNDATION FOR POSITIVE DRAINAGE.
- THE MINIMUM WIDTH OF THE ENTRANCE/EXIT SHOULD BE 12 FEET OR THE FULL WIDTH OF EXIT ROADWAY, WHICHEVER IS GREATER.
- THE CONSTRUCTION ENTRANCE SHOULD BE AT LEAST 50 FEET LONG.
- IF THE SLOPE TOWARD THE ROAD EXCEEDS 2%, CONSTRUCT A RIDGE, 6 TO 8 INCHES HIGH WITH 3:1 (H:V) SIDE SLOPES, ACROSS THE FOUNDATION APPROXIMATELY 15 FEET FROM THE ENTRANCE TO DIVERT RUNOFF AWAY FROM THE PUBLIC ROAD.
- PLACE GEOTEXTILE FABRIC AND GRADE FOUNDATION TO IMPROVE STABILITY, ESPECIALLY WHERE WET CONDITIONS ARE ANTICIPATED.
- PLACE STONE TO DIMENSIONS AND GRADE SHOWN ON PLANS. LEAVE SURFACE SMOOTH AND SLOPE FOR DRAINAGE.
- DIVERT ALL SURFACE RUNOFF AND DRAINAGE FROM THE STONE PAD TO A SEDIMENT TRAP OR BASIN.
- INSTALL PIPE UNDER PAD AS NEEDED TO MAINTAIN PROPER PUBLIC ROAD DRAINAGE.

INSPECTION AND MAINTENANCE GUIDELINES:

- THE ENTRANCE SHOULD BE MAINTAINED IN A CONDITION, WHICH WILL PREVENT TRACKING OR LOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY, THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.
- ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY SHOULD BE REMOVED IMMEDIATELY BY CONTRACTOR.
- WHEN NECESSARY, WHEELS SHOULD BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY.
- WHEN WASHING IS REQUIRED, IT SHOULD BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN.
- ALL SEDIMENT SHOULD BE PREVENTED FROM ENTERING ANY STORM DRAIN, DITCH OR WATER COURSE BY USING APPROVED METHODS.



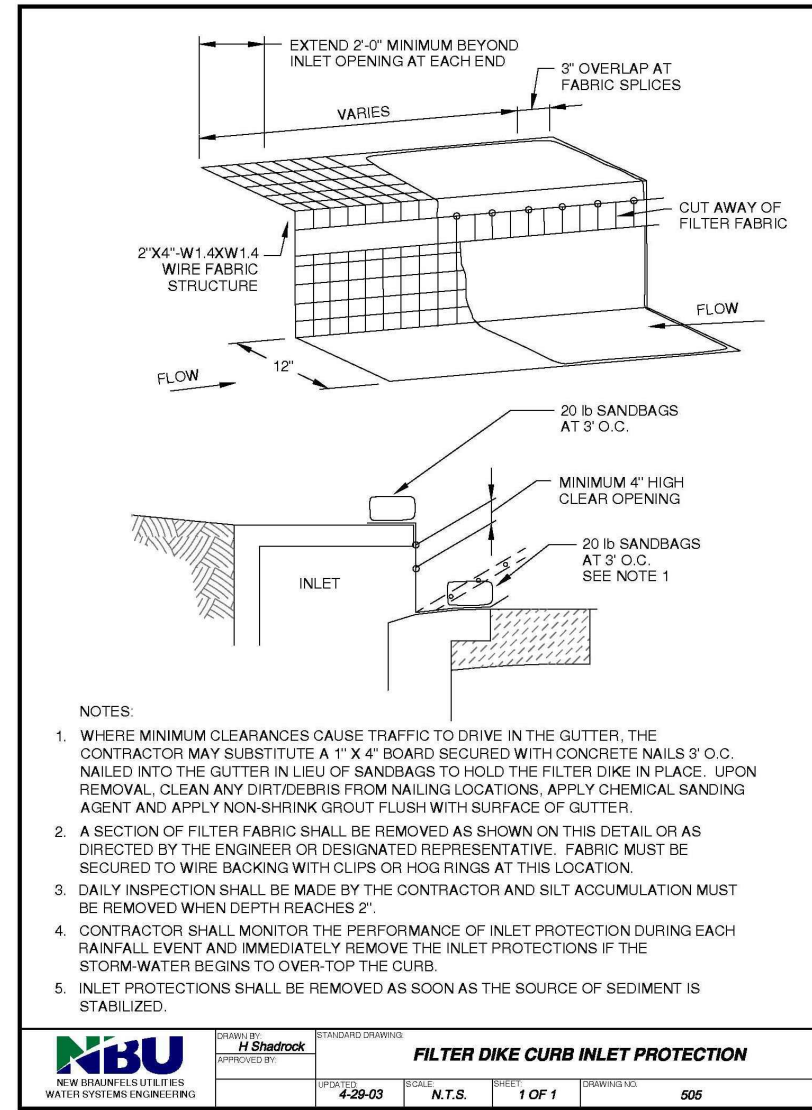
SILT FENCE



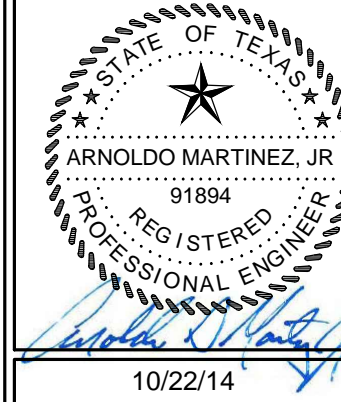
LEGEND

- 700 EXISTING CONTOURS
- 700 PROPOSED CONTOURS
- B.L. BUILDING SETBACK LINE
- U.E. UTILITY EASEMENT
- D.E. DRAINAGE EASEMENT
- DRAINAGE FLOW DIRECTION
- SF SF SILT FENCE
- LOC LOC LIMIT OF CONSTRUCTION
- STABILIZED CONSTRUCTION ENTRANCE
- FILTER DIKE

AS SOON AS THE CURB INLETS ARE INSTALLED, CURB INLET PROTECTION SHALL BE INSTALLED BY THE CONTRACTOR.



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10/22/14

EROSION CONTROL PLAN, DETAILS & NOTES

CIVIL SITE CONSTRUCTION PLANS

SUNGATE UNIT 8

NB COUNTY LINE PROPERTY, LTD
P.O. BOX 311240
NEW BRAUNFELS, TEXAS 78131

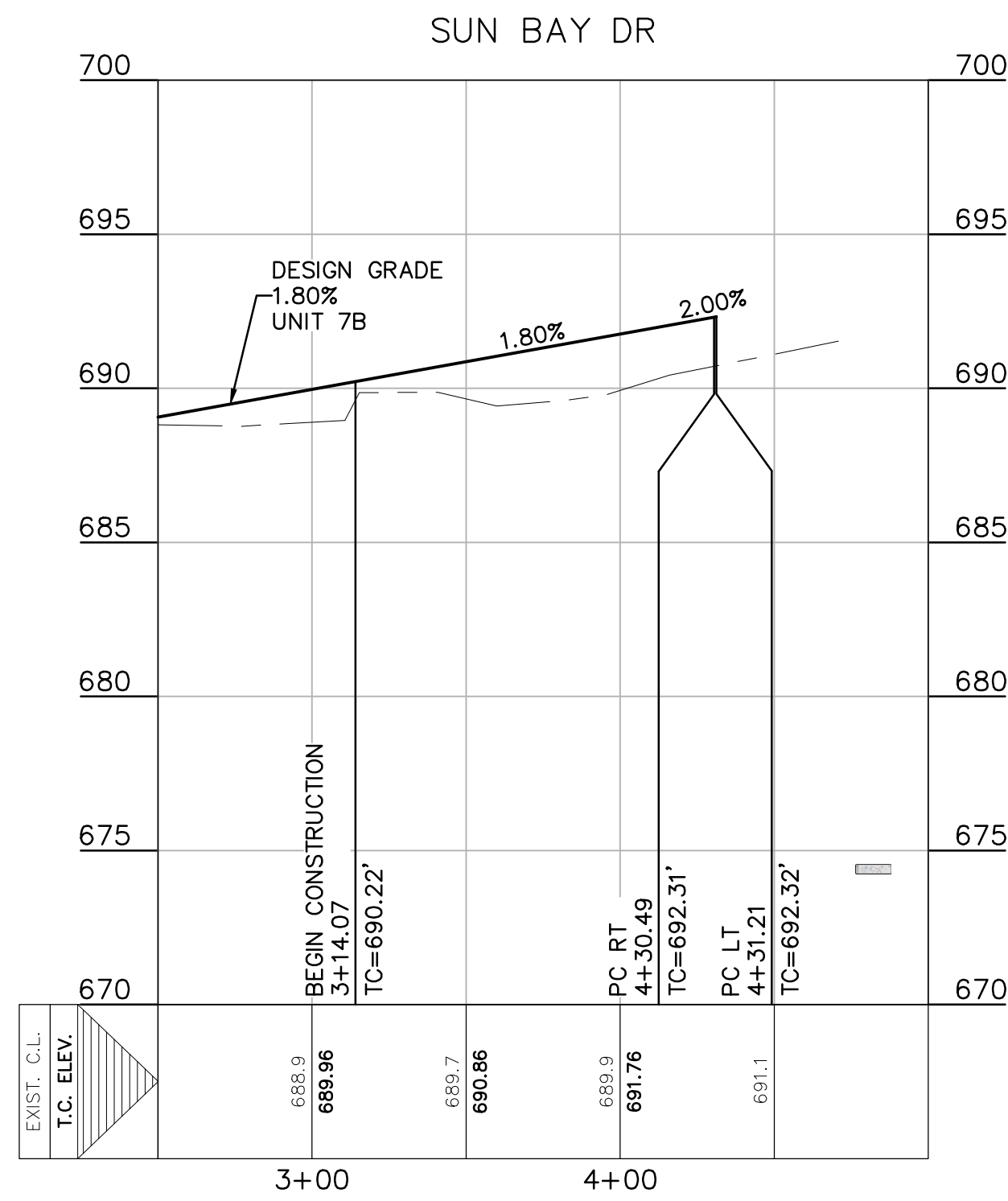
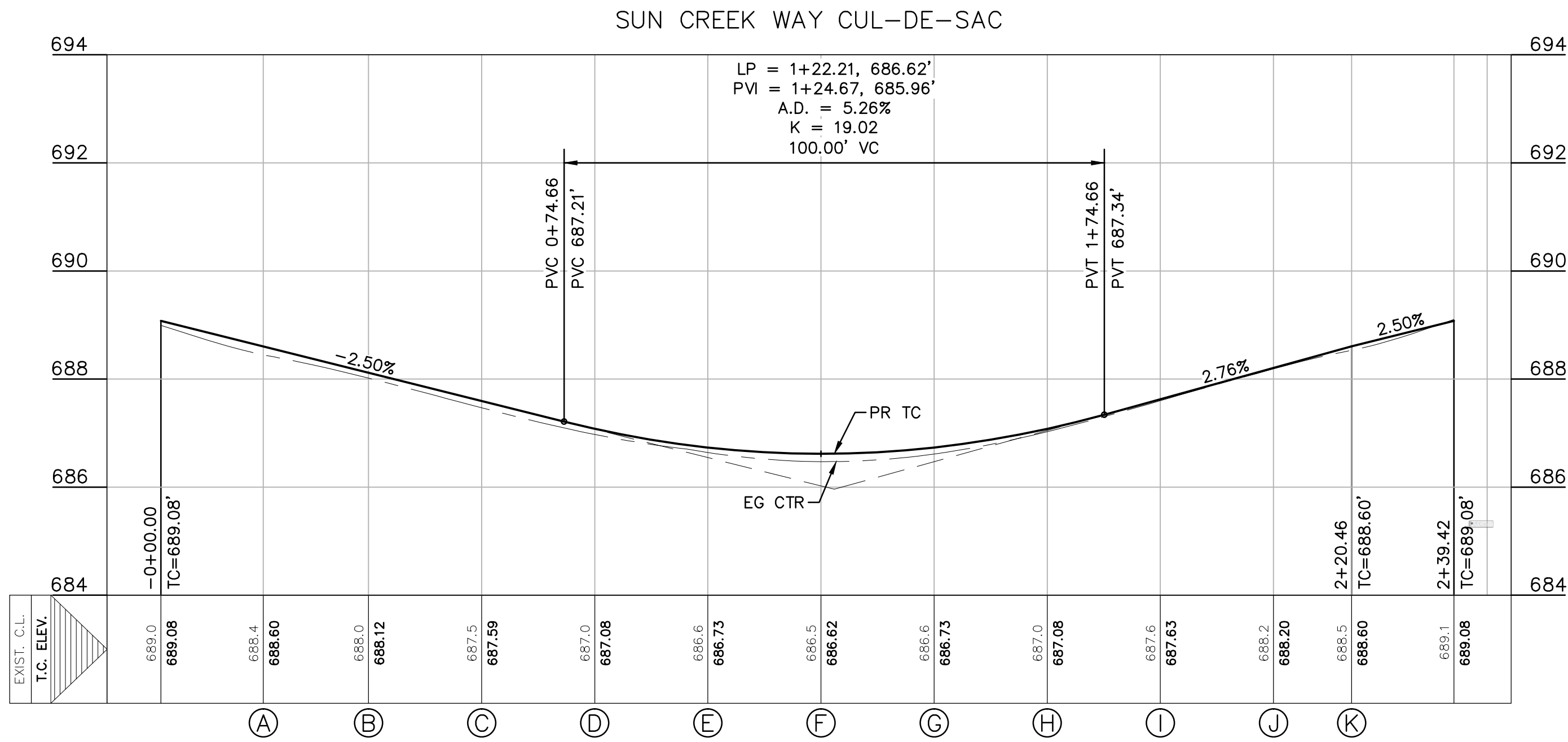
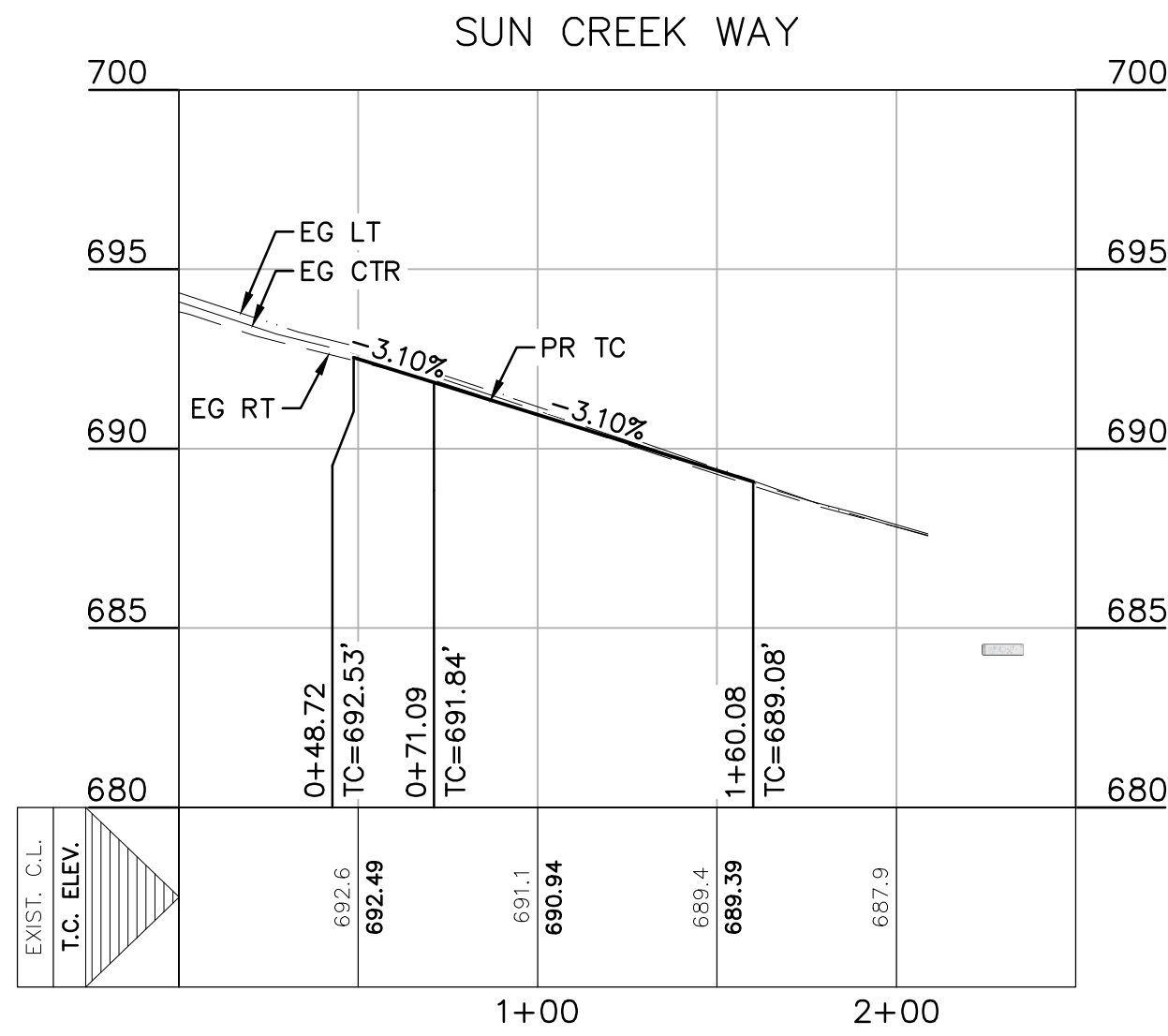
DATE:	SEPTEMBER 2014
DRAWN BY:	TJB
DESIGNED BY:	AM
CHECKED BY:	SMH
REVIEWED BY:	SOH
PROJECT NO.:	020.012.01

SHEET

6

OF 21

Drawing Name: N:_Projects\2020 - Badauh\2020.012 - Sungate Unit 8 Construction Drawings\CONSTRUCTION PLANS\2020.012.101 STREETS.dwg User: emadgm New 04, 2014 - 3:28pm



NOTES:

- IF UNIT 8 IS BUILT WITH UNIT 7B, THE BARRICADE SHOWN HEREON SHALL NOT BE INSTALLED.
- ALL CURBS ARE "CATCH CURBS" UNLESS OTHERWISE NOTED TO BE "SPILL CURBS".
- IF UNIT 8 IS CONSTRUCTED WITH UNIT 7B, THE STREET END BARRICADE MAY BE OMITTED.

KEY NOTES

- BEGIN SPILL CURB
- END SPILL CURB

LEGEND

- EXISTING CONTOURS
- PROPOSED CONTOURS
- B.L.
- UTILITY EASEMENT
- DRAINAGE EASEMENT
- A.D.A. RAMP
- WASHOUT CROWN

SUN BAY DR & SUN CREEK WAY PLANS & PROFILES

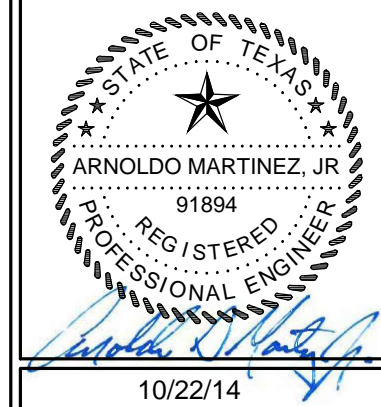
SUNGATE UNIT 8

NB COUNTY LINE PROPERTY, LTD
P.O. BOX 311240
NEW BRAUNFELS, TEXAS 78131

DATE:	SEPTEMBER 2014
DRAWN BY:	TJB
DESIGNED BY:	AM
CHECKED BY:	SMH
REVIEWED BY:	SCH
PROJECT NO.:	020.012.101

SHEET
7
OF 21

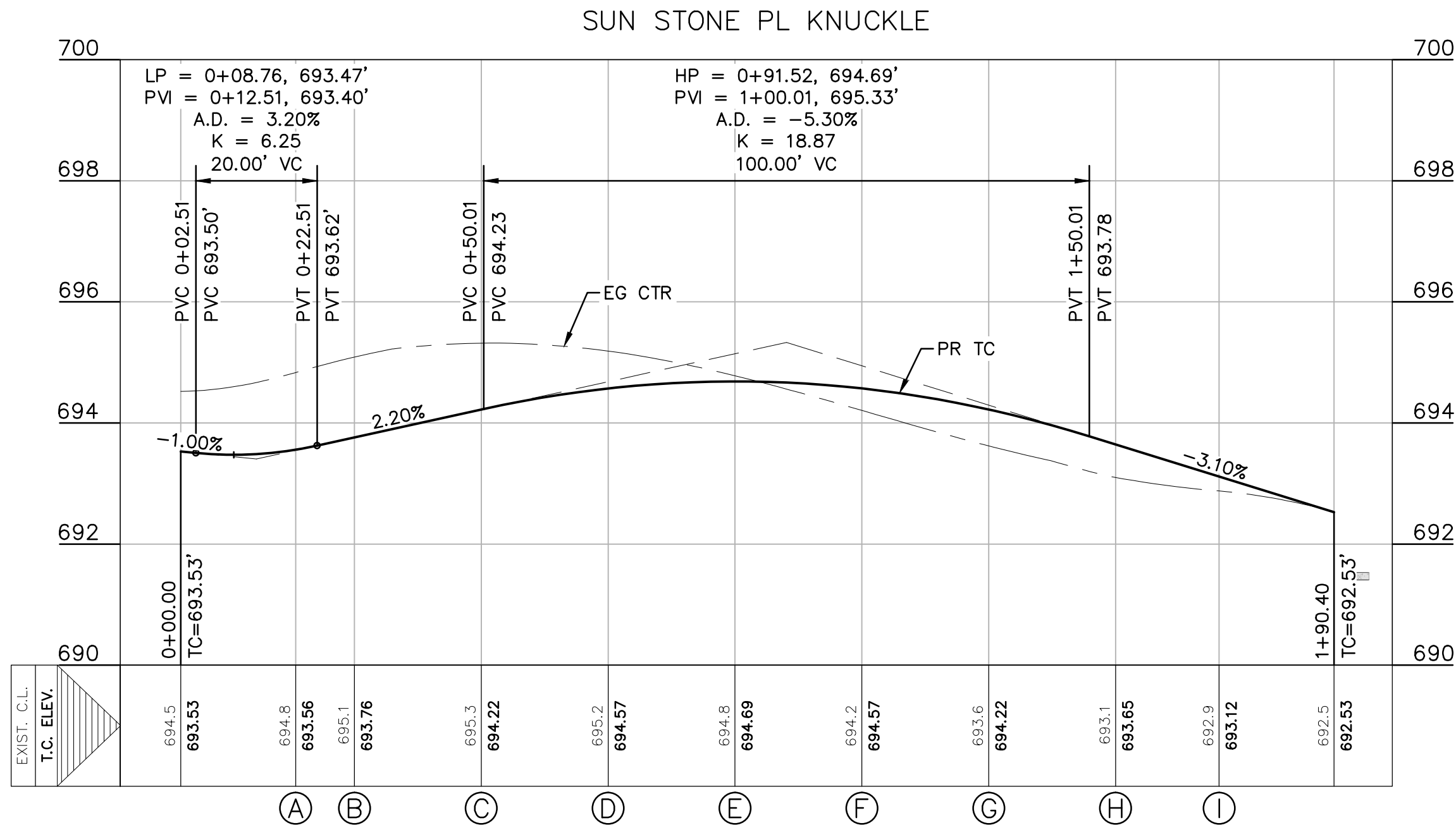
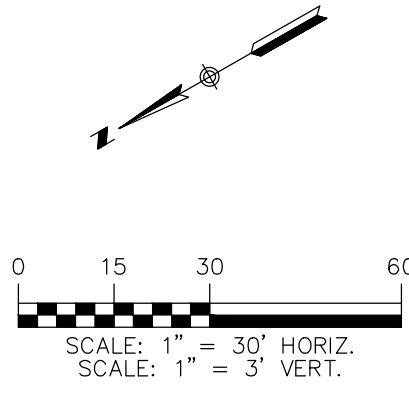
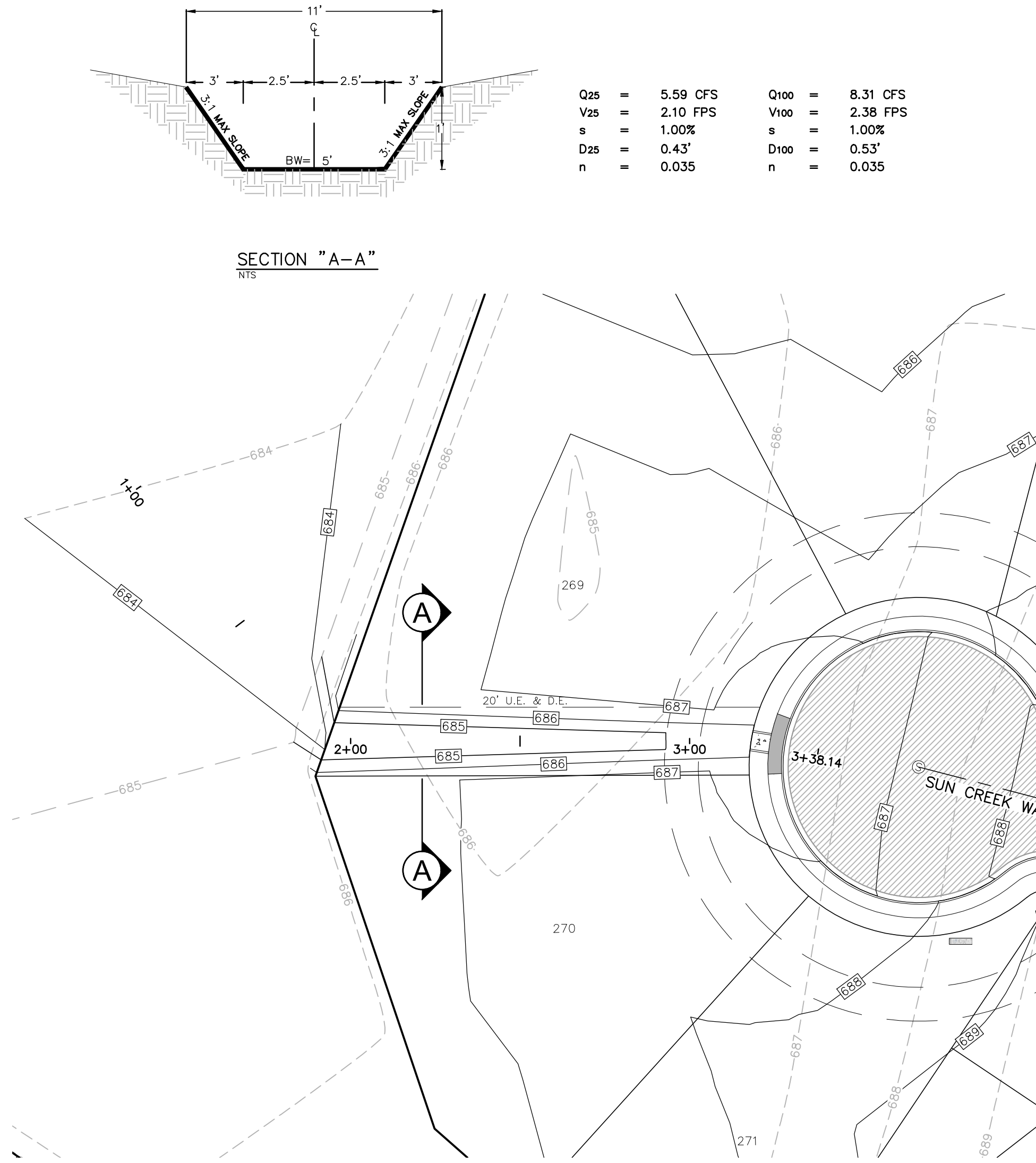
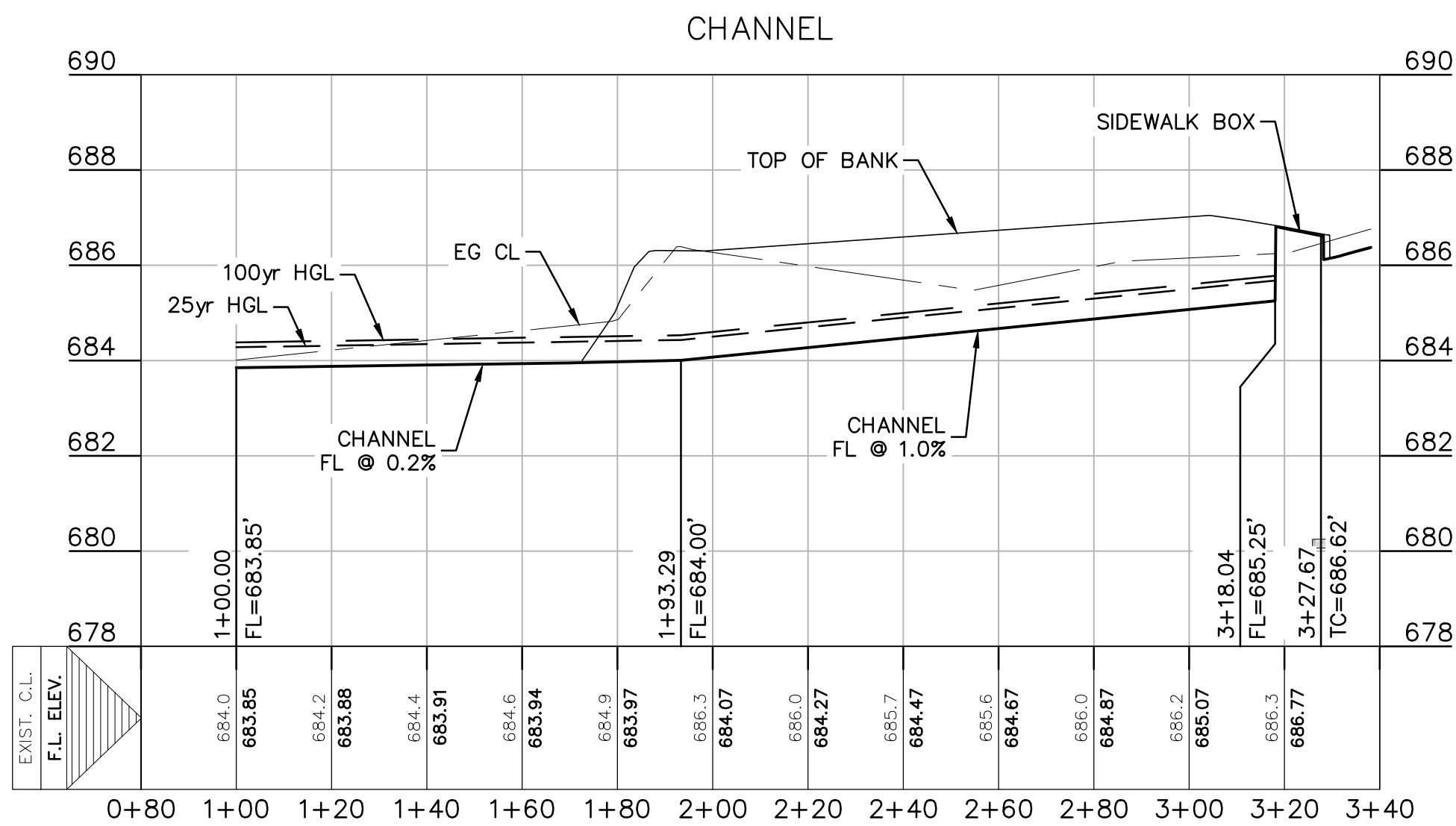
THE LOCATION OF ALL EXISTING UNDERGROUND UTILITIES ARE SHOWN IN APPROXIMATE LOCATIONS ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR WILL AGREE TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE INCURRED BY THEIR FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES, STRUCTURES OR FACILITIES. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES 24- HOURS PRIOR TO COMMENCING CONSTRUCTION.

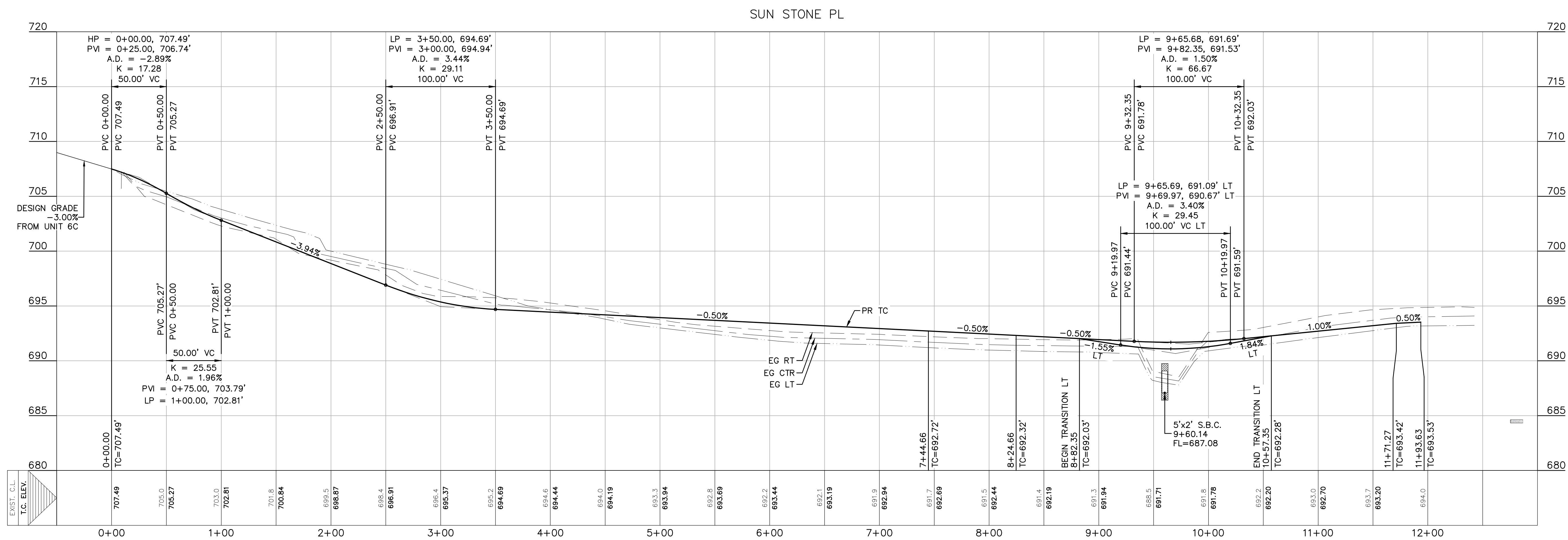
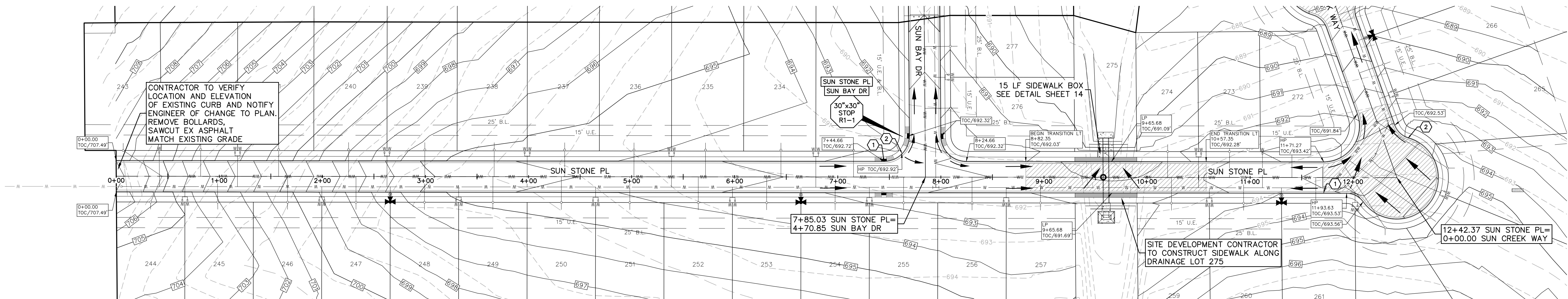


CIVIL SITE CONSTRUCTION PLANS

HMT
ENGINEERING & SURVEYING

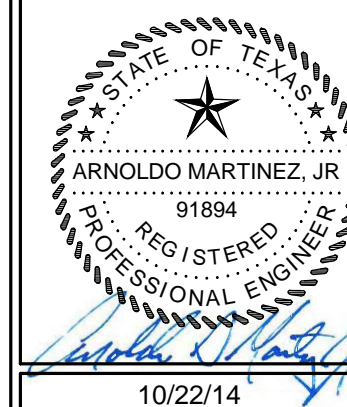
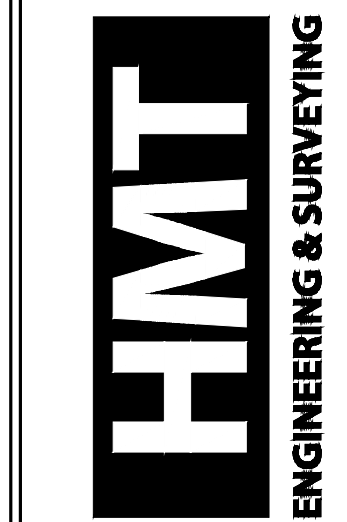
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SUN STONE PLACE
PLAN & PROFILE

SUNGATE UNIT 8

NB COUNTY LINE PROPERTY, LTD
P.O. BOX 311240
NEW BRAUNFELS, TEXAS 78131

DATE:	SEPTEMBER 2014
DRAWN BY:	TJB
DESIGNED BY:	AM
CHECKED BY:	SWH
REVIEWED BY:	SCH

SHEET
9
OF 2

Drawing Name: N:_Projects\020 - Bahaiah\020.012 - Sungate Unit 8 Construction Drawings\CONSTRUCTION PLANS\020.012.01 STREET DETAILS.dwg User: emadgm New 04, 2014 - 3:28pm

STREET SIGN DETAIL - GROUND MOUNT

WHITE LEGEND & CLEARVIEW 1-W FONT STYLE

1"MIN 1.5"

GREEN BACKGROUND

1.5"

1"MIN

6"

3"

2"

9"

24"-48" VARIES BY 6"

R0.75"

Height	9"
Length	24" min 48" max 6" increments in length
Thickness	0.080"
Substrate	Flat aluminum sheeting with 3/4" radius circular fillets at corners conforming to the requirements of ASTM B 209, Alloys 6061-T-6, or 5052-H38.
Sign Face Materials	Green film over High Intensity Prismatic sheeting
Legend	Legends shall be Clearview 1-W font style. Reduced spacing between the letters or words should not be used as a means of reducing the overall size of a street name sign unless approved by the City Traffic Engineer.
Color	White legend on green background

Notes:

1. Street name signs shall be double sided when center mounted on top of sign post. Only one street name sign should be installed on top of sign post with STOP or YIELD sign.

2. When two sets of street name signs are required (e.g. at "T" intersections), one double-sided street name sign should be mounted on sign post. The sign assembly shall meet minimum height requirements as required in the Texas Manual on Uniform Traffic Control Devices (TMUTCD). When required, DEAD END (W14-1a) or NO OUTLET (W14-2a) signs shall also be mounted on the sign post.

3. Street name signs greater than 36" long and center mounted on top of sign post shall be mounted on post top bracket with 12" slot. All other street name signs center mounted on top of sign post shall be mounted on post top bracket with 5 1/2" slot.

4. Street name signs mounted on sign post shall be mounted with double-sided round pole brackets. Two holes should be punched in the center of the 9" street name sign blank 1" from edge of the blank with 7" spacing between holes.

5. The lettering for names of streets shall be composed of a combination of lower-case letters with initial upper-case letters. Acceptable abbreviations per TMUTCD may be used except for the street name itself.

6. Red background (red film over High Intensity Prismatic) should be used for private street name signs.

City of New Braunfels

ENGINEERING DIVISION

ISSUE DATE: February 2013

DWG. NO: ST-024

SCALE: N.T.S.

424 S. CASTELL AVE.
NEW BRAUNFELS, TEXAS 78130
PHONE: 830.221.4020
FAX: 830.282.3000

DRAWN BY: RAS

CONTACT: GF

SHEET: 1 OF 1

DATE APPROVED: 7/08

DWG. NO: ST-018

SCALE: N.T.S.

City of New Braunfels

ENGINEERING DEPARTMENT

DRAWN BY: RAS

SHEET: 1 OF 1

FILENAME: SIDEWALK (Residential)

P:\CURRENT NEW BRAUNFELS DETAILS\2008\

NOTES:

- EXPANSION JOINTS ARE TO BE USED BETWEEN CONCRETE DRIVEWAY AND SIDEWALK.
- SCORED JOINTS DENOTE SIDEWALK ACROSS THE DRIVEWAY AND ARE TO BE PLACED AT LEAST 1/3 rd. THROUGH THE SLAB THICKNESS.
- ALL SIDEWALK AND DRIVEWAY CONSTRUCTION SHALL MEET A.D.A. SPECIFICATIONS.

SIDEWALK (RESIDENTIAL)

PLAN VIEW

WEAKENED PLANE JOINT

EXPANSION JOINT

TYPICAL SECTION

1/2" EXPANSION JOINT AT 24'-0" INTERVALS, AT COLD JOINTS AND AT BEGINNING AND END OF SIDEWALK

CUT JOINTS OR WEAKENED JOINTS EVERY 4'-0"

6"x6" - W2.8Wx2.8 WELDED WIRE FLAT SHEETS OR #4 (3/8") 10mm REINFORCING STEEL @ 18" ON CENTER EACH WAY

PREMOLD ASPHALTIC EXPANSION JOINT FILLER TWO 1/2"x18" SMOOTH DOWELS

9" OF DOWEL TO BE GREASED

1/2" R

1/4" R

1/2" T

1-1/2" T

1/2" R

SIDEWALK / PARKWAY

2" SAND BASE

4'-FT. - 4" CLASS A CONCRETE SIDEWALK 1FT. OFF PROPERTY LINE OR ADJACENT TO CURB, AS NOTED PER PLAT

CURB AND GUTTER

LONGITUDINAL SECTION THRU CURB AND GUTTER SHOWING TYPICAL EXPANSION JOINT DETAILS. REINFORCING STEEL SHALL NOT CROSS EXPANSION JOINTS. STEEL SHALL BE TERMINATED 3" (+ OR -) 1" FROM FACE OF THE JOINT.

NOTES:

1. REINFORCING BARS SHALL BE LAPPED A MINIMUM OF 18".

2. CURB AND GUTTER SHALL HAVE FORMED TOOLED OR SAWED CONTRACTION JOINTS AT ± 10'. THE DEPTH OF THESE JOINTS SHALL BE SUFFICIENT TO ENSURE CRACKING AT THE JOINTS.

3. CURB OR CURB AND GUTTER SHALL HAVE EXPANSION JOINTS AT POINTS OF CURVATURE, AT INTERVALS NO GREATER THAN 100' AND AT ALL ADJACENT STRUCTURES.

4. UNLESS OTHERWISE SHOWN, TRANSITIONS BETWEEN CURBS OR CURBS AND GUTTER OF DIFFERING CROSS SECTION SHALL BE ACCOMPLISHED OVER A 10' LENGTH OR AS APPROVED BY THE CITY ENGINEER.

5. ALL CONCRETE TO BE CLASS "A" 3000 PSI CONCRETE.

6. ALL EXPOSED CONCRETE SURFACES TO BE BRUSHED SMOOTH AND UNIFORM.

DATE APPROVED: 7/08

DWG. NO: ST-013

SCALE: N.T.S.

City of New Braunfels

ENGINEERING DEPARTMENT

DRAWN BY: RAS

SHEET: 1 OF 1

FILENAME: Curb & Gutter

P:\CURRENT NEW BRAUNFELS DETAILS\2008\

SPILL

CATCH

LAY DOWN CURB

NOTES:

- MATERIALS AND CONSTRUCTION METHODS SHALL CONFORM TO THE CITY OF SAN MARCOS STANDARD SPECIFICATIONS.
- REINFORCING STEEL OR DOWELL BARS SHALL BE PLACED AS SHOWN.
- REINFORCING STEEL SHALL BE #3 BARS.

CURB TYPES

ONE & TWO FAMILY RESIDENTIAL LOCAL PARKING BOTH SIDES

NOTES:

1. STRUCTURAL SECTION REQUIRES DETAILED ENGINEERING DESIGN, SUBJECT TO THE APPROVAL OF THE CITY ENGINEER. CITY WILL ACCEPT DESIGNS THAT INCORPORATE BIAXIAL GEOGRID.

2. SEE CURB DETAIL ST-013.

3. ROADWAY MEASUREMENT SHOWN FROM BACK OF CURB (BC) .

4. FLEXIBLE BASE MATERIAL SHALL BE TYPE "A" GRADE 2 PER TxDOT STD.

5. ASPHALT CONCRETE PAVEMENT SHALL BE TYPE "D" HOT MIX PER TxDOT ITEM 340 (2004) .

6. STRUCTURAL SECTION SHOWN IS BASED ON A CBR VALUE OF 3. THE FOLLOWING ALTERNATIVE SECTIONS MAY BE APPROVED IF SUPPORTED BY ENGINEERING ANALYSIS BASED ON SOILS TESTING.

A. 6" MINIMUM BASE OVER 6" MINIMUM LIME TREATED SUBGRADE USED IN LIEU OF 10" BASE AS SHOWN.

B. FOR CBR VALUES GREATER THAN 6.5 - 8" MINIMUM BASE USED IN LIEU OF 10" BASE AS SHOWN.

C. PROPOSALS FOR ALTERNATIVE ROAD STRUCTURE WITH SUPPORTING ENGINEERING DOCUMENTATION MAY BE SUBMITTED TO THE CITY ENGINEER FOR CONSIDERATION AND APPROVAL.

7. FOR SECTIONS PROVIDING ACCESS TO LESS THAN 40 UNITS 1-1/2" OF HMAC PAVEMENT MAY BE USED IN LIEU OF 2" HMAC PAVEMENT AS SHOWN.

8. IN NO CASE SHALL THE HMAC SECTION BE LESS THAN THAT SHOWN, OR AS PROVIDED IN NOTE 7.

9. BASE MUST EXTEND 1' BEYOND BACK OF CURB, 6" MINIMUM THICKNESS

DATE APPROVED: 7/08

DWG. NO: ST-011

SCALE: N.T.S.

City of New Braunfels

ENGINEERING DEPARTMENT

DRAWN BY: RAS

SHEET: 1 OF 1

FILENAME: One & Two Family Residential (Parking)

P:\CURRENT NEW BRAUNFELS DETAILS\2008\

NEW PAVEMENT TO EXISTING

NOT TO SCALE

FLEXIBLE PAVEMENTS	
PAVEMENT MATERIAL	THICKNESS
TYPE "D" HMAc	2"
CRUSHED LIMESTONE FLEXIBLE BASE, IN.	10"
LIME STABILIZED SUBGRADE	6"
ACTUAL STRUCTURAL NUMBER	2.69

NOTE:

- ALL PAVEMENT CONSTRUCTION SHALL BE PERFORMED IN ACCORDANCE TO THE "GEOTECHNICAL ENGINEERING STUDY - S121354, SUNGATE 6A & 7A BY INTEC OF SAN ANTONIO, DATED OCTOBER 12, 2012.
- THE OPIMUM LIME CONTENT SHOULD RESULT IN A SOIL LIME MIXTURE WITH A pH OF AT LEAST 12.4 WHEN TESTED IN ACCORDANCE WITH ASTM C 977.

TYPICAL PAVEMENT SECTION

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TBE FIRM F-10961

STREET DETAILS SHEET 1

OF 2

CIVIL SITE CONSTRUCTION PLANS

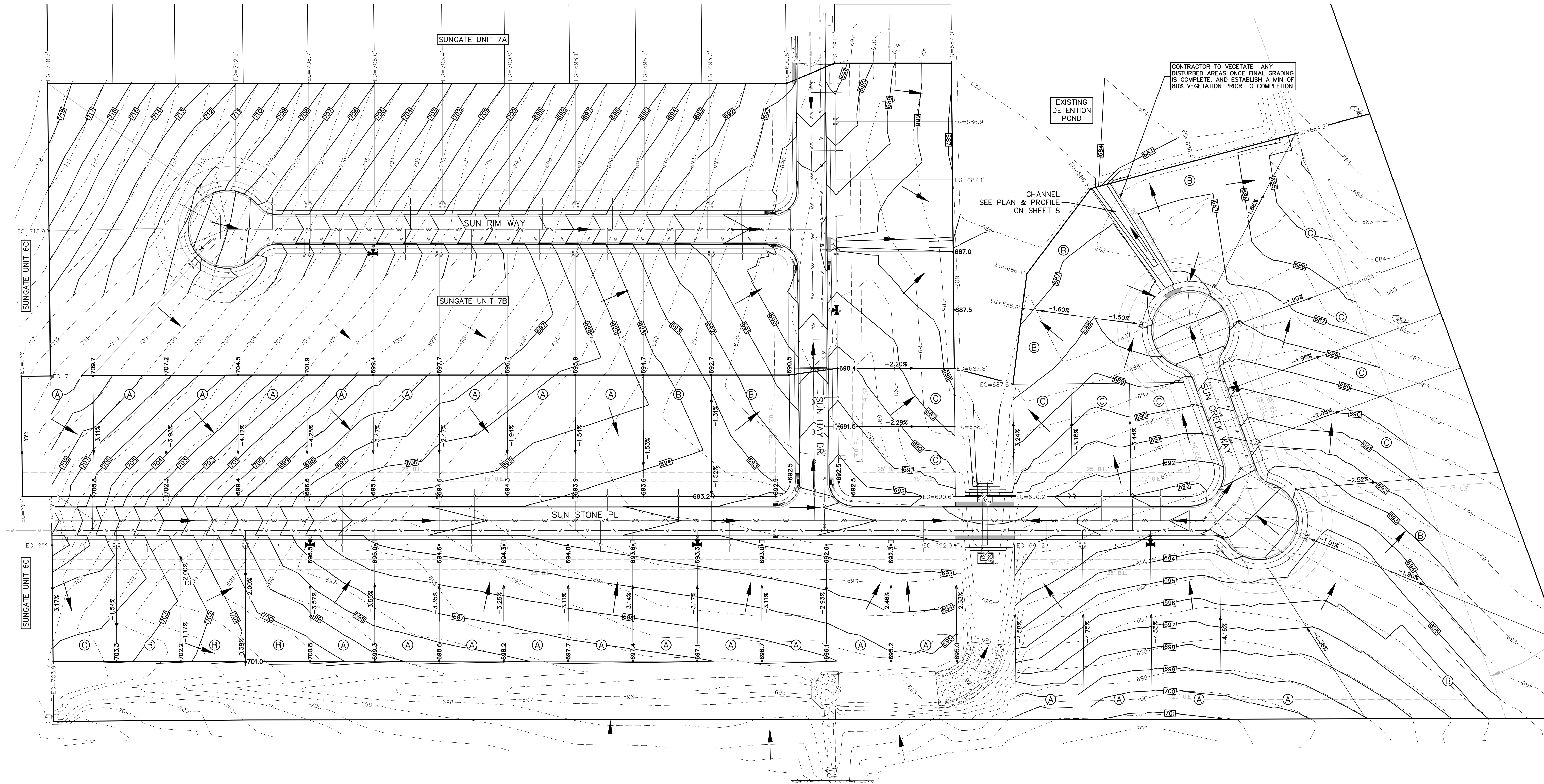
SUNGATE UNIT 8

NB COUNTY LINE PROPERTY, LTD
P.O. BOX 311240
NEW BRAUNFELS, TEXAS 78131

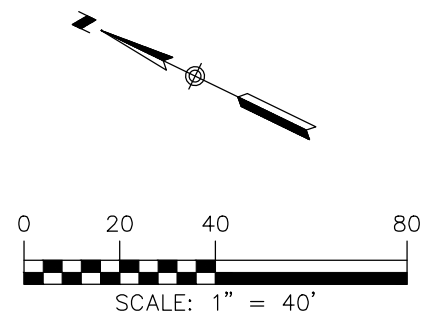
DATE:	SEPTEMBER 2014
DRAWN BY:	TJB
DESIGNED BY:	AM
CHECKED BY:	SMH
REVIEWED BY:	SCH
PROJECT NO.:	020.012.01

SHEET
10
OF 21

Drawing Name: N:_Projects\020 - Baha\020.012 - Sungate Unit 8 Construction Drawings\CONSTRUCTION PLANS\020.012.01 GRADING.dwg User: emadmi Nov 04, 2014 - 3:28pm



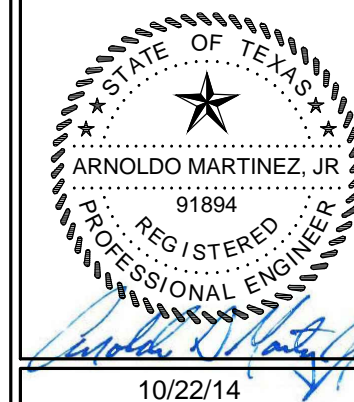
EARTHWORK VOLUMES	
EXCAVATION & EMBANKMENT	VOLUME (CY)
CUT	5,952
FILL	10,143
NET	4,191 [FILL]



- LEGEND**
- EXISTING CONTOURS
 - PROPOSED CONTOURS
 - B.L. BUILDING SETBACK LINE
 - U.E. UTILITY EASEMENT
 - D.E. DRAINAGE EASEMENT
 - LOT GRADING SEE DETAILS SHEET
 - DRAINAGE FLOW DIRECTION

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410 N. SEQUIN AVE.
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GRADING PLAN

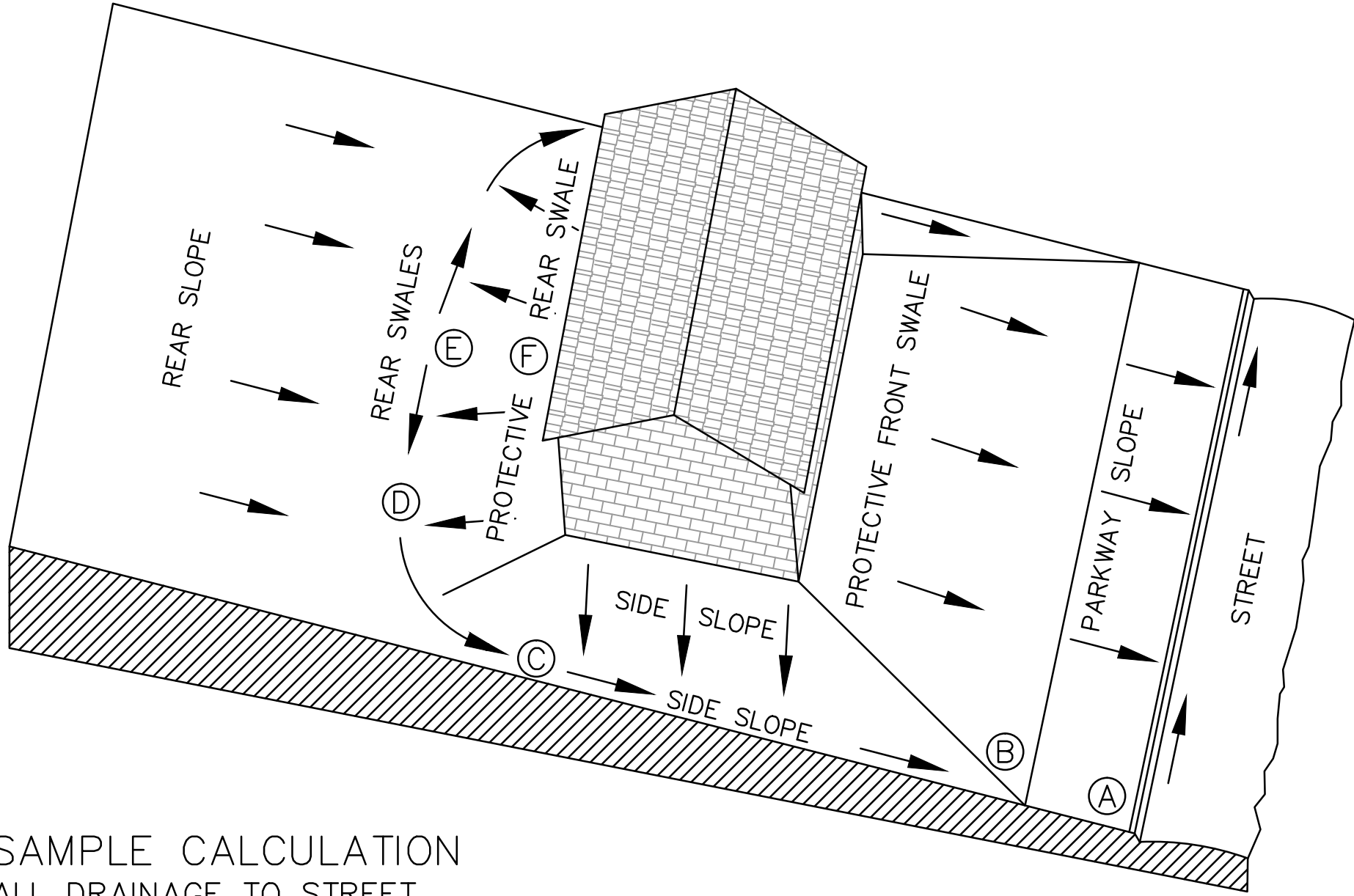
CIVIL SITE CONSTRUCTION PLANS

SUNGATE UNIT 8

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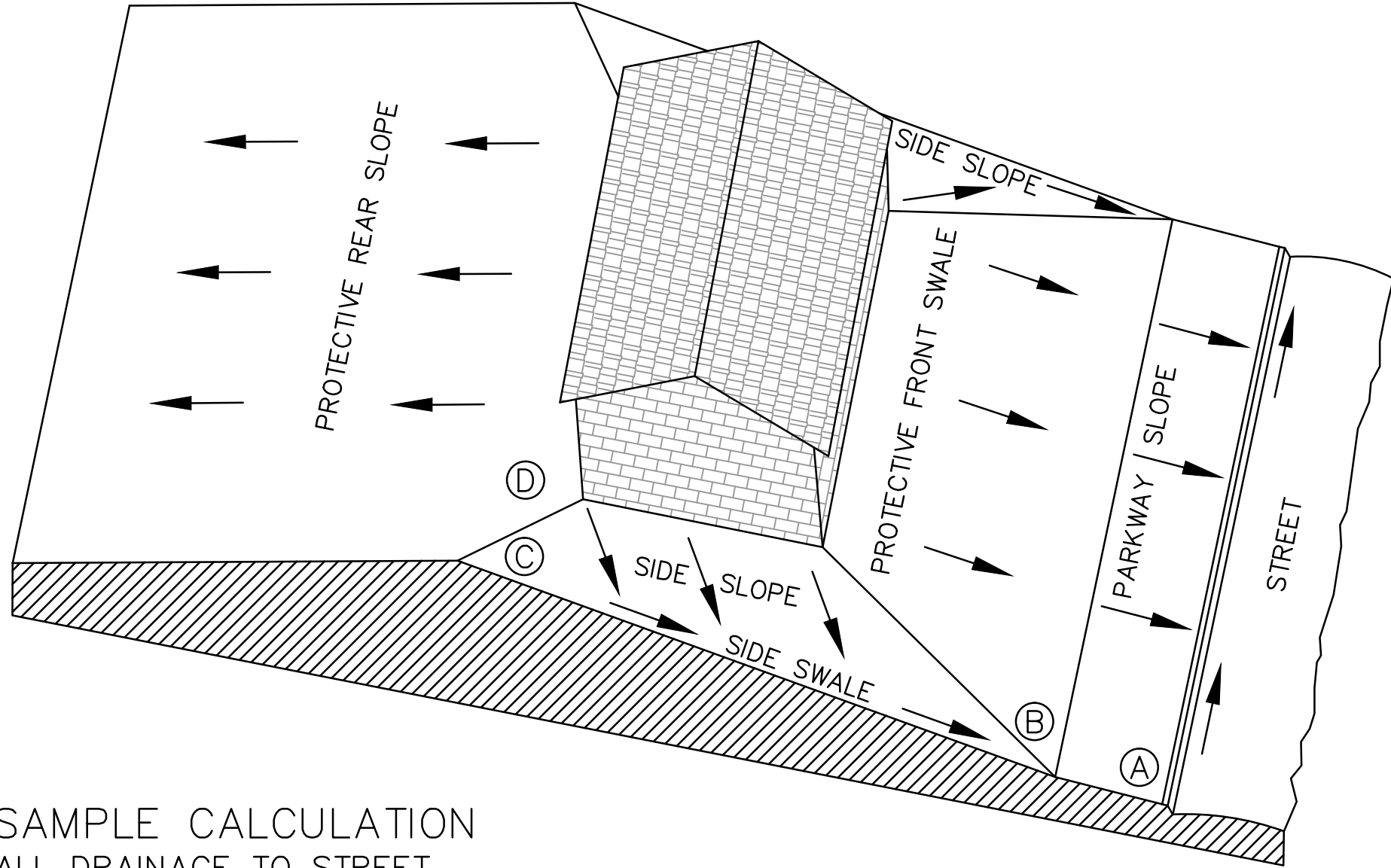
SHEET
12
OF 21



SAMPLE CALCULATION
ALL DRAINAGE TO STREET

SAMPLE COMPUTATION OF GRADING CONTROL LINE AF FOR A 60' WIDE LOT WITH A 25' BUILDING LINE, 0.5% STREET, WITH 60' BUILDING DEPTH AND 2% SWALES.				RESULTS OF 1% SWALES	CALCULATIONS FOR 2% SWALES
A	CURB-TOP ON LOT LINE EXTENSION AT HIGH LOT CORNER				
AB	PARKWAY SLOPE: 15' GRASS AND WALK AT 1/4"/FT. (2%)	4" (0.3')	2" (0.2')		<div>15 x 0.25' = 3 3/4"</div> <div>85 x 0.25' = 21 1/2"</div> <div>16 x 0.25' = 4"</div> <div>13 x 0.25' = 3 3/4"</div> <div>10 x 0.25' = 2 1/2"</div> <div>35" (3.0') + 20" (1.7') = 55"</div> <div>35" + 8" = 43" (3.6')</div> <div>54" (4.5') + 9" = 63" (5.3')</div>
BC	SIDE SWALE: 85' GRASS AT 1/4"/FT. (2%)	21" (1.8')	11" (0.9')		
CD	SWALE TURN WITH 10' RADIUS: 16' GRASS AT 1/4"/FT. (2%)	4" (0.3')	2" (0.2')		
DE**	REAR SWALE: 13' GRASS AT 1/4"/FT. (2%)	3" (0.3')	2" (0.2')		
EF*	PROTECTIVE REAR SLOPE UP FROM HIGH POINT OF SWALES	3" (0.3')	3" (0.3')		
SUB-TOTAL AF FROM CURB TOP TO GROUND AT REAL BLDG WALL				35" (3.0')	20" (1.7')
MINIMUM RISE FROM CURB TOP TO SLAB FLOOR: 35" + 8"				43" (3.6')	28" (2.3')
MINIMUM RISE FOR WOOD FLOOR USING 8" JOISTS: 35" + 9"				54" (4.5')	39" (3.3')
* WHERE THERE IS A HIGH BANK NEARBY OR A LONG SLOPE TOWARD HOUSE, A MINIMUM 6" PROTECTIVE SLOPE IS REQUIRED.					
** LENGTH DE = [1/2(LOT WIDTH - (2x SWALE TURN RADIUS))] - [LOT WIDTH x (STREET GRADIENT x SWALE GRADIENT)]					

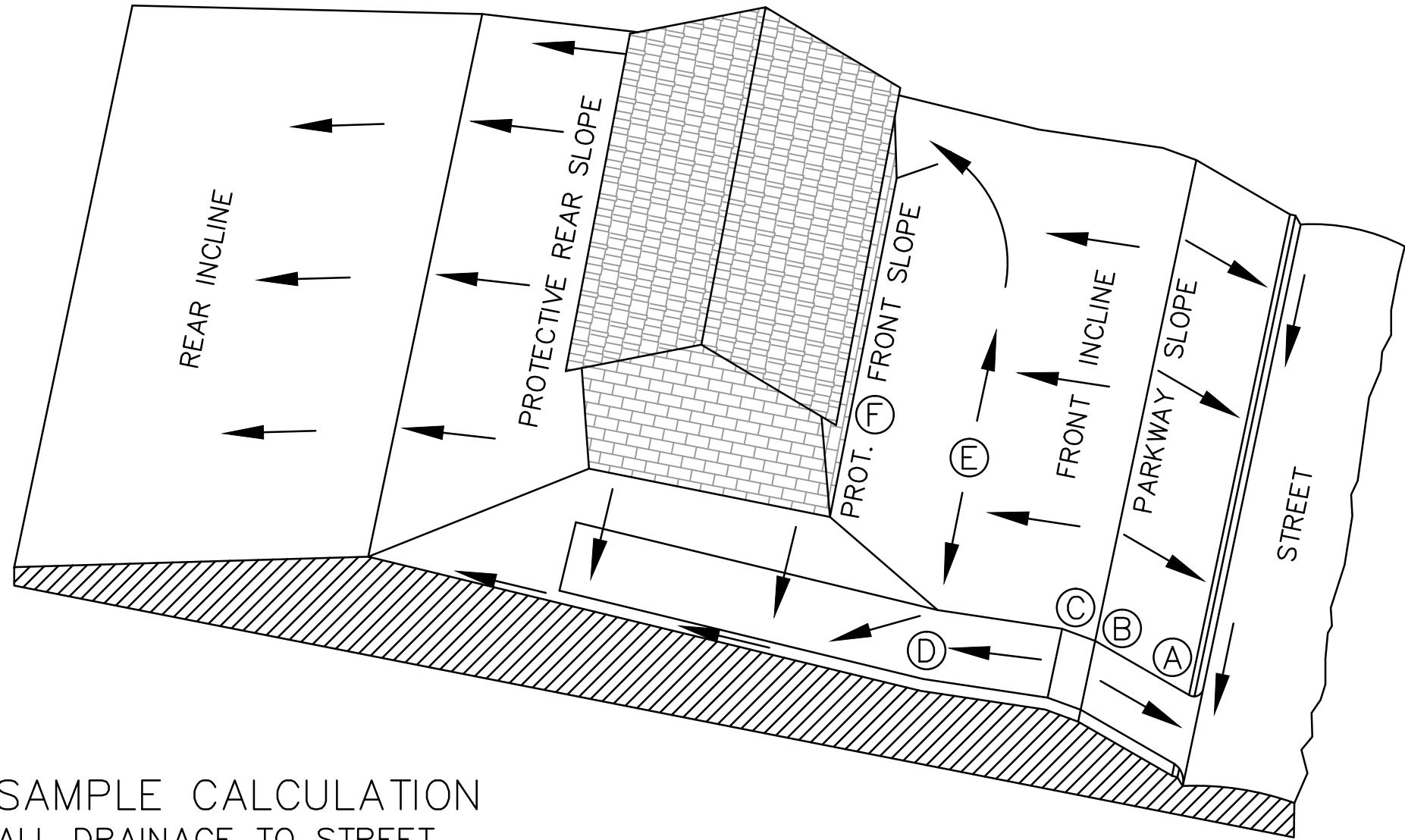
LOT TYPE A



SAMPLE CALCULATION
ALL DRAINAGE TO STREET

SAMPLE COMPUTATION OF GRADING CONTROL LINE AF FOR A 60' WIDE LOT WITH A 25' BUILDING LINE, 0.5% STREET, WITH 60' BUILDING DEPTH AND 2% SWALES.				RESULTS OF 1% SWALES	CALCULATIONS FOR 2% SWALES
A	CURB-TOP ON LOT LINE EXTENSION AT HIGH LOT CORNER				
AB	PARKWAY SLOPE: 15' GRASS AND WALK AT 1/4"/FT. (2%)	4" (0.3')	2" (0.2')		<div>15 x 0.25' = 3 3/4"</div> <div>85 x 0.25' = 21 1/2"</div> <div>6 x 0.25' = 1 1/2"</div> <div>27" (2.4') + 16" (1.4') = 43"</div> <div>27" + 8" = 35" (2.9')</div> <div>46" (3.8') + 9" = 55" (4.9')</div>
BC	SIDE SWALE: 85' GRASS AT 1/4"/FT. (2%)	21" (1.8')	11" (0.9')		
CD*	PROTECTIVE SIDE SLOPE @ REAR BLDG. WALL EXTENSION	3" (0.3')	3" (0.3')		
SUB-TOTAL AD FROM CURB TOP TO GROUND AT REAL BLDG WALL				27" (2.4')	16" (1.4')
MINIMUM RISE FROM CURB TOP TO SLAB FLOOR: 27" + 8"				35" (2.9')	24" (2.0')
MINIMUM RISE FOR WOOD FLOOR USING 8" JOISTS: 35" + 9"				46" (3.8')	35" (2.9')
* WHERE THERE IS A HIGH BANK NEARBY OR A LONG SLOPE TOWARD HOUSE, A MINIMUM 6" PROTECTIVE SLOPE IS REQUIRED.					

LOT TYPE B



SAMPLE CALCULATION
ALL DRAINAGE TO STREET

SAMPLE COMPUTATION OF GRADING CONTROL LINE AF FOR A 60' WIDE LOT WITH A 25' BUILDING LINE, 13.5% DRIVEWAY, AND 16' FRONT SWALE DE AT 2.0%.				RESULTS OF 1% SWALES	CALCULATIONS FOR SWALES
A	CURB-TOP HIGH SIDE OF DRIVE NEAR LOW LOT CORNER				
AB	PARKWAY SLOPE: 15' GRASS AND WALK AT 1/4"/FT. (2%)	4" (0.3')	2" (0.2')		<div>15 x 0.25' = 3 3/4"</div> <div>0 x 0.25' = 0"</div> <div>-11 x 1.625' = -17 3/4"</div> <div>16 x 0.25' = 4"</div> <div>10 x 0.25' = 2 1/2"</div> <div>-7 1/2"</div> <div>CALCULATION: USE 0.25" PER FOOT GRADIENT FOR A 2% SWALE.</div> <div>USE 1.625" PER FOOT GRADIENT FOR A 13.5% SWALE.</div>
BC	DRIVEWAY GRADE CHANGE: 4' VERTICAL CURVE FROM UP-GRADE DRIVE IN STREET TO DOWN-GRADE DRIVE ON LOT	0" (0.0')	0" (0.0')		
CD	DRIVEWAY DOWN-GRADE TO POINT 10 FEET OUT FROM FRONT OF BUILDING: -11' AT 1 1/8"/FT (13.5%)	-18" (-1.5')	-18" (-1.5')		
DE	FRONT SWALE: 16' GRASS AT 1/4"/FT. (2%)	4" (0.3')	2" (0.2')		
EF*	PROT. FRONT SLOPE UP FROM HIGH POINT OF SWALES	3" (0.3')	3" (0.3')		
SUB-TOTAL AF FROM CURB TOP TO GROUND AT FRONT BLDG WALL				-7" (-1.0')	-11" (1.3')
MINIMUM RISE FROM CURB TOP TO SLAB FLOOR: -7" + 8"				1" (-0.3')	-3" (0.7')
MINIMUM RISE FOR WOOD FLOOR USING 8" JOISTS: -7" + 19"				12" (-0.6')	8" (0.3')
* WHERE THERE IS A HIGH BANK NEARBY OR A LONG SLOPE TOWARD HOUSE, A MINIMUM 6" PROTECTIVE SLOPE IS REQUIRED.					

LOT TYPE C

GENERAL SPECIFICATIONS FOR SITE PREPARATION

GENERAL DESCRIPTION

THIS ITEM SHALL CONSIST OF ALL CLEARING AND PREPARATION OF LAND TO BE FILLED, FILLING OF THE LAND, SPREADING, COMPACTION TESTING AND INSPECTION OF THE FILL, AND ALL SUBSIDIARY WORK NECESSARY TO COMPLETE THE GRADING OF THE CUT AND FILL AREAS TO CONFORM WITH THE LINES, GRADES AND SLOPES AS SHOWN ON THE APPROVED PLANS.

SCARIFYING THE AREA TO BE FILLED

ALL ORGANIC MATTER SHALL BE REMOVED FROM THE SURFACE UPON WHICH THE FILL IS TO BE PLACED, AND SURFACE SHALL BE DISKED OR SCARIFIED TO A MINIMUM DEPTH OF SIX INCHES (6"), ALL SURFACE RUTS OR OTHER UNEVEN FEATURES WILL BE LEVELED PRIOR TO FIELD DENSITY TESTING.

COMPACTING THE AREA TO BE FILLED

FOLLOWING THE CLEARING AND DISKING OR SCARIFYING OF THE FILL AREA, IT SHALL BE BLADED UNTIL IT IS UNIFORM AND FREE FROM LARGE CLODS. THE AREA SHALL BE BROUGHT TO ADEQUATE MOISTURE CONTENT AND COMPACTED (TYPICALLY) TO NOT LESS THAN NINETY PERCENT (90%) OF MAXIMUM DENSITY IN ACCORDANCE WITH THE CURRENT ASTM D 1557 COMPACTION PROCEDURE, OR 95% OF MAXIMUM DENSITY IN ACCORDANCE WITH THE T90-TEX-113-E COMPACTION PROCEDURE. ALL AREAS EXCEEDING (6") SIX INCHES IN DEPTH, MUST MEET WITH FHWA/HUD HANDBOOK 4140.30 SPECIFICATIONS FOR LAND DEVELOPMENTS ON CONTROLLED EARTHWORK, DATASHEET 79G.

FILL MATERIALS

THE MATERIALS USED SHALL BE FREE FROM ORGANIC MATTER AND OTHER DELETERIOUS SUBSTANCES, SUCH AS TREES, BRUSH AND RUBBISH.

DEPTH AND MIXING OF FILL LAYERS

THE SELECTED FILL MATERIAL SHALL BE PLACED IN LEVEL, UNIFORM LAYERS WHICH, WHEN COMPACTED, SHALL HAVE A DENSITY CONFORMING TO THE STIPULATED ABOVE. EACH LAYER SHALL BE THOROUGHLY MIXED DURING THE SPREADING TO ENSURE UNIFORMITY OF MATERIAL IN EACH LAYER. COMPACTED LAYER THICKNESS MAY VARY DEPENDING ON THE COMPACTION EQUIPMENT OF THE DEMONSTRATED CAPABILITY.

ROCK

WHEN FILL MATERIAL INCLUDES ROCK, THE MAXIMUM ROCK SIZE SHALL BE AS APPROVED BY THE GEOTECHNICAL ENGINEER. NO LARGE ROCKS SHALL BE ALLOWED TO NEST AND ALL VOIDS MUST BE FILLED WITH SMALL STONES OR SOIL AND ADEQUATELY COMPACTED.

COMPACTION OF FILL LAYER

COMPACTION EQUIPMENT SHALL BE CAPABLE OF COMPACTING THE FILL TO THE SPECIFIED DENSITY. COMPACTION SHALL BE ACCOMPLISHED WHILE THE FILL MATERIAL IS AT OR NEAR THE APPROPRIATE MOISTURE CONTENT. COMPACTION OF EACH LAYER SHALL BE CONTINUOUS OVER THE ENTIRE STRUCTURAL AREA (BENEATH PROPOSED STRUCTURES).

COMPACTION OF SLOPES

THE FACES OF FILL SLOPES SHALL BE COMPACTED. COMPACTION OPERATIONS SHALL BE CONTINUED UNTIL THE SLOPE FACES ARE STABLE BUT NOT TO DENSE FOR PLANTING ON THE SLOPES. COMPACTION OF THE SLOPE FACE MAY BE DONE PROGRESSIVELY IN INCREMENTS OF THREE TO FIVE FEET (3' TO 5') IN FILL HEIGHT AS THIS FILL PROGRESSES OR AFTER THE FILL HAS BEEN BROUGHT TO ITS TOTAL HEIGHT.

DENSITY TEST

FIELD DENSITY TESTS SHALL BE PERFORMED ON ALL LAYERS OF FILL WHEN THE FILL IS BEING PLACED AS DIRECTED BY THE GEOTECHNICAL ENGINEER. THE MAXIMUM FILL HEIGHT BETWEEN DENSITY TESTING SHALL BE TWELVE INCHES (12"). ALL TESTING SHALL BE REQUESTED BY THE CONTRACTOR TO MEET THE CONTRACTOR'S CONSTRUCTION SCHEDULE. NOTIFICATION BY THE CONTRACTOR TO CONDUCT TESTS SHALL BE AT LEAST THE DAY BEFORE. THIS NOTIFICATION SHALL INCLUDE THE FILL AREA LOCATION (LOT AND BLOCK), THE LIFT OR HEIGHT OF FILL AND APPROXIMATED DESIRED TIME OF TESTING. WHEN THESE TEST INDICATE THAT THE DENSITY OF ANY LAYER OF FILL OR PORTION THEREOF IS BELOW THE REQUIRED DENSITY, THE PARTICULAR LAYER OR PORTION SHALL BE REWORKED AND RETESTED AT THE EXPENSE OF THE CONTRACTOR UNLESS THE CONTRACTOR CAN SHOW EVIDENCE THAT CIRCUMSTANCES BEYOND HIS CONTROL REQUIRED THE RETESTING. GENERALLY, THE SPECIFIC TESTING WILL BE AS FOLLOWS AND CONDUCTED BY A GEO-TECHNICAL ENGINEER OR STAFF.

1. THE LAND TO BE FILLED (PREPARED SUBGRADE) SHALL BE PREPARED AND TESTED AT A FREQUENCY AS DETERMINED BY THE GEOTECHNICAL ENGINEER.
2. THE FIRST LIFT OF COMPACTED FILL (GENERALLY 8-12 IN.) SHALL BE TESTED AS DETERMINED BY THE GEOTECHNICAL ENGINEER. ANY AREAS SUPPORTING THE PROPOSED STRUCTURES REQUIRING FILL SHALL BE TESTED FOR DENSITY COMPLIANCE.
3. FILLS SHALL BE TESTED AT A MAXIMUM OF EACH TWELVE INCHES (12") OF FILL.
4. TEST RESULTS WILL BE PROVIDED BY THE FIELD TECHNICIAN TO THE CONTRACTOR WHEN POSSIBLE; HOWEVER, ALL TEST RESULTS ARE TO BE REVIEWED BY THE GEOTECHNICAL ENGINEER FOR COMPLIANCE. THE ENGINEER WILL NOTIFY THE CONTRACTOR OF ALL TEST RESULTS.

CUT/FILL LOTS

AREAS INVOLVING CUT ON THE PORTION AND FILL ON ANOTHER PORTION OF A SPECIFIC LOT SHALL BE PREPARED TO A MINIMUM DEPTH OF 6 IN., AND WILL BE THE SAME MATERIAL CLASSIFICATION AT THE SAME COMPACTION AND MOISTURE CONTENT. FIELD DENSITY TESTS SHALL BE REQUIRED ON EACH CUT/FILL LOT FOR THE PURPOSE OF DETERMINING UNIFORMITY OF THE AREA SUPPORTING THE PROPOSED STRUCTURES.

HUD 79-G

HUD 79-G REQUIREMENT FOR FILL MATERIAL OF 6 INCHES AND MORE WILL BE CONDUCTED. ALL CUT AREAS WILL ALSO MEET THE REQUIREMENTS FOR HUD 79-G COMPACTION TESTING. IN ADDITION, ENGINEERS MUST PROVIDE VERIFICATION OF ALL AREAS WHICH DO NOT REQUIRE HUD 79-G. AFTER SITE GRADING IS COMPLETED, GEO-TECHNICAL ENGINEER SHALL PROVIDE THE CONTRACTOR AND OWNER A 79-G LETTER.

DRAINAGE NOTE

FINISHED FLOOR ELEVATIONS
THE ELEVATION OF THE LOWEST FLOOR SHALL BE AT LEAST 10 INCHES ABOVE THE FINISHED GRADE OF THE SURROUNDING GROUND, WHICH SHALL BE SLOPED IN A FASHION SO AS TO DIRECT STORMWATER AWAY FROM THE STRUCTURE. PROPERTIES ADJACENT TO STORMWATER CONVEYANCE STRUCTURES MUST HAVE FLOOR SLAB ELEVATION OR BOTTOM OF FLOOR JOISTS A MINIMUM OF ONE FOOT ABOVE THE 100-YEAR WATER FLOW ELEVATION IN THE STRUCTURE. DRIVEWAYS SERVING HOUSES ON THE DOWNHILL SIDE OF THE STREET SHALL HAVE A PROPERLY SIZED CROSS SWALE PREVENTING RUNOFF FROM ENTERING THE GARAGE.

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GRADING DETAILS

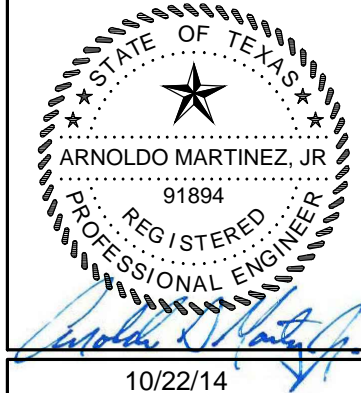
CIVIL SITE CONSTRUCTION PLANS

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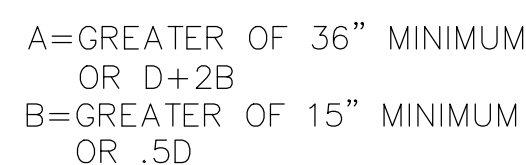


Diagram illustrating the details of a sidewalk pipe railing. The railing is shown in cross-section, with dimensions and reinforcement specifications.

Dimensions:

- Overall width: 0.67'
- Opening width: 0.67'
- Opening height: 0.67'
- Top rail height: 0.67'
- Bottom rail height: 0.50'
- Bottom rail height (lower section): 0.50'
- Bottom rail height (lower section): 0.42'

Reinforcement Specifications:

- #5 BARS @ 12" O.C. (Top rail)
- #4 BARS @ 12" O.C. (Middle rail)
- #4 BARS @ 12" O.C.E.W. (Bottom rail)
- #4 BARS @ 12" O.C. (Bottom rail)

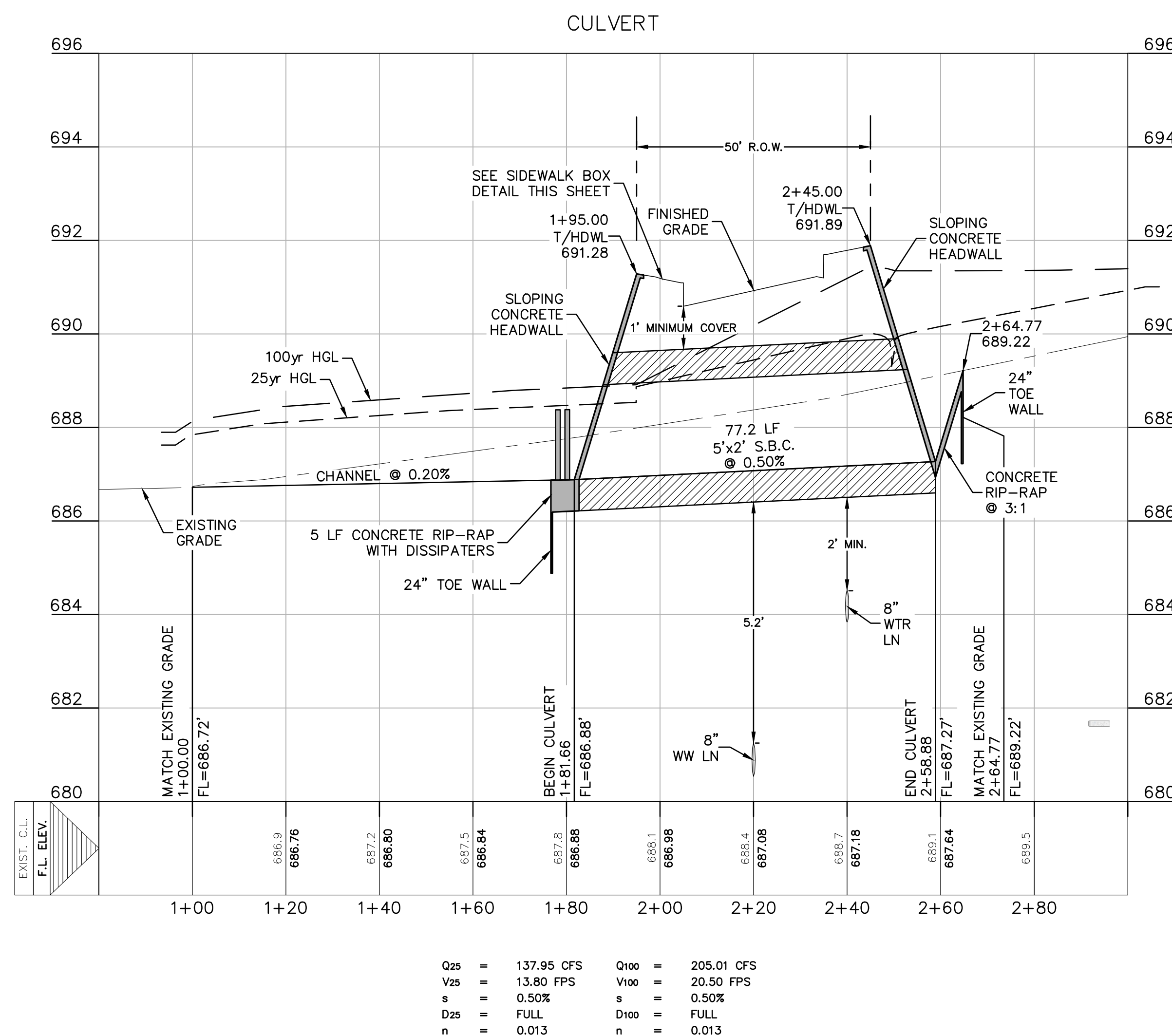
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
- 2" MIN. (Clearance between bottom rail and sidewalk)
- 4" SIDEWALK TYP. (Typical sidewalk width)
- 24" LONG (Length of bottom rail reinforcement bars)

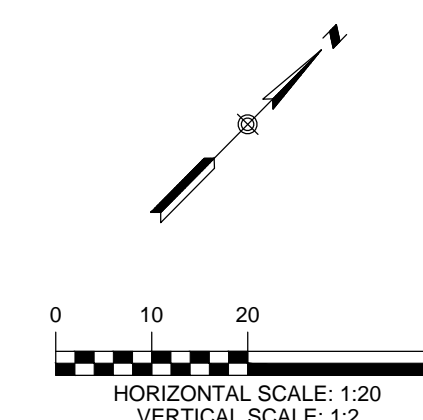
Technical drawing of a concrete curb and gutter cross-section. The drawing shows a sloping concrete headwall on the left, transitioning into a curb and gutter assembly. Key features include:

- 12" SLOPING CONCRETE HEADWALL** with a **0.50%** slope.
- 6" CONC. RIP-RAP (CLASS "A") W/ #3 BARS @ 18" O.C.E.W. AND 2" GRAVEL CUSHION**.
- 15 L.F. OF HANDRAIL** on top of the curb.
- 4" MIN.** width for the curb top.
- 5" DEP. GUTTER**.
- Reinforcement:**
 - #4 BARS @ 12" O.C.** in the curb.
 - #4 BARS @ 18" O.C. DOWELED INTO SLAB**.
 - 3 #4 BARS** in the gutter.
- Dimensions:**
 - 5.50'** from the headwall to the curb.
 - 0.50'** from the curb to the handrail.
 - 6"** curb height.
 - 12"** gutter depth.
 - 6.25"** gutter width.
- Elevations:**
 - EL: 689.43** (Headwall base)
 - EL: 690.43** (Headwall top)
 - EL: 691.18** (Curb top)
 - EL: 690.09** (Gutter bottom)
- Labels:**
 - BEGIN BOTTOM WIDTH TRANSITION**
 - END BOTTOM WIDTH TRANSITION AND BEGIN SIDEWALK BOX**
 - TOC/691.09** (Top of Curb)

① SIDEWALK BOX DETAIL



<u>LEGEND</u>	
— 700 —	EXISTING CONTOURS
<u>700</u>	PROPOSED CONTOURS
B.L.	BUILDING SETBACK LINE
U.E.	UTILITY EASEMENT
D.E.	DRAINAGE EASEMENT
S.B.C.	SINGLE BOX CULVERT
=====	PROPOSED STORM DRAIN LINE
	UTILITY CROSSING



③ CONCRETE RIP-RAP

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CULVERT
PLAN &
PROFILE

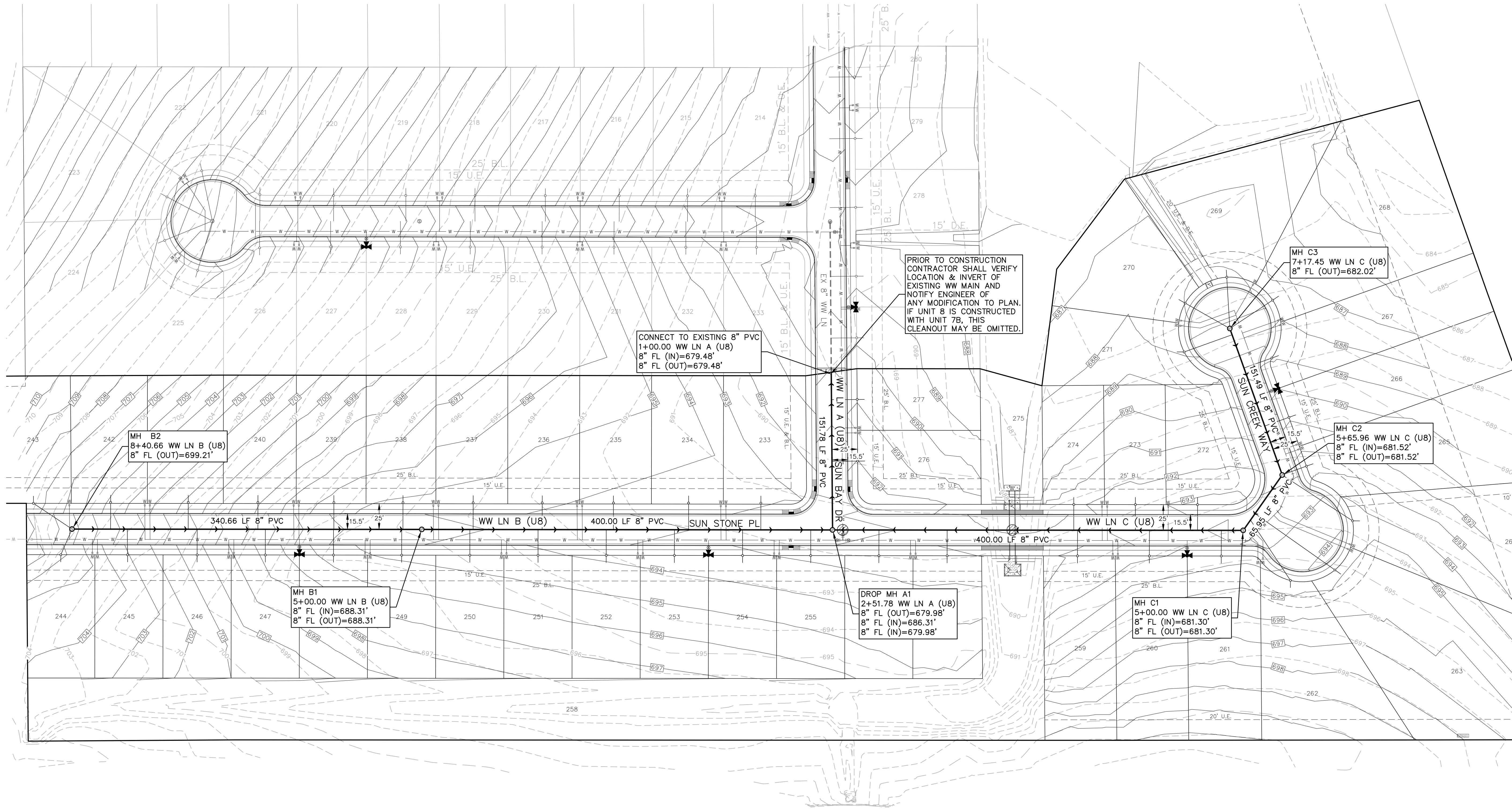
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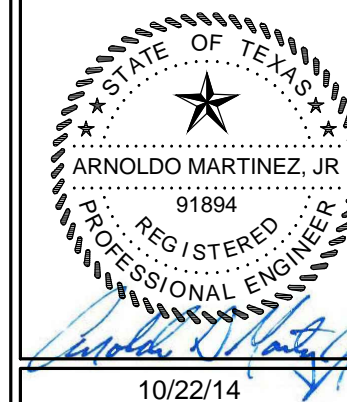
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LEGEND

- EXISTING CONTOURS
- PROPOSED CONTOURS
- B.L. BUILDING SETBACK LINE
- U.E. UTILITY EASEMENT
- D.E. DRAINAGE EASEMENT
- EXISTING WATER LINE
- EXISTING 48" WASTEWATER LINE
- PROPOSED WATER LINE
- PROPOSED WASTEWATER LINE
- PROPOSED STORM SEWER LINE
- PROPOSED FORCE MAIN LINE
- PROPOSED WASTEWATER SERVICE
- UTILITY CROSSING

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OVERALL WASTEWATER PLAN

CIVIL SITE CONSTRUCTION PLANS

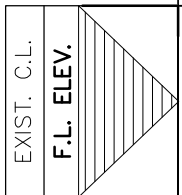
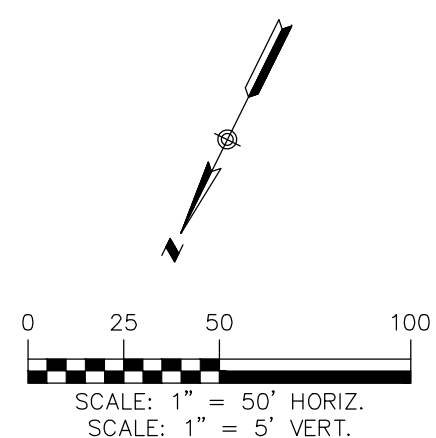
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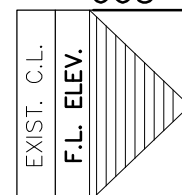
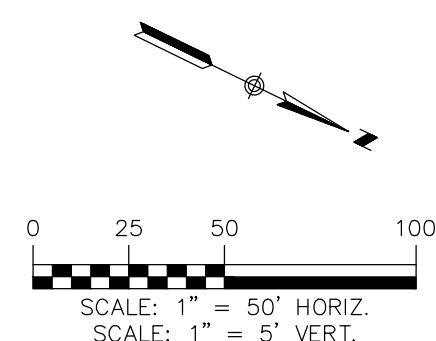
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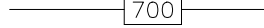








SHEET
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- ### LEGEND
- | | |
|---|------------------------------|
|  | EXISTING CONTOURS |
|  | PROPOSED CONTOURS |
| B.L. | BUILDING SETBACK LINE |
| U.E. | UTILITY EASEMENT |
| D.E. | DRAINAGE EASEMENT |
|  | EXISTING WATER LINE |
|  | EXISTING 48" WASTEWATER LINE |
|  | PROPOSED WATER LINE |
|  | PROPOSED WASTEWATER LINE |
|  | PROPOSED STORM SEWER LINE |
|  | PROPOSED FORCE MAIN LINE |
|  | PROPOSED WASTEWATER SERVICE |
|  | UTILITY CROSSING |

WASTEWATER LINES
'A' & 'B' PLANS &
PROFILES
CIVIL SITE CONSTRUCTION PLANS

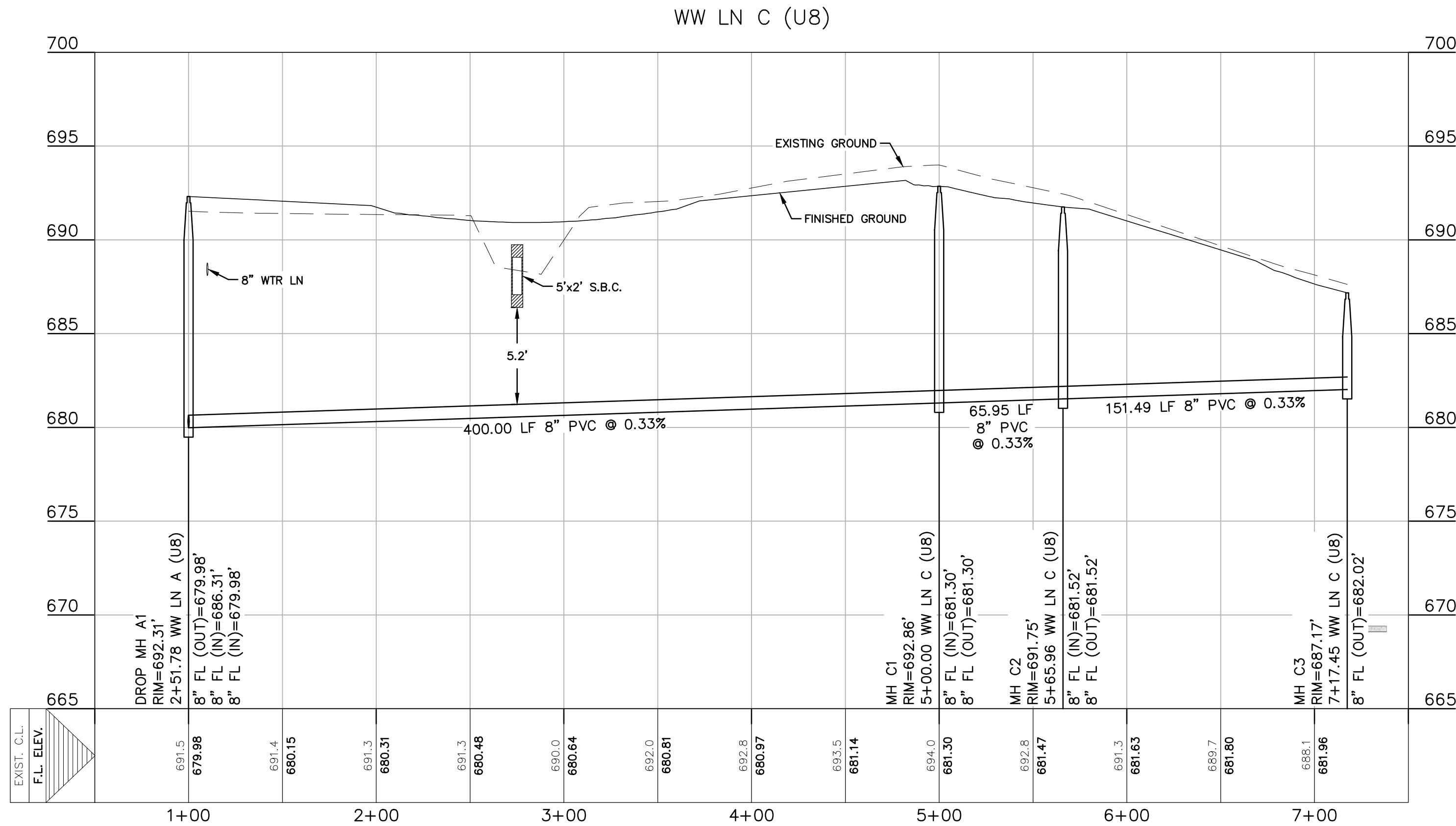
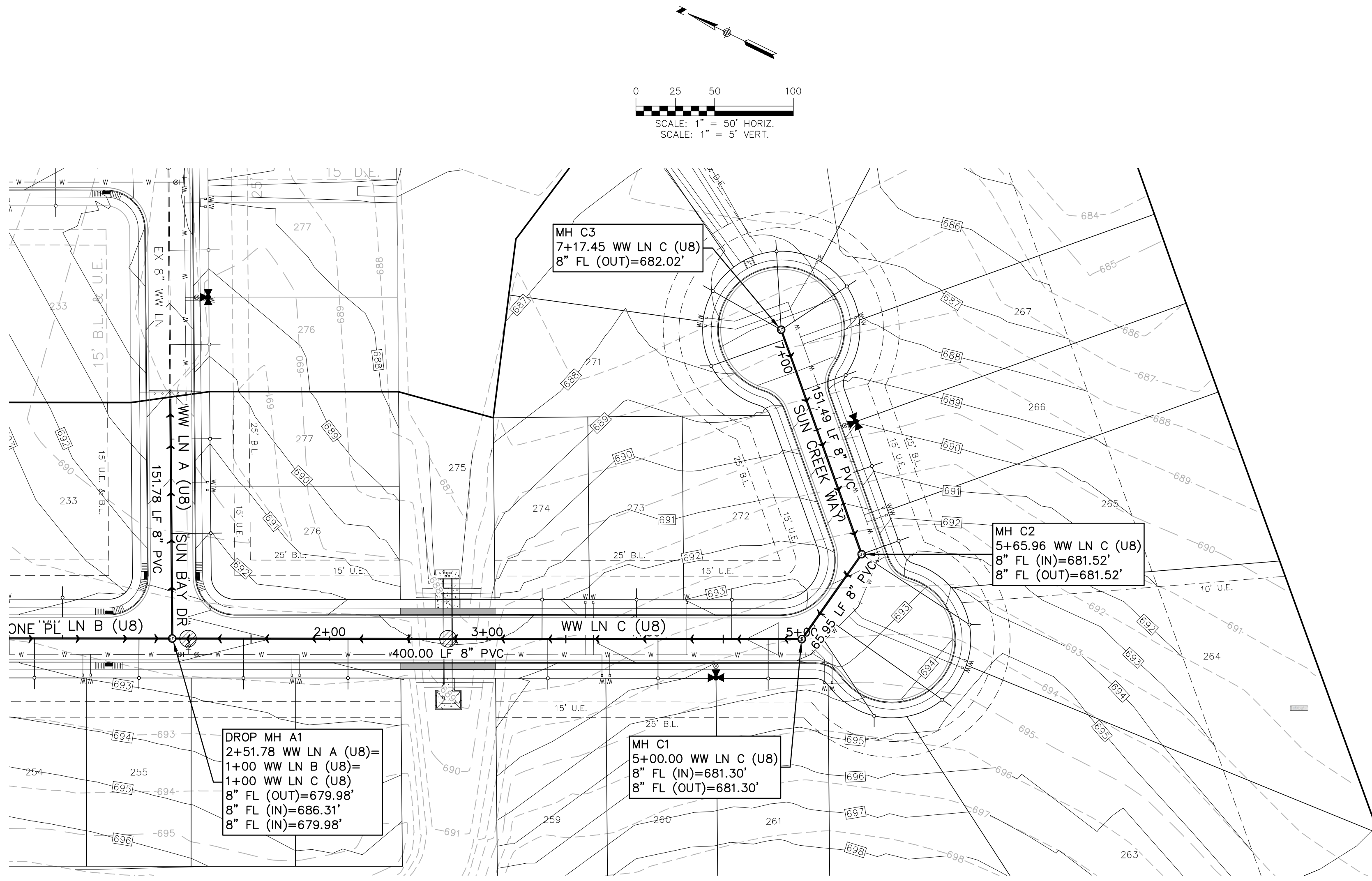
SUNGATE UNIT 8

NB COUNTY LINE PROPERTY, LTD
P.O. BOX 311240
NEW BRAUNFELS, TEXAS 78131

DATE:	SEPTEMBER 2014
DRAWN BY:	TJB
DESIGNED BY:	AM
CHECKED BY:	SWH
REVIEWED BY:	SCH
PROJECT NO.:	020.012.101

SHEET
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- LEGEND**
- EXISTING CONTOURS
 - PROPOSED CONTOURS
 - B.L. BUILDING SETBACK LINE
 - U.E. UTILITY EASEMENT
 - D.E. DRAINAGE EASEMENT
 - EXISTING WATER LINE
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 - PROPOSED WASTEWATER LINE
 - PROPOSED STORM SEWER LINE
 - PROPOSED FORCE MAIN LINE
 - PROPOSED WASTEWATER SERVICE
 - UTILITY CROSSING

**WASTEWATER LINE
'C' PLAN & PROFILE**

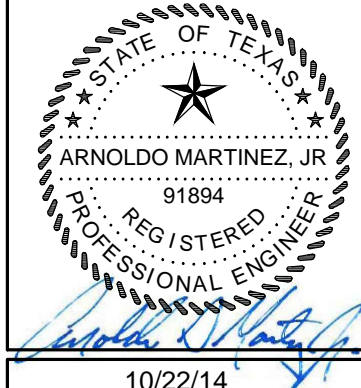
CIVIL SITE CONSTRUCTION PLANS

SUNGATE UNIT 8

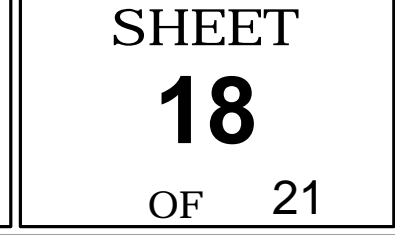
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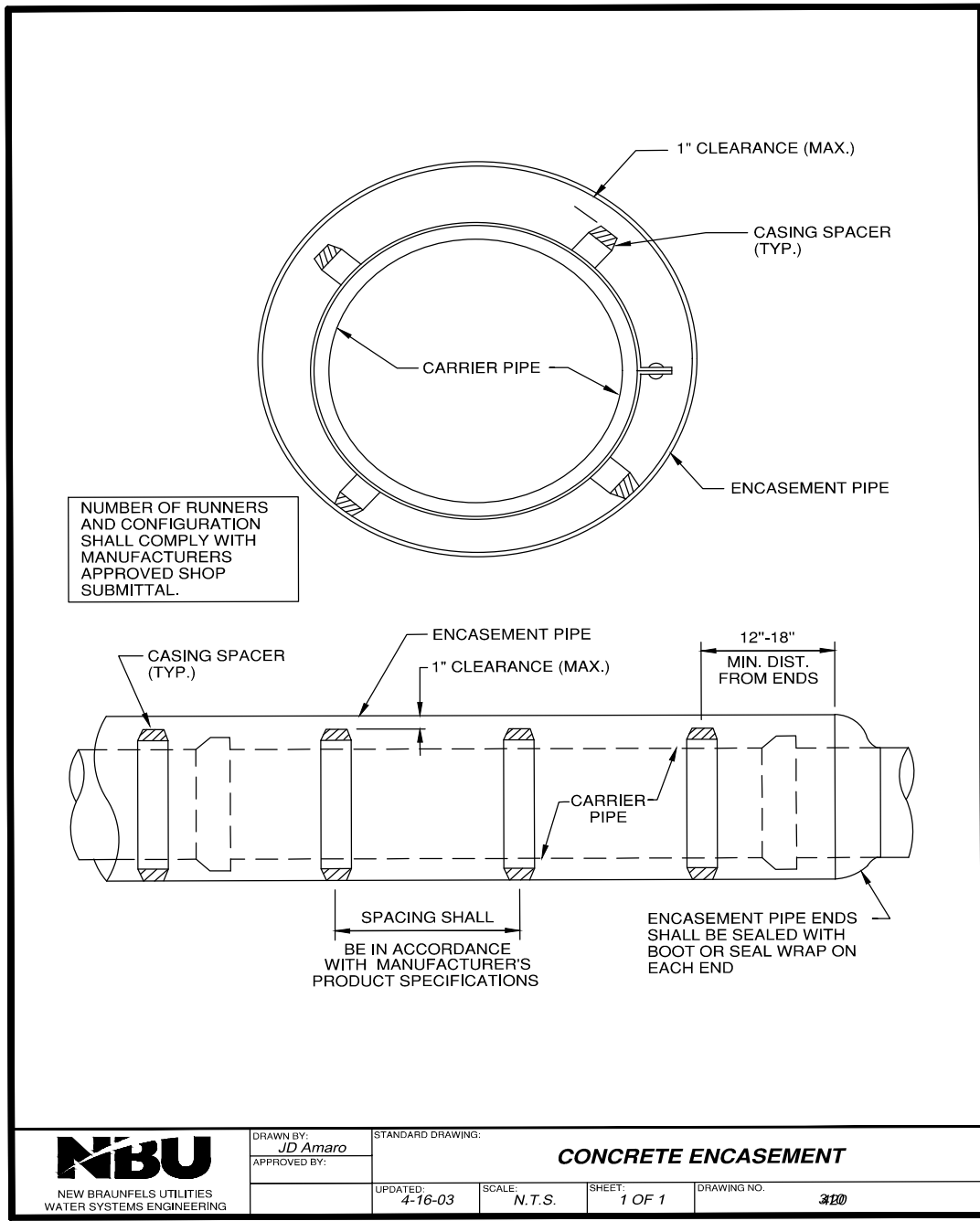
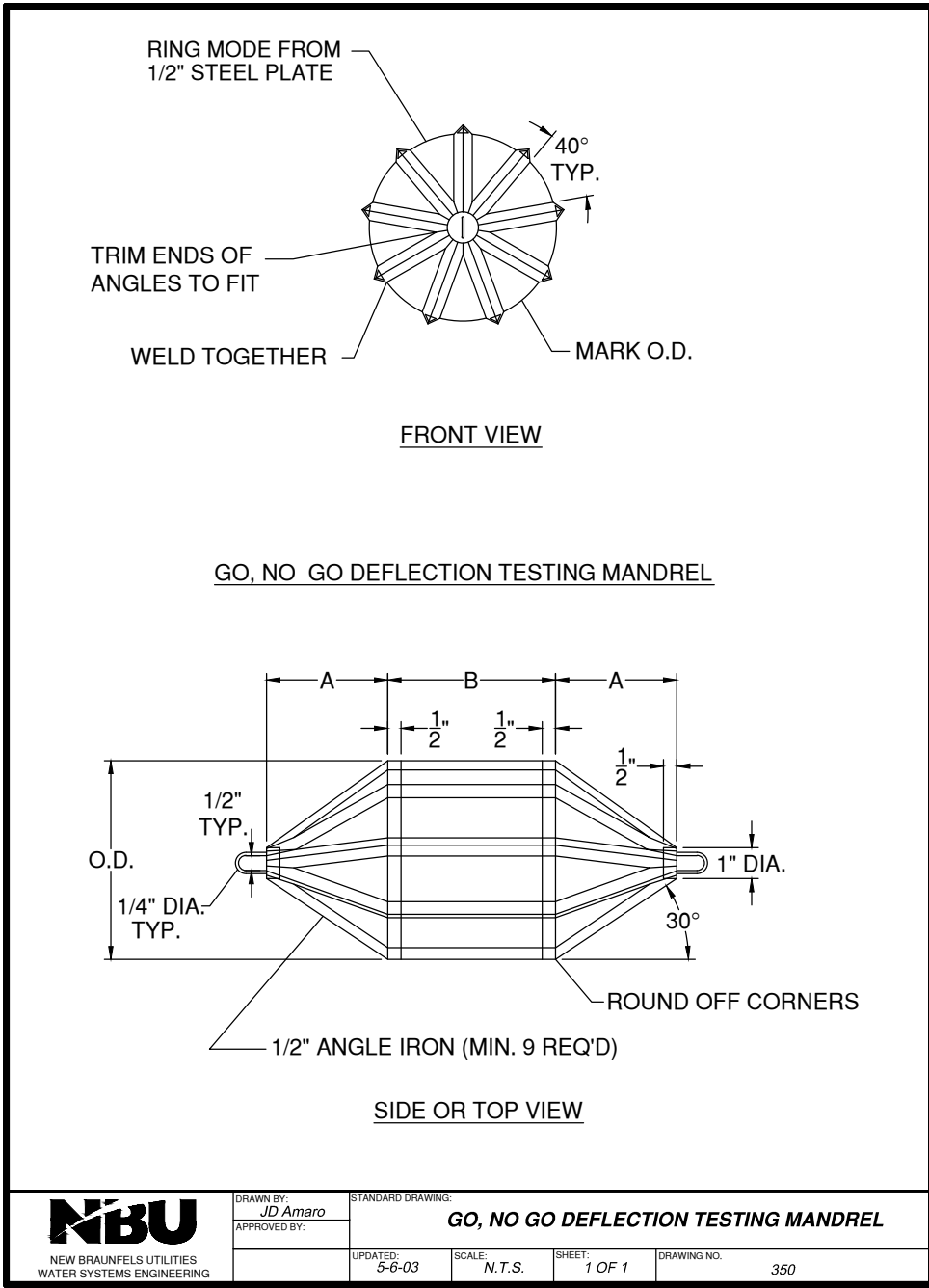
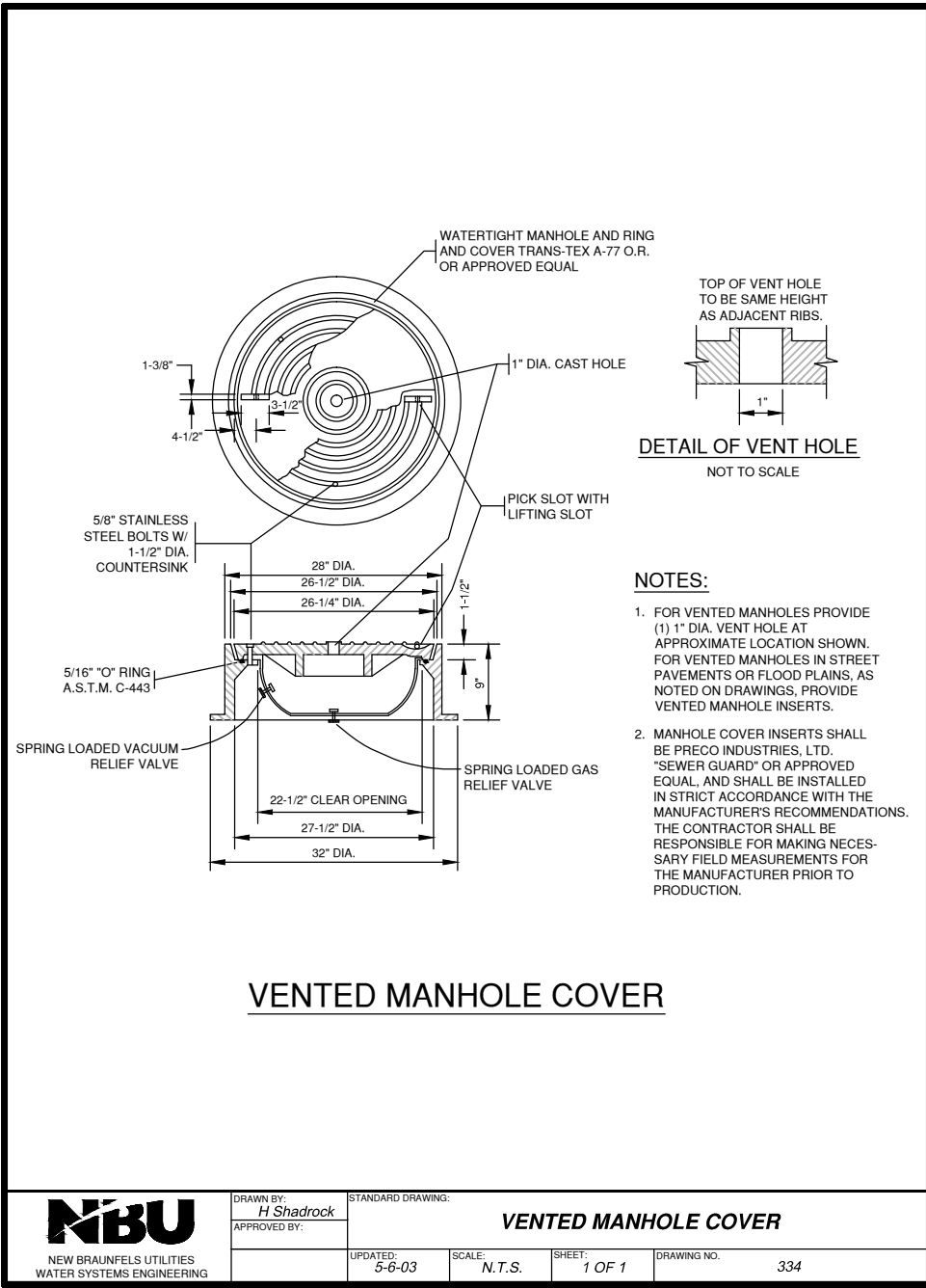
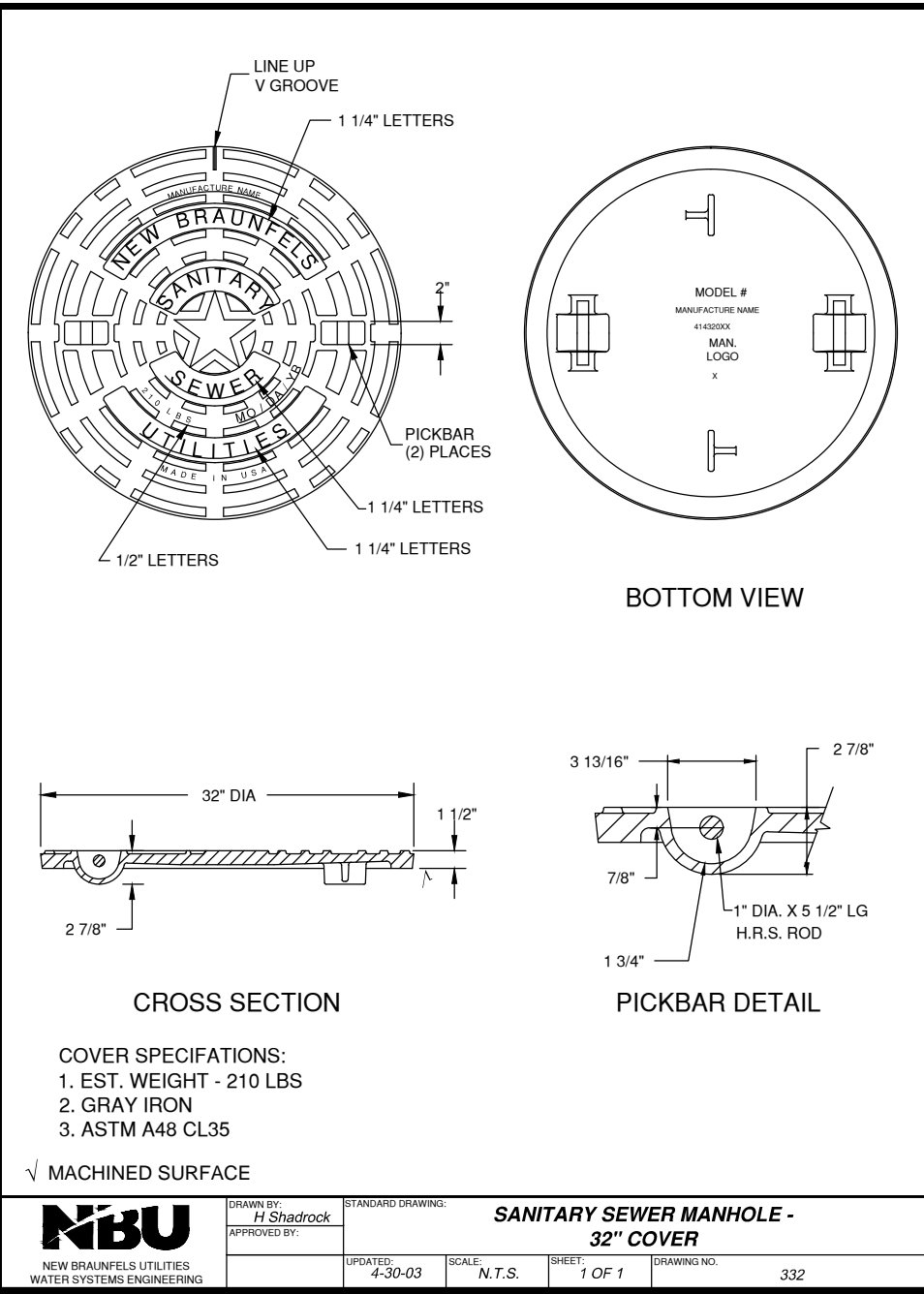
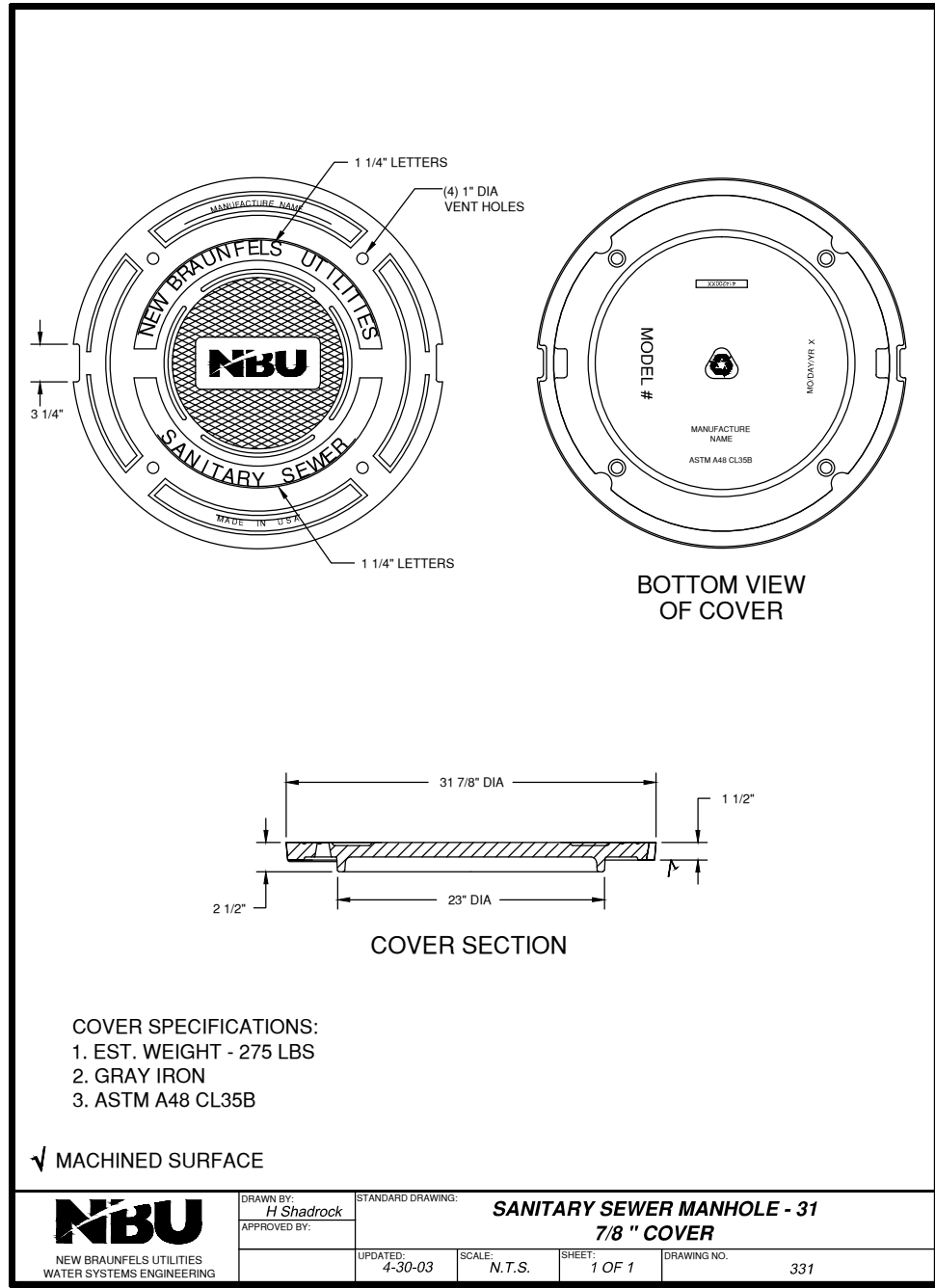
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**SHEET
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OF 21**



410 N. SEGUIN AVE.
NEW BRAUNFELS,
TEXAS, 78130
PH: (830)625-8555
FAX: (830)625-8556
www.HMTNB.com
TBPE FIRM F-10961





Contractor shall notify the following utility companies
48 hours prior to excavation:

New Braunfels Utilities 830-629-8400
Time Warner Cable 830-625-3408
Centerpoint Gas 830-643-6434
Robert Sanders 830-643-6903
Damaged Lines 888-876-5786
AT&T Telephone 830-303-1333
Eric White PM 210.283.1706
Scott McBrearty (Construction) 210.658.4886
Texas One Call 830-545-6005

C.P.E. LOCATOR

CALL CENTER POINT ENERGY LOCATOR AT 1-800-545-6005, 48HRS BEFORE BEGINNING ANY EXCAVATION. DUE TO FEDERAL REGULATIONS TITLE 49, PART 192.181, CENTER POINT ENERGY MUST MAINTAIN ACCESS TO GAS VALVES AT ALL TIMES. THE CONTRACTOR MUST PROTECT AND WORK AROUND ANY GAS VALVES THAT ARE IN THE PROJECT AREA.

TELEPHONE LOCATOR

THE EXISTENCE AND LOCATION OF UNDERGROUND CABLE INDICATED ON THE PLANS ARE TAKEN FROM THE BEST RECORDS AVAILABLE AND ARE NOT GUARANTEED TO BE ACCURATE. CONTRACTOR TO CONTACT THE TELEPHONE COMPANY CABLE LOCATOR 48HRS PRIOR TO EXCAVATION AT 1-800-545-6005., CONTRACTOR HAS THE RESPONSIBILITY TO PROTECT AND SUPPORT TELEPHONE COMPANY DURING CONSTRUCTION.

TRENCH EXCAVATION SAFETY PROTECTION

CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECHNICAL/SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITE(S) WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS AND/OR PROCEDURES FOR THE PROJECT DESCRIBED IN THE CONTRACT DOCUMENTS. THE CONTRACTORS IMPLEMENTATION OF THESE SYSTEMS, PROGRAMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION SAFETY PROTECTION THAT COMPLY WITH AS A MINIMUM, OSHA STANDARDS FOR TRENCH EXCAVATIONS. SPECIFICALLY, CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR SAFETY CONSULTANT SHALL IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITH OSHA STANDARDS GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATIONS.

RESTRAINED LENGTH NOTES:

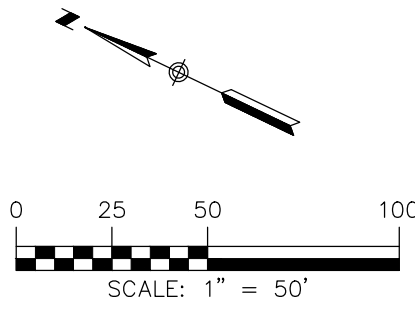
- CONTRACTOR TO COORDINATE WITH NEW BRAUNFELS UTILITIES (N.B.U.) FOR WATER, SEWER, AND ELECTRIC SERVICE TO THE SITE.
- ALL IN-LINE VALVES, BENDS & PLUGS SHALL BE RESTRAINED, RESTRAINT TO BE PROVIDED ON EACH SIDE OF THE VALVE, FITTING OR ANY REQUIRED JOINT.
- RL=RESTRAINT LENGTH
- CONTRACTOR SHALL DETERMINE RESTRAINT LENGTH REQUIRED FOR HORIZONTAL VERTICAL FITTINGS BASED ON RESTRAINT LENGTH TABLE SHOWN BELOW.

RESTRAINED LENGTH FOR PVC PIPE												
PIPE INSIDE DIAMETER	HORIZONTAL BENDS					VERTICAL BENDS						DEAD END/ INCLINE VALVES
						UPPER			LOWER			
	1/2	3/4	1	1 1/4	1 1/2	1 1/2	2	2 1/2	3	3	4	
8"	30	12	6	3	32	15	8	11	5	3		77
12"	43	18	8	4	45	22	11	16	7	4		109

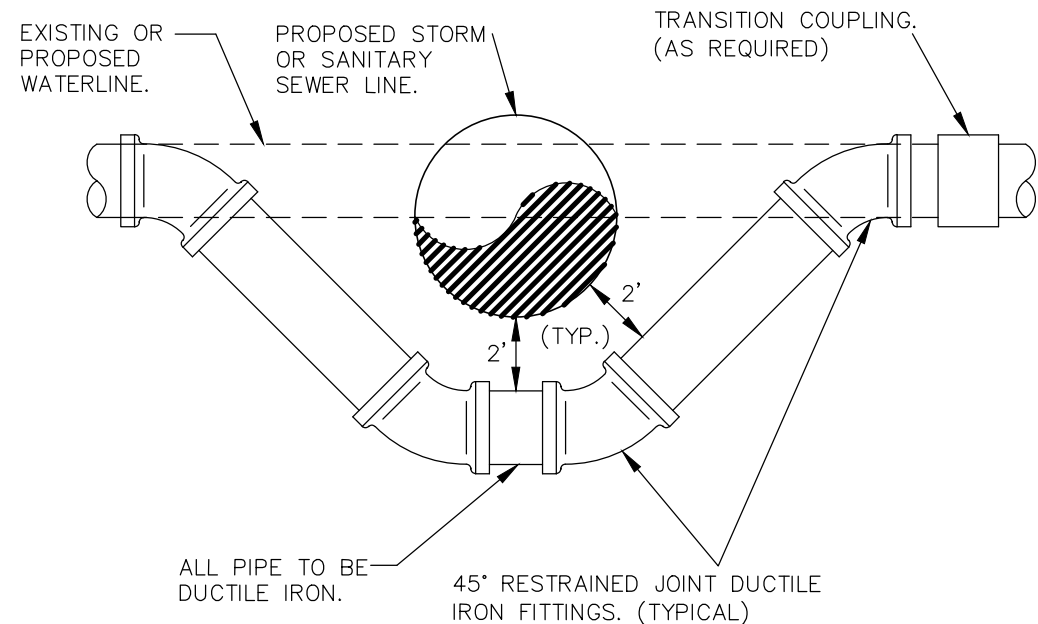
NOTES:

LENGTHS SHOWN ABOVE WERE COMPUTED BASED ON THE FOLLOWING VALUES:

- SAFETY FACTOR = 1.5 TO 1
- TEST PRESSURE = 200psl
- SOIL DESIGNATION = IN ORGANIC CLAY OF HIGH PLASTICITY
- DEPTH OF COVER = 4 FEET (TYPICAL AND UPPER BEND)
- DEPTH OF COVER = 5 FEET (LOWER BEND)

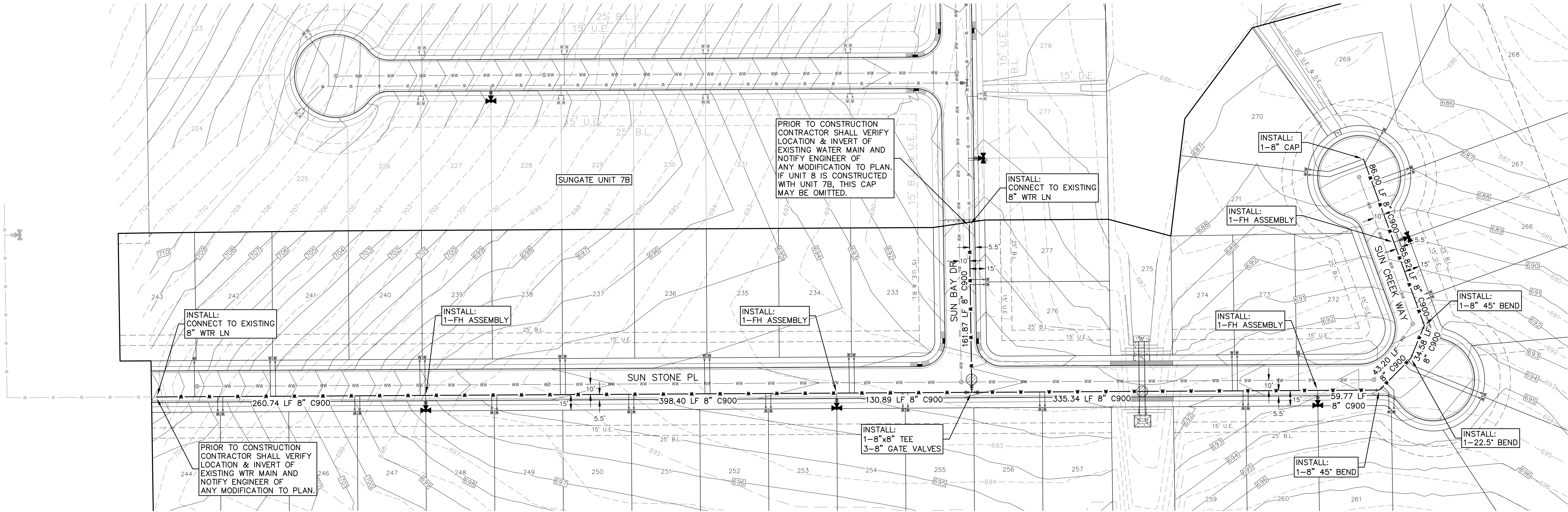


LEGEND	
	EDGE OF ASPHALT
	EXISTING CONTOURS
	PROPOSED CONTOURS
	BUILDING SETBACK LINE
	UTILITY EASEMENT
	DRAINAGE EASEMENT
	OVERHEAD ELECTRIC
	EXISTING WATER LINE
	PROPOSED WATER LINE
	PROPOSED WATER SERVICE
	UTILITY CROSSING



WATERLINE ADJUSTMENT DETAIL
N.T.S.

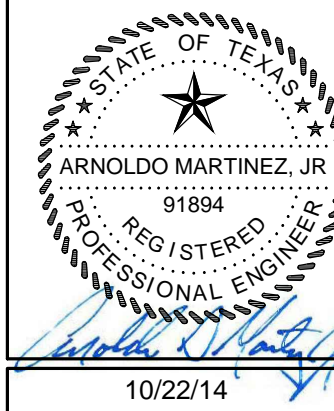
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REFER TO THE COVER SHEET
FOR BENCHMARK INFORMATION.

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OVERALL WATER PLAN

CIVIL SITE CONSTRUCTION PLANS

SUNGATE UNIT 8

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