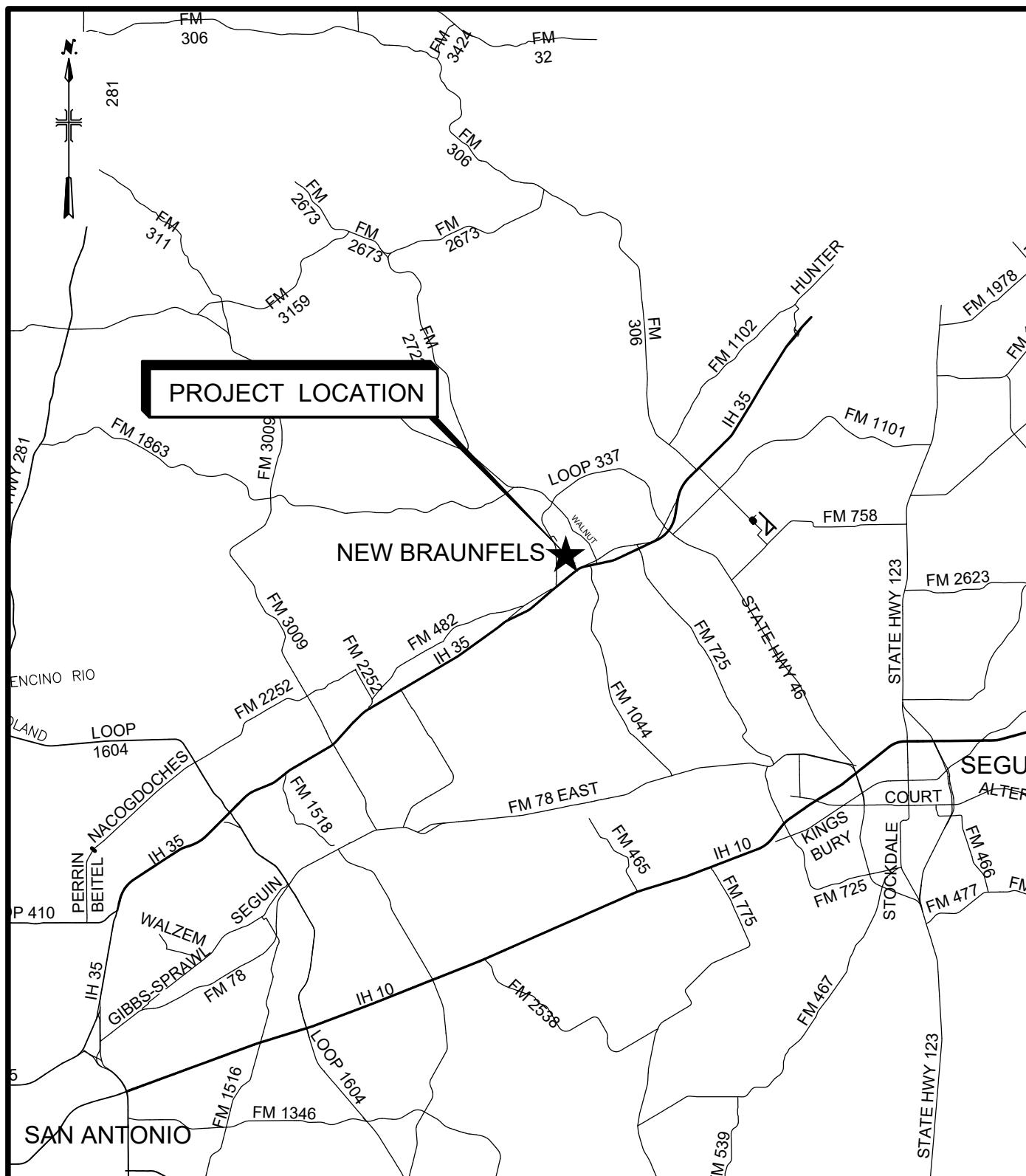


BERGFELD AVENUE IN-PIPE STORMWATER FILTRATION SYSTEM

TCEQ CLEAN WATER ACT SECTION 319(H)
NONPOINT SOURCE GRANT CONTRACT NO. 582-19-90207
FOR CONSTRUCTION
JULY 2024



VICINITY MAP
N.T.S.



LOCATION MAP

1" = 400'

PROJECT IS LOCATED IN FEMA FIRM MAP NO. 48091C0435F IN ZONE AE (SEPT 2009), OUTSIDE OF FLOODWAY AREAS AND WITHIN THE EDWARDS AQUIFER RECHARGE ZONE.



TRANSPORTATION & CAPITAL IMPROVEMENTS

550 LANDA ST.
NEW BRAUNFELS, TX 78130
830-221-4000

 **ARCADIS**
11103 WEST AVE, SUITE 113
SAN ANTONIO, TX 78213
TEXAS BOARD OF PROFESSIONAL ENGINEERS FIRM
REGISTRATION NUMBER F-533

THE FOLLOWING CODES WILL BE USED FOR THE FINAL DESIGN OF THIS PROJECT:

- 2024 CITY OF NEW BRAUNFELS CODE OF ORDINANCES
- 2020 CITY OF NEW BRAUNFELS DRAINAGE AND EROSION CONTROL MANUAL
- 2014 TEXAS DEPARTMENT OF TRANSPORTATION, STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MAINTENANCE OF HIGHWAYS, STREETS AND BRIDGES.
- 2024 NEW BRAUNFELS UTILITIES WATER CONNECTION POLICY STANDARD DETAILS.
- 2021 INTERNATIONAL BUILDING CODE

PREPARED FOR:



CITY OF NEW BRAUNFELS GENERAL NOTES

GENERAL

- ALL WORK SHALL CONFORM TO THE TEXAS DEPARTMENT OF TRANSPORTATION (TXDOT) STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MAINTENANCE OF HIGHWAYS, STREETS, AND BRIDGES, NOVEMBER 2014, AND THE CITY OF NEW BRAUNFELS DETAILS AND STANDARDS.
- ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH ALL APPLICABLE FEDERAL, STATE, AND LOCAL LAWS, REGULATIONS, AND ORDINANCES.
- THE CONTRACTOR SHALL ALWAYS MAINTAIN A COPY OF THE LATEST CONTRACT CONSTRUCTION PLANS AND SPECIFICATIONS ON-SITE.
- THE CONTRACTOR SHALL OBTAIN ALL PERMITS AND INSPECTIONS REQUIRED TO COMPLETE THE WORK (NO SEPARATE PAY ITEM).
- THE CONTRACTOR SHALL PROVIDE AN EMERGENCY TELEPHONE NUMBER FOR EVENINGS, WEEKENDS, AND HOLIDAYS BEFORE CONSTRUCTION. THE CONTRACTOR SHALL RESPOND TO THE CITY WITHIN TWO HOURS OF THE INITIAL CONTACT.
- THE CONTRACTOR'S PERSONNEL, INCLUDING SUBCONTRACTORS, SHALL ALWAYS WEAR IDENTIFYING CLOTHING OR HATS ON-SITE.
- THE CONTRACTOR SHALL FIELD VERIFY AND PROTECT ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL COMPLY WITH TEXAS EXCAVATION LAWS, CONTACT TEXAS-811 72 HOURS BEFORE ANY WORK IN THE AREA, AND MAINTAIN CURRENT LOCATES THROUGHOUT THE PROJECT. THE CONTRACTOR SHALL COORDINATE ALL WORK INDIVIDUALLY WITH ADJACENT UTILITIES IN THE AREA, INCLUDING BUT NOT LIMITED TO: CENTERPOINT ENERGY (GAS), NBU ELECTRIC, NBU WATER, AT&T COMMUNICATIONS, SPECTRUM CABLE, CITY PUBLIC WORKS DEPARTMENT, CITY FIRE DEPARTMENT, AND TXDOT.
- THE CONTRACTOR SHALL PRESERVE ALL SURVEY MONUMENTS AND SITE MARKINGS PROVIDED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONSTRUCTION STAKING REQUIRED FOR THE SUCCESSFUL COMPLETION OF THE PROJECT.
- THE CONTRACTOR SHALL VERIFY PROJECT ELEVATIONS. THE TERM "MATCH EXISTING" SHALL SIGNIFY BOTH HORIZONTAL AND VERTICAL ALIGNMENT.
- THE CONTRACTOR SHALL PREPARE A CONSTRUCTION PHASING PLAN DETAILING LIMITS OF CONSTRUCTION FOR EACH PHASE. THE PHASING PLAN SHALL BE SUBMITTED TO THE CITY FOR APPROVAL PRIOR TO CONSTRUCTION. THE CONTRACTOR WILL NOT BE ALLOWED TO WORK OUT OF PHASE UNLESS WRITTEN APPROVAL HAS BEEN OBTAINED FROM THE CITY FOR THE PHASE CHANGE. THE PHASING PLAN SHALL INCLUDE TRAFFIC CONTROL AND HAUL ROUTES.
- THE CONTRACTOR IS RESPONSIBLE FOR ALL SUBSIDIARY WORK AND THE MEANS AND METHODS NECESSARY TO COMPLETE THE PROJECT.
- THE CONTRACTOR SHALL PROVIDE WRITTEN NOTIFICATION TO THE CITY AND DESIGN ENGINEER OF DISCREPANCIES BETWEEN THE CONSTRUCTION PLANS AND SPECIFICATIONS. THE MORE STRINGENT REQUIREMENTS SHALL GOVERN UNLESS OTHERWISE DIRECTED IN WRITING BY THE CITY.
- THE CONTRACTOR SHALL PROVIDE WRITTEN NOTIFICATION TO THE CITY AND DESIGN ENGINEER OF DISCREPANCIES BETWEEN THE SITE CONDITIONS AND THE CONSTRUCTION PLANS PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR ALL NECESSARY REVISIONS DUE TO FAILURE TO GIVE SUCH NOTIFICATION.

SITE:

- THE CONTRACTOR SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE CONSTRUCTION OF THE PROJECT, INCLUDING THE SECURITY AND SAFETY OF ALL PERSONS AND PROPERTY; THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS.
- THE CONTRACTOR SHALL KEEP ALL AREAS WITHIN AND ADJACENT TO CONSTRUCTION AREAS FREE FROM OVERGROWN VEGETATION AND ALL CONSTRUCTION DEBRIS AND BE SAFE FOR PEDESTRIAN AND VEHICLE TRAFFIC BEFORE, DURING, AND AFTER CONSTRUCTION.
- THE CONTRACTOR SHALL IMPLEMENT BEST MANAGEMENT PRACTICES REGARDING DUST, DIRT, AND EROSION CONTROL. CONTRACTOR MAY BE RESPONSIBLE FOR ADDITIONAL MITIGATION UPON REQUEST OF OWNER. THE STREET PAVEMENT, DRIVEWAYS, SIDEWALKS, AND WALKWAYS WITHIN AND ADJACENT TO THE PROJECT SHALL BE SWEEP FREE OF MUD AND ALL DEBRIS REMOVED FROM THE WORK AREA DAILY.
- THE CONTRACTOR SHALL INSTALL AND MAINTAIN THE PROJECT SIGN IN ACCORDANCE WITH CITY STANDARDS AND SPECIFICATIONS.
- THE CONTRACTOR SHALL REMOVE, PROTECT, RELOCATE, OR REINSTALL ITEMS REQUESTED BY THE CITY AS DIRECTED BY THE OWNER.
- THE CONTRACTOR SHALL REPAIR ANY DAMAGE CAUSED BY THE CONTRACTOR OUTSIDE OF THE DESIGNATED WORK AREA. 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 CITY THE EXISTING IMPROVEMENTS AT THE CONTRACTOR'S EXPENSE (NO SEPARATE PAY ITEM).
- THE CONTRACTOR SHALL REMOVE ALL WASTE MATERIALS. THE CITY SHALL APPROVE THE LOCATION FOR THE DISPOSAL OF CONSTRUCTION MATERIALS PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL NOT PLACE ANY WASTE MATERIAL IN THE 100-YEAR FLOOD PLAIN. NO WASTE MATERIALS SHALL BE PLACED IN EXISTING LOWS THAT WILL BLOCK OR ALTER FLOW LIMITS OF EXISTING OR NATURAL DRAINAGE.
- DRAINAGE IMPROVEMENTS SUFFICIENT TO MITIGATE THE IMPACT OF CONSTRUCTION SHALL BE INSTALLED PRIOR TO ADDING IMPERVIOUS COVER. ALL DRAINAGE IMPROVEMENTS SHALL BEGIN AT THE OUTFALL TO ENSURE POSITIVE DRAINAGE THROUGHOUT CONSTRUCTION.
- THE CONTRACTOR SHALL MAINTAIN A SAFE, DRIVABLE SURFACE FREE FROM POTHOLE, RUTTING, AND HAZARDOUS CONDITIONS THROUGHOUT THE PROJECT.

EROSION CONTROL:

- THE CONTRACTOR SHALL DEVELOP AND IMPLEMENT A STORMWATER POLLUTION PREVENTION PLAN (SW3P) AND SUBMIT IT TO THE CITY PRIOR TO CONSTRUCTION. THE SW3P SHALL INCLUDE ALL DISTURBED AREAS BY THE CONSTRUCTION, INCLUDING BORROW, STAGING, AND STORAGE AREAS. THE SW3P WITH REQUIRED INSPECTION REPORTS MUST BE KEPT UP TO DATE AND KEPT ON THE CONSTRUCTION SITE AT ALL TIMES. THE CONTRACTOR SHALL PREPARE A NOTICE OF INTENT (NOI) AND SECURE A PERMIT FROM TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ) FOR LARGE CONSTRUCTION SITES OF 5 OR MORE ACRES OF DISTURBED AREA WITH A COPY OF THE NOI AND THE REQUIRED CONSTRUCTION SITE NOTICE POSTED AT THE CONSTRUCTION ENTRANCE IN CLEAR VIEW OF THE PUBLIC DURING THE CONSTRUCTION. FOR LARGE CONSTRUCTION SITES, AFTER THE SITE IS 70% OR GREATER STABILIZED SO THAT THERE IS NO FURTHER DANGER OF EROSION AND SEDIMENTATION POLLUTION FROM THE SITE DISTURBED AREAS, THE CONTRACTOR MUST PREPARE AND SUBMIT A NOTICE OF TERMINATION (NOT) TO TCEQ. A COPY OF THE NOI AND NOT MUST BE SUBMITTED TO THE CITY FOR EACH PROJECT. SEE TCEQ REGULATIONS FOR SW3P REQUIREMENTS.

- ALL EROSION CONTROL MEASURES SHALL BE IN PLACE PRIOR TO ANY CONSTRUCTION ACTIVITIES. THE EROSION CONTROL MEASURES SHALL REMAIN IN PLACE AND FUNCTIONAL UNTIL AFTER THE PROPOSED IMPROVEMENTS ARE IN PLACE AND VEGETATION IS ESTABLISHED. THE CONTRACTOR IS ULTIMATELY RESPONSIBLE FOR EFFECTIVELY CONTROLLING EROSION AND SEDIMENTATION.
- ADJUSTMENTS AND REPAIRS TO THE EROSION CONTROL DEVICES SHALL BE MADE AS NEEDED AT THE CONTRACTOR'S EXPENSE.

- STABILIZED CONSTRUCTION AREA SHALL BE CONSTRUCTED OF 3 IN X 5 IN ROCK TO BE PLACED AT A MINIMUM LENGTH OF 25 FT AND MAINTAINED SO THAT CONSTRUCTION DEBRIS DOES NOT FALL WITHIN THE CITY RIGHT-OF-WAY. THE RIGHT-OF-WAY MUST BE CLEARED OF MUD, ROCKS, DUST, ETC., AT ALL TIMES.
- SEED/SOD SHALL BE FURNISHED TO ESTABLISH GROUND COVER OVER ALL DISTURBED AREAS AS REQUIRED BY THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL NOT WAIT UNTIL THE COMPLETION OF THE ENTIRE PROJECT BEFORE DOING THIS WORK. THE PROJECT SHALL NOT BE CONSIDERED FOR ACCEPTANCE BY THE CITY UNLESS THE ESTABLISHMENT OF 80% GROUND COVER IS ENSURED.

- SEEDING TO ESTABLISH VEGETATION WITHIN CONSTRUCTED EARTHEN CHANNELS, BASINS AND DISTURBED AREAS SHALL BE CONDUCTED PER ITEM 164 (SEEDING FOR EROSION CONTROL OF TXDOT'S STANDARD SPECIFICATIONS) ONLY SEED TYPES AND MIXES SPECIFIED FOR THE SAN ANTONIO DISTRICT (DISTRICT 15) IN TABLES 1 AND 2 UNDER ITEM 164 SHALL BE UTILIZED. DURING THE COOL SEASON (SEPT 1-NOV 30), CEREAL RYE AND SEED SPECIES SPECIFIED FOR THE SAN ANTONIO DISTRICT IN TABLE 3 MAY BE USED.
- IT MAY BE DEEMED NECESSARY TO INCORPORATE TOPSOIL AND SOIL AMENDMENTS (I.E., COMPOST/ FERTILIZER) INTO EXISTING SOIL IN ORDER TO FACILITATE VEGETATION GROWTH. TOPSOIL, COMPOST, AND FERTILIZER ADDITIONS SHALL BE CONDUCTED ACCORDING TO ITEMS 160, 161 AND 166 OF TXDOT'S STANDARD SPECIFICATIONS.

- AREAS REQUIRING PERMANENT VEGETATION (EARTHEN CHANNELS, PONDS, ETC.) ARE REQUIRED TO MEET ITEM 160 OF TXDOT'S STANDARD SPECIFICATIONS. TESTING PER TEX-128-E MAY BE REQUIRED AT THE CITY'S REQUEST.
- WATERING MAY BE NECESSARY TO FACILITATE AND EXPEDITE THE SPROUTING AND GROWTH OF VEGETATION. ITEM 168 OF TXDOT'S STANDARD SPECIFICATIONS SHALL BE ADHERED TO FOR VEGETATIVE WATERING.

- IF EXTENDED DROUGHT CONDITIONS EXIST THAT HINDER OR PROHIBIT THE GROWTH AND ESTABLISHMENT OF VEGETATION, THE CONTRACTOR SHALL PROVIDE A PLAN TO THE CITY DESCRIBING THE MEASURES THAT WILL BE TAKEN TO STABILIZE EARTHEN DRAINAGE INFRASTRUCTURE UNTIL A TIME WHEN GROWING CONDITIONS BECOME MORE FAVORABLE.

TRAFFIC:

- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT ALL TRAFFIC CONTROL DEVICES AND BARRICADES ARE PROPERLY INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE PLANS, SPECIFICATIONS, AND TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (TXMUTCD).
- THESE NOTES DO NOT, IN AND OF THEMSELVES, CONSTITUTE A TRAFFIC CONTROL PLAN. IN THE EVENT THAT THESE PLANS DO NOT INCLUDE TRAFFIC CONTROL, OR THAT THE CONTRACTOR WISHES TO VARY FROM TRAFFIC CONTROL INCLUDED WITH THE CONSTRUCTION PLANS, THE CONTRACTOR SHALL SUBMIT A TRAFFIC CONTROL PLAN TO THE CITY FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION. THE CITY INSPECTOR AND ENGINEERING REPRESENTATIVE WILL ONLY BE RESPONSIBLE TO INSPECT THE TRAFFIC CONTROL DEVICES AND BARRICADES. IF, IN THE OPINION OF THE CITY INSPECTOR OR ENGINEERING REPRESENTATIVE, THE TRAFFIC CONTROL DEVICES DO NOT CONFORM TO ESTABLISHED STANDARDS OR ARE INCORRECTLY PLACED OR ARE INSUFFICIENT IN QUANTITY TO PROTECT THE GENERAL PUBLIC, THE CITY INSPECTOR SHALL HAVE THE OPTION TO STOP CONSTRUCTION OPERATIONS AT NO EXPENSE TO THE CITY UNTIL SUCH TIME AS THE CONDITIONS ARE CORRECTED BY THE CONTRACTOR.
- THE CONTRACTOR SHALL NOTIFY THE CITY IMMEDIATELY IF THERE IS ANY CONFLICT BETWEEN THE TXMUTCD AND TRAFFIC CONTROL REQUIREMENTS WITHIN THE CONTRACT DOCUMENTS.
- IF THE NEED ARISES, THE CITY INSPECTOR OR ENGINEERING REPRESENTATIVE MAY REQUIRE THE RELOCATION AND ADDITIONAL TRAFFIC CONTROL DEVICES AND BARRICADES AT THE CONTRACTOR'S EXPENSE.
- THE CONTRACTOR SHALL NOTIFY TXDOT, COUNTY, ADJACENT CITY, AND PRIVATE OWNER PRIOR TO WORKING AT THEIR OWNED OR MAINTAINED ROADWAY AND INTERSECTION.
- FOR ALL ROAD CLOSURE REQUESTS, THE CONTRACTOR SHALL SUBMIT AND OBTAIN CITY APPROVAL OF A TRAFFIC CONTROL PLAN AND WORK SCHEDULE AT LEAST TWO (2) WEEKS PRIOR TO COMMENCING WORK ASSOCIATED WITH THE ROAD CLOSURE.

- WORK AROUND SCHOOLS SHALL BE SCHEDULED TO MINIMIZE IMPACTS TO THE SCHOOL. STREETS AND ACCESS SHALL NOT BE CLOSED DURING THE TIME STUDENTS ARE BEING DROPPED OFF AND PICKED UP FROM SCHOOL. WORK WITHIN A SCHOOL ZONE CAN ONLY OCCUR BETWEEN THE HOURS OF 9 AM AND 3 PM AS APPROVED BY THE CITY.

- THE CONTRACTOR SHALL PROVIDE ACCESS FOR THE DELIVERY OF MAIL BY THE U.S. POSTAL SERVICE, AND COLLECTION OF SOLID WASTE AND RECYCLING, WHETHER PUBLIC OR PRIVATE.
- THE CONTRACTOR SHALL ALWAYS MAINTAIN ACCESS TO ALL COMMERCIAL AND RESIDENTIAL DRIVEWAYS. THE CONTRACTOR SHALL PROVIDE A 48-HOUR MINIMUM NOTICE TO PROPERTY OWNERS AND THE CITY BEFORE ANY DRIVEWAY ACCESS MODIFICATION.
- DURING ASPHALT OVERLAY, THE CONTRACTOR SHALL ALLOW RESIDENT TRAFFIC ACCESS TO THE STREET WITH PROPER GUIDANCE, DIRECTION, FLAGGER AND TRAFFIC CONTROL AND ONLY AT SUCH TIME THAT DAMAGE WILL NOT OCCUR TO THE NEW ASPHALT OVERLAY OR TO THE VEHICLES.
- THE CONTRACTOR SHALL KEEP ALL TRAFFIC CONTROL DEVICES, BARRICADES, AND REFLECTIVE MARKINGS FREE FROM DUST AND DEBRIS. THE CONTRACTOR SHALL CLEAN THE DEVICES MONTHLY AND AT THE DIRECTION OF THE CITY.

UTILITIES:

- THE EXISTENCE AND LOCATION OF UNDERGROUND UTILITIES INDICATED ON THE PLANS ARE TAKEN FROM AVAILABLE RECORDS AND ARE NOT GUARANTEED. THE LOCATION AND DEPTH OF EXISTING UTILITIES ARE APPROXIMATE ONLY AND SHALL BE INVESTIGATED AND VERIFIED BY THE CONTRACTOR BEFORE STARTING WORK. THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ANY DAMAGE TO AND FOR THE MAINTENANCE AND PROTECTION OF THE EXISTING UTILITIES WHETHER SHOWN OR NOTED ON THE PLANS, INCLUDING BUT NOT LIMITED TO EXISTING WATER, SANITARY SEWER, GAS, STORM SEWERS, ELECTRIC AND TELECOMMUNICATION LINES, AND SERVICES.
- THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL UTILITIES THREE (3) WEEKS MINIMUM IN ADVANCE OF ALL WORK ACTIVITIES.

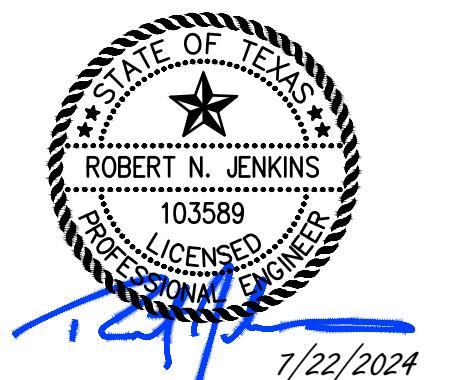
- IN THE EVENT OF DAMAGE TO UNDERGROUND FACILITIES, WHETHER SHOWN OR NOT IN THE PLANS, THE CONTRACTOR SHALL MAKE NECESSARY REPAIRS TO RESTORE THE FACILITY BACK IN SERVICE AND AT NO COST TO THE CITY. REPAIRS SHALL CONFORM TO THE REQUIREMENTS OF THE UTILITY OR AGENCY SERVICING THE FACILITY.
- THE CONTRACTOR SHALL COORDINATE WITH AND GAIN APPROVAL FROM THE UTILITY COMPANY OWNING THE FACILITY PRIOR TO RELOCATION OR ADJUSTMENT AS REQUIRED FOR CONFORMANCE TO PROJECT ALIGNMENT OR GRADES. ADJUSTMENT OF ALL EXISTING MANHOLES, THAT REMAIN IN SERVICE TO PROJECT GRADES SHALL BE THE CONTRACTOR'S RESPONSIBILITY.

- THE ASPHALTIC CONCRETE SURFACE COURSE SHALL BE PLANT MIXED, HOT LAID TYPE "D" MEETING THE SPECIFICATION REQUIREMENTS OF TXDOT ITEM 340. THE MIX SHALL BE DESIGNED FOR STABILITY OF AT LEAST 35 AND SHALL BE COMPACTED TO BETWEEN 92 AND 97 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.

- A TXDOT TYPE II B-B BLUE REFLECTIVE RAISED PAVEMENT MARKER SHALL BE INSTALLED IN THE CENTER OF THE ROADWAY ADJACENT TO ALL FIRE HYDRANTS. IN LOCATIONS WHERE HYDRANTS ARE SITUATED ON CORNERS, BLUE REFLECTIVE RAISED PAVEMENT MARKERS SHALL BE INSTALLED ON BOTH APPROACHES WHICH FRONT OF THE HYDRANT. THE RAISED PAVEMENT MARKER SHALL MEET TXDOT MATERIAL, EPOXY, AND ADHESIVE SPECIFICATIONS.
- ALL CONCRETE FOR FLATWORK, INCLUDING CURB AND GUTTER, SIDEWALKS, AND DRIVEWAYS, SHALL BE CLASS A WITH A MINIMUM COMPRESSIVE STRENGTH OF 3,000 PSI. MATERIAL TESTING METHODS AND FREQUENCY SHALL BE AS DESCRIBED IN ITEM 421 OF THE TXDOT STANDARD SPECIFICATIONS.

GROUNDWATER:

- IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO IMMEDIATELY NOTIFY THE CITY 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 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 GRANTS WRITTEN APPROVAL FOR THE GROUNDWATER MITIGATION PLAN.



7/22/2024

CITY OF
NEW BRAUNFELS



TRANSPORTATION & CAPITAL IMPROVEMENTS
BERGFELD AVENUE
IN-PIPE STORMWATER
FILTRATION SYSTEM

REVISIONS
NO. DATE ISSUED FOR BY

STATUS:
FOR CONSTRUCTION
ARCADIS PROJECT NO.: 30193770
DATE: JULY 2024
DESIGNED BY: C.MARTIN
DRAWN BY: N.CANDELAS
CHECKED BY: R.JENKINS

SHEET TITLE:

GENERAL
CITY OF NEW
BRAUNFELS
GENERAL NOTES

SCALE: AS SHOWN 0
1
BAR IS ONE INCH ON
UNREDUCED DRAWING

DRAWING NO.: G-03
SHEET NO.: 3 OF 25

CONSTRUCTION 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 BE FOLLOWED FOR ALL CONSTRUCTION EXCEPT AS AMENDED BY THE CITY OF NEW BRAUNFELS STANDARD DETAILS OR INCLUDED IN THE CONTRACT DOCUMENTS.

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.

PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR SHALL CONTACT THE CITY OF NEW BRAUNFELS TO SCHEDULE A PRECONSTRUCTION MEETING.

FOR PUBLIC INFRASTRUCTURE PERMIT OR GRADING PERMIT PROJECTS:

- FOR INSPECTIONS, YOU MUST CALL BEFORE 12:00 P.M., 48 HOURS PRIOR TO YOUR INSPECTION REQUEST.
- EACH INSPECTION WILL BE ALLOTTED 1 HOUR UNLESS YOU REQUEST FOR MORE TIME.
- ONCE YOUR REQUEST HAS BEEN ACCEPTED, YOU WILL RECEIVE A CALL FROM THE CITY OF NEW BRAUNFELS INSPECTOR.

FOR COMMERCIAL PERMIT (CP) PROJECTS:

- ALL INSPECTIONS ARE TO BE CALLED IN AT 830-221-4068 OR,
- FAXED IN AT 830-608-2117 OR,
- E-MAILED AT INSPECTIONS@NBTEXAS.ORG.

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, IN THE OPINION OF THE ENGINEERING REPRESENTATIVE AND THE CONSTRUCTION INSPECTOR, THE BARRICADES AND SIGNS DO NOT CONFORM TO ESTABLISHED STANDARDS OR ARE INCORRECTLY PLACED OR ARE INSUFFICIENT IN QUANTITY TO PROTECT THE GENERAL PUBLIC, THE CONSTRUCTION INSPECTOR SHALL HAVE THE OPTION TO STOP OPERATIONS UNTIL SUCH TIME AS THE CONDITIONS ARE CORRECTED. IF THE NEED ARISES, ADDITIONAL TEMPORARY TRAFFIC CONTROL DEVICES MAY BE ORDERED BY THE ENGINEERING REPRESENTATIVE AT THE CONTRACTOR'S EXPENSE.

A TXDOT TYPE II B-B BLUE REFLECTIVE RAISED PAVEMENT MARKER SHALL BE INSTALLED IN THE CENTER OF THE ROADWAY ADJACENT TO ALL FIRE HYDRANTS. IN LOCATIONS WHERE HYDRANTS ARE SITUATED ON CORNERS, BLUE REFLECTIVE RAISED PAVEMENT MARKERS SHALL BE INSTALLED ON BOTH APPROACHES WHICH FRONT THE HYDRANT. THE RAISED PAVEMENT MARKER SHALL MEET TXDOT MATERIAL, EPOXY AND ADHESIVE SPECIFICATIONS.

GROUNDWATER

IT SHALL BE THE RESPONSIBILITY OF THE DEVELOPER, CONTRACTOR, SUBCONTRACTORS, BUILDERS, GEO-TECHNICAL ENGINEER, AND PROJECT 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 (PDF COPY) 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 ENSURE 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.

SOILS TESTING

PROCTORS SHALL BE SAMPLED FROM ON-SITE MATERIAL (ON-SITE IS DEFINED AS LIMITS OF CONSTRUCTION FOR THIS PLAN SET) AND A COPY OF THE PROCTOR RESULTS SHALL BE DELIVERED TO THE CITY OF NEW BRAUNFELS STREET INSPECTOR PRIOR TO ANY DENSITY TESTS.

ROADWAY

ALL ROADWAY COMPACTION TESTS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR'S GEOTECHNICAL ENGINEER. FLEXIBLE BASE OR FILL/EMBANKMENT MATERIAL SHALL BE PLACED IN UNIFORM LAYERS NOT TO EXCEED EIGHT INCHES (8") LOOSE. THE REQUIRED DENSITY FOR THE FILL/EMBANKMENT MATERIAL SHALL MEET THE REQUIREMENTS OF TXDOT'S SPECIFICATION ITEM 132. THE REQUIRED DENSITY FOR THE FLEXIBLE BASE MATERIAL SHALL MEET THE REQUIREMENTS OF TXDOT'S SPECIFICATION ITEM 247. EACH LAYER OF MATERIAL INCLUSIVE OF SUBGRADE, SHALL BE COMPACTION AS 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 GEOTECHNICAL ENGINEER AND APPROVED BY THE CITY OF NEW BRAUNFELS STREET INSPECTOR. AT A MINIMUM, TESTS SHALL BE TAKEN EVERY 200 LF FOR EACH LIFT. UPON COMPLETION OF TESTING, THE GEOTECHNICAL 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. ADDITIONAL DENSITY TESTS MAY BE REQUESTED BY THE CITY OF NEW BRAUNFELS INSPECTOR.

ITEM 340

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

THE CITY OF NEW BRAUNFELS WILL NOT ACCEPT THE USE OF RECYCLED ASPHALT PAVEMENT (RAP) OR RECYCLED ASPHALT SHINGLES (RAS) IN ASPHALT MIXTURES FOR NEW ROADWAYS. ANY DEBRIS INCLUSIONS WITHIN NEW ASPHALT PAVEMENTS WILL RESULT IN ASPHALT REMOVAL AND REPLACEMENT FROM CURB TO CURB FOR LIMITS TO BE DETERMINED BY THE CITY OF NEW BRAUNFELS.

THE ASPHALTIC CONCRETE PAVEMENT SURFACE COURSE SHALL BE PLANT MIXED, HOT LAID TYPE "D" MEETING THE SPECIFICATION REQUIREMENTS OF TXDOT ITEM 340. THE ASPHALTIC CONCRETE PAVEMENT SUB-SURFACE COURSES SHALL BE PLANT MIXED, HOT LAID TYPE "B" MEETING THE SPECIFICATION REQUIREMENTS OF TXDOT ITEM 340. THE MIXTURE SHALL BE DESIGNED PER THE DESIGN REQUIREMENTS SPECIFIED IN TXDOT ITEM 340 AND SHALL BE COMPACTION TO BETWEEN 91 AND 95 PERCENT OF THE MAXIMUM THEORETICAL DENSITY AS DETERMINED BY TXDOT TEST METHOD TEX-227-F. PLACE THE MIXTURE WHEN THE ROADWAY SURFACE TEMPERATURE IS AT OR ABOVE 60°F. COMPLETE ALL COMPACTION OPERATIONS BEFORE THE PAVEMENT TEMPERATURE DROPS BELOW 160°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/SIDEWALK SECTION SHALL BE THE RESPONSIBILITY OF THE DEVELOPER'S GEOTECHNICAL ENGINEER. FILL MATERIAL SHALL BE PLACED IN UNIFORM LAYERS NOT TO EXCEED TWELVE INCHES (12") LOOSE. DETERMINE THE MAXIMUM LIFT THICKNESS BASED ON THE ABILITY OF THE COMPACTING OPERATION AND EQUIPMENT USED TO MEET THE REQUIRED DENSITY. EACH LAYER OF MATERIAL SHALL BE COMPACTION 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 GEOTECHNICAL ENGINEER AND APPROVED BY THE CITY OF NEW BRAUNFELS STREET INSPECTOR. AT A MINIMUM, TESTS SHALL BE TAKEN EVERY 200 LF FOR EACH LIFT AND EVERY OTHER SERVICE LINE. UPON COMPLETION OF TESTING THE GEOTECHNICAL 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. ADDITIONAL DENSITY TESTS MAY BE REQUESTED BY THE CITY OF NEW BRAUNFELS INSPECTOR.

CURB CUT DUE TO CONSTRUCTION OF NEW RIGHT-OF-WAY CONSTRUCTION (INDICATE THE 2 OPTIONS ON THE CONSTRUCTION PLANS)

1. SAWCUT EXISTING STREET AND MATCH TO NEW CONSTRUCTION.
2. SAWCUT EXISTING CURB TO TIE INTO EXISTING CONSTRUCTION.

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 ALL SEALER AND FINAL MARKINGS. THE CITY WILL INSPECT ALL MARKINGS AT FINAL APPLICATION.

STORMWATER BASINS AND DISTURBED AREAS

SEEDING FOR THE PURPOSE OF ESTABLISHING VEGETATION WITHIN CONSTRUCTED EARTHEN CHANNELS, BASINS AND DISTURBED AREAS SHALL BE CONDUCTED IN ACCORDANCE WITH ITEM 164 (SEEDING FOR EROSION CONTROL OF TXDOT'S STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MAINTENANCE OF HIGHWAYS, STREETS AND BRIDGES MANUAL. ONLY SEED TYPES AND MIXES SPECIFIED FOR THE SAN ANTONIO DISTRICT (DISTRICT 15 IN TABLES 1 AND 2 UNDER ITEM 164 SHALL BE UTILIZED. DURING THE COOL SEASON (SEPT 1-NOV 30, CEREAL RYE AND SEED SPECIES SPECIFIED FOR

THE SAN ANTONIO DISTRICT IN TABLE 3 MAY BE USED. FOR COOL SEASON SEEDING APPLICATIONS, COOL SEASON SEED MIXES SHALL BE USED IN CONJUNCTION WITH SEED MIXES FOR THE SAN ANTONIO DISTRICT AS SPECIFIED IN TABLE 1 AND 2 UNDER ITEM 164.

IT MAY BE DEEMED NECESSARY TO INCORPORATE TOPSOIL AND SOIL AMENDMENTS (I.E. COMPOST/ FERTILIZER) INTO EXISTING SOIL IN ORDER TO FACILITATE VEGETATION GROWTH. TOPSOIL, COMPOST AND FERTILIZER ADDITIONS SHALL BE CONDUCTED ACCORDING TO ITEMS 160, 161 AND 166 OF TXDOT'S STANDARD SPECIFICATIONS MANUAL, RESPECTIVELY.

AREAS REQUIRING PERMANENT VEGETATION (EARTHEN CHANNELS, PONDS, ETC.) ARE REQUIRED TO MEET TXDOT SPECIFICATIONS FOR ITEM 160 TOPSOIL. TESTING PER TEX-128-E WILL BE REQUIRED AT THE CITY'S REQUEST.

WATERING MAY ALSO BE NECESSARY TO FACILITATE AND EXPEDITE THE SPROUTING AND GROWTH OF VEGETATION. ITEM 168 OF TXDOT'S STANDARD SPECIFICATIONS MANUAL SHALL BE ADHERED TO FOR VEGETATIVE WATERING.

IF EXTENDED DROUGHT CONDITIONS EXIST THAT HINDER OR PROHIBIT THE GROWTH AND ESTABLISHMENT OF VEGETATION, THE CONTRACTOR/ DEVELOPER SHALL PROVIDE A PLAN TO THE CITY OF NEW BRAUNFELS DESCRIBING THE MEASURES THAT WILL BE TAKEN TO STABILIZE EARTHEN DRAINAGE INFRASTRUCTURE UNTIL A TIME WHEN GROWING CONDITIONS BECOME MORE FAVORABLE.

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

SEQUENCE OF CONSTRUCTION

1. INSTALL ALL EROSION AND SEDIMENT CONTROL MEASURES AS SHOWN IN THE PLANS AND REQUIRED BY CITY OF NEW BRAUNFELS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO MAINTAIN AND OPERATE EROSION AND SEDIMENT CONTROL MEASURES AS REQUIRED.
2. PERFORM SURVEY AND FIELD LOCATION OF ALL UTILITIES IN THE AREA PRIOR TO EXCAVATION. EXCAVATE TO DEPTH REQUIRED FOR CONCRETE STRUCTURE(S), PERFORM NECESSARY WATER LINE AND OTHER UTILITY RELOCATIONS DEMOLITION AND DISPOSAL IN ACCORDANCE WITH CITY OF NEW BRAUNFELS REQUIREMENTS.
3. INSTALL WATER QUALITY VAULT, DIVERSION AND JUNCTION VAULTS AND PIPING AS SHOWN IN THE PLANS, INCLUDING ALL NECESSARY APPURTENANCES AND DETAILS REQUIRED BY MANUFACTURER FOR PROPER OPERATION.
4. BACKFILL VAULT AND COMPLETE ALL NECESSARY SITE GRADING AND SURFACE PREPARATION.
5. COMPLETE SURFACE IMPROVEMENTS AND SITE RESTORATION. REPAIR ANY DAMAGED ROADWAYS. SEED, PLANE, AND RESTORE PROJECT AREA TO EXISTING CONDITIONS.
6. UPON ACCEPTANCE BY CITY OF NEW BRAUNFELS, REMOVE ALL EROSION AND SEDIMENT CONTROL MEASURES.
7. SEDIMENT MUST BE REMOVED FROM THE SEDIMENT TRAPS OR SEDIMENTATION BASINS NOT LATER THAN WHEN IT OCCUPIES 50% OF THE BASIN'S DESIGN CAPACITY.
8. LITTER, CONSTRUCTION DEBRIS, AND CONSTRUCTION CHEMICALS EXPOSED TO STORMWATER SHALL BE PREVENTED FROM BEING DISCHARGED OFFSITE.
9. ALL SPOILS (EXCAVATED MATERIAL) GENERATED FROM THE PROJECT SITE MUST BE STORED ON-SITE WITH PROPER R&S CONTROLS. FOR STORAGE OR DISPOSAL OF SPOILS AT ANOTHER SITE ON THE EDWARDS AQUIFER RECHARGE ZONE, THE OWNER OF THE SITE MUST RECEIVE APPROVAL OF A WATER POLLUTION ABATEMENT PLAN FOR THE PLACEMENT OF FILL MATERIAL OR MASS GRADING PRIOR TO THE PLACEMENT OF SPOILS AT THE OTHER SITE.
10. IF PORTIONS OF THE SITE WILL HAVE A TEMPORARY OR PERMANENT CEASE IN CONSTRUCTION ACTIVITY LASTING LONGER THAN 14 DAYS, SOIL STABILIZATION IN THOSE AREAS SHALL BE INITIATED AS SOON AS POSSIBLE PRIOR TO THE 14TH DAY OF INACTIVITY. IF ACTIVITY WILL RESUME PRIOR TO THE 21ST DAY, STABILIZATION MEASURES ARE NOT REQUIRED. IF DROUGHT CONDITIONS OR INCLEMENT WEATHER PREVENT ACTION BY THE 14TH DAY, STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS POSSIBLE.
11. THE FOLLOWING RECORDS SHALL BE MAINTAINED AND MADE AVAILABLE TO THE TCEQ UPON REQUEST:
 - THE DATES WHEN MAJOR GRADING ACTIVITIES OCCUR;
 - THE DATES WHEN CONSTRUCTION ACTIVITIES TEMPORARILY OR PERMANENTLY CEASE ON A PORTION OF THE SITE; AND
 - THE DATES WHEN STABILIZATION MEASURES ARE INITIATED.
12. THE HOLDER OF ANY APPROVED EDWARD AQUIFER PROTECTION PLAN MUST NOTIFY THE APPROPRIATE REGIONAL OFFICE IN WRITING AND OBTAIN APPROVAL FROM THE EXECUTIVE DIRECTOR PRIOR TO INITIATING ANY OF THE FOLLOWING:
 - A. ANY PHYSICAL OR OPERATIONAL MODIFICATION OF ANY WATER POLLUTION ABATEMENT STRUCTURE(S), INCLUDING BUT NOT LIMITED TO PONDS, DAMS, BERMS, SEWAGE TREATMENT PLANTS, AND DIVERSIONARY STRUCTURES;
 - B. ANY CHANGE IN THE NATURE OR CHARACTER OF THE REGULATED ACTIVITY FROM THAT WHICH WAS ORIGINALLY APPROVED OR A CHANGE WHICH WOULD SIGNIFICANTLY IMPACT THE ABILITY OF THE PLAN TO PREVENT POLLUTION OF THE EDWARDS AQUIFER;
 - C. ANY DEVELOPMENT OF LAND PREVIOUSLY IDENTIFIED AS UNDEVELOPED IN THE ORIGINAL WATER POLLUTION ABATEMENT PLAN.

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY WATER POLLUTION ABATEMENT PLAN GENERAL CONSTRUCTION NOTES

EDWARDS AQUIFER PROTECTION PROGRAM CONSTRUCTION NOTES - LEGAL DISCLAIMER

THE FOLLOWING LISTED "CONSTRUCTION NOTES" ARE INTENDED TO BE ADVISORY IN NATURE ONLY AND DO NOT CONSTITUTE AN APPROVAL OR CONDITIONAL APPROVAL BY THE EXECUTIVE DIRECTOR (ED), NOR DO THEY CONSTITUTE A COMPREHENSIVE LISTING OF RULES OR CONDITIONS TO BE FOLLOWED DURING CONSTRUCTION. FURTHER ACTIONS MAY BE REQUIRED TO ACHIEVE COMPLIANCE WITH TCEQ REGULATIONS FOUND IN TITLE 30, TEXAS ADMINISTRATIVE CODE (TAC), CHAPTERS 213 AND 217, AS WELL AS LOCAL ORDINANCES AND REGULATIONS PROVIDING FOR THE PROTECTION OF WATER QUALITY. ADDITIONALLY, NOTHING CONTAINED IN THE FOLLOWING LISTED "CONSTRUCTION NOTES" RESTRICTS THE POWERS OF THE ED, THE COMMISSION OR ANY OTHER GOVERNMENTAL ENTITY TO PREVENT, CORRECT, OR CURTAIL ACTIVITIES THAT RESULT OR MAY RESULT IN POLLUTION OF THE EDWARDS AQUIFER OR HYDROLOGICALLY CONNECTED SURFACE WATERS. THE HOLDER OF ANY EDWARDS AQUIFER PROTECTION PLAN CONTAINING "CONSTRUCTION NOTES" IS STILL RESPONSIBLE FOR COMPLIANCE WITH TITLE 30 TAC, CHAPTERS 213 OR ANY OTHER APPLICABLE TCEQ REGULATION, AS WELL AS ALL CONDITIONS OF AN EDWARDS AQUIFER PROTECTION PLAN THROUGH ALL PHASES OF PLAN IMPLEMENTATION. FAILURE TO COMPLY WITH ANY CONDITION OF THE ED'S APPROVAL, WHETHER OR NOT IN CONTRADICTION OF ANY "CONSTRUCTION NOTES," IS A VIOLATION OF TCEQ REGULATIONS AND ANY VIOLATION IS SUBJECT TO ADMINISTRATIVE RULES, ORDERS, AND PENALTIES AS PROVIDED UNDER TITLE 30, TAC § 213.10 (RELATING TO ENFORCEMENT). SUCH VIOLATIONS MAY ALSO BE SUBJECT TO CIVIL PENALTIES AND INJUNCTION. THE FOLLOWING LISTED "CONSTRUCTION NOTES" IN NO WAY REPRESENT AN APPROVED EXCEPTION BY THE ED TO ANY PART OF TITLE 30 TAC, CHAPTERS 213 AND 217, OR ANY OTHER TCEQ APPLICABLE REGULATION.

1. A WRITTEN NOTICE OF CONSTRUCTION MUST BE SUBMITTED TO THE TCEQ REGIONAL OFFICE AT LEAST 48 HOURS PRIOR TO THE START OF ANY REGULATED ACTIVITIES. THIS NOTICE MUST INCLUDE:
 - THE NAME OF THE APPROVED PROJECT;
 - THE ACTIVITY START DATE; AND
 - THE CONTACT INFORMATION OF THE PRIME CONTRACTOR.
2. ALL CONTRACTORS CONDUCTING REGULATED ACTIVITIES ASSOCIATED WITH THIS PROJECT MUST BE PROVIDED WITH COMPLETE COPIES OF THE APPROVED WATER POLLUTION ABATEMENT PLAN (WPAP) AND THE TCEQ LETTER INDICATING THE SPECIFIC CONDITIONS OF ITS APPROVAL. DURING THE COURSE OF THESE REGULATED ACTIVITIES, THE CONTRACTORS ARE REQUIRED TO KEEP ON-SITE COPIES OF THE APPROVED PLAN AND APPROVAL LETTER.

3. IF ANY SENSITIVE FEATURE(S) (CAVES, SOLUTION CAVITY, SINK HOLE, ETC.) IS DISCOVERED DURING CONSTRUCTION, ALL REGULATED ACTIVITIES NEAR THE SENSITIVE FEATURE MUST BE SUSPENDED IMMEDIATELY. THE APPROPRIATE TCEQ REGIONAL OFFICE MUST BE IMMEDIATELY NOTIFIED OF ANY SENSITIVE FEATURES ENCOUNTERED DURING CONSTRUCTION. CONSTRUCTION ACTIVITIES MAY NOT BE RESUMED UNTIL THE TCEQ HAS REVIEWED AND APPROVED THE APPROPRIATE PROTECTIVE MEASURES IN ORDER TO PROTECT ANY SENSITIVE FEATURE AND THE EDWARDS AQUIFER FROM POTENTIALLY ADVERSE IMPACTS TO WATER QUALITY.

4. NO TEMPORARY OR PERMANENT HAZARDOUS SUBSTANCE STORAGE TANK SHALL BE INSTALLED WITHIN 150 FEET OF A WATER SUPPLY SOURCE, DISTRIBUTION SYSTEM, WELL, OR SENSITIVE FEATURE.

5. PRIOR TO BEGINNING ANY CONSTRUCTION ACTIVITY, ALL TEMPORARY EROSION AND SEDIMENTATION (E&S) CONTROL MEASURES MUST BE PROPERLY INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE APPROVED PLANS AND MANUFACTURER'S SPECIFICATIONS. IF INSPECTIONS INDICATE A CONTROL HAS BEEN USED INAPPROPRIATELY, OR INCORRECTLY, THE APPLICANT MUST REPLACE OR MODIFY THE CONTROL FOR SITE SITUATIONS. THESE CONTROLS MUST REMAIN IN PLACE UNTIL THE DISTURBED AREAS HAVE BEEN PERMANENTLY STABILIZED.

6. ANY SEDIMENT THAT ESCAPES THE CONSTRUCTION SITE MUST BE COLLECTED AND PROPERLY DISPOSED OF BEFORE THE NEXT RAIN EVENT TO ENSURE IT IS NOT WASHED INTO SURFACE STREAMS, SENSITIVE FEATURES, ETC.

7. SEDIMENT MUST BE REMOVED FROM THE SEDIMENT TRAPS OR SEDIMENTATION BASINS NOT LATER THAN WHEN IT OCCUPIES 50% OF THE BASIN'S DESIGN CAPACITY.

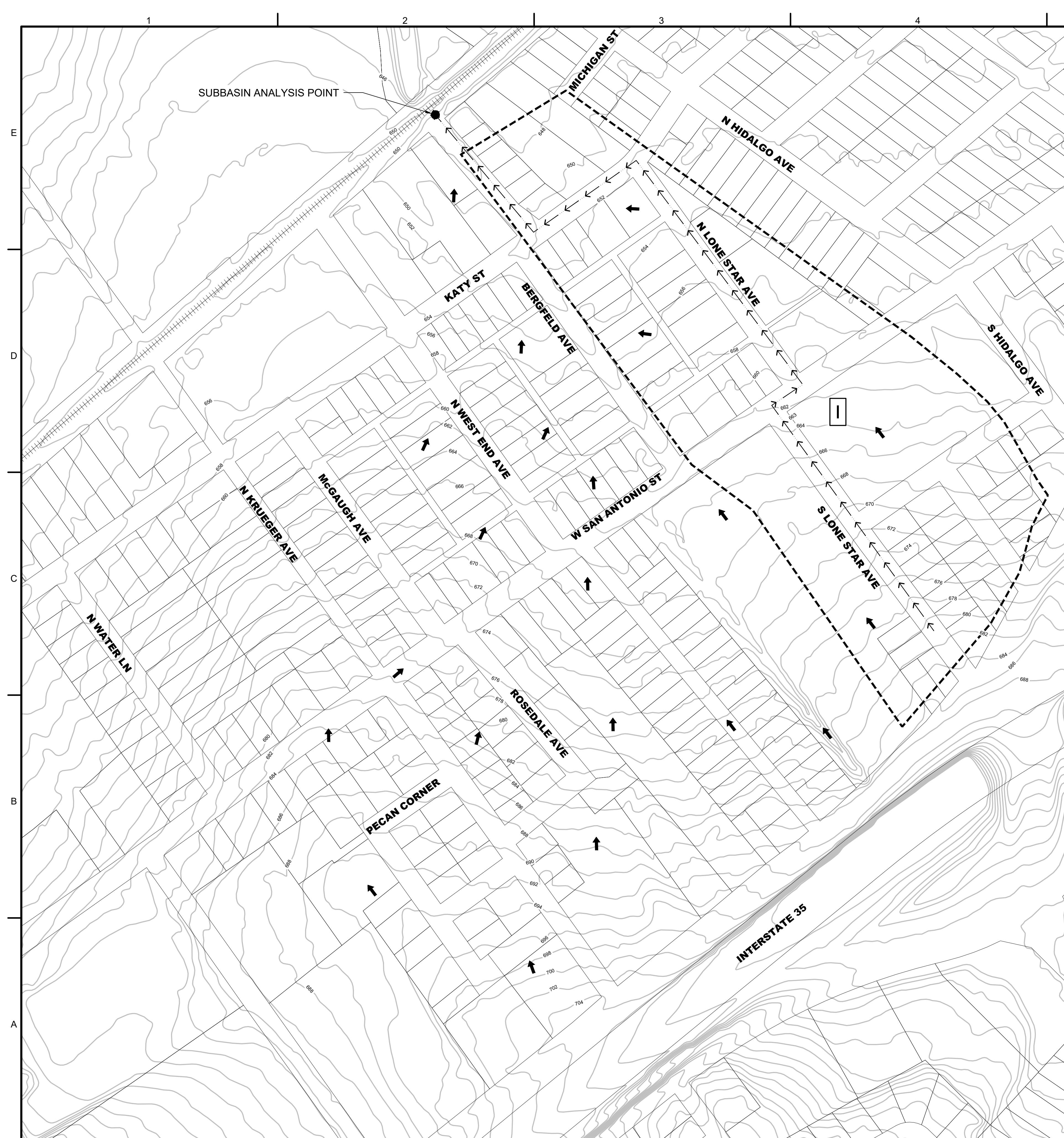
8. LITTER, CONSTRUCTION DEBRIS, AND CONSTRUCTION CHEMICALS EXPOSED TO STORMWATER SHALL BE PREVENTED FROM BEING DISCHARGED OFFSITE.

9. ALL SPOILS (EXCAVATED MATERIAL) GENERATED FROM THE PROJECT SITE MUST BE STORED ON-SITE WITH PROPER R&S CONTROLS. FOR STORAGE OR DISPOSAL OF SPOILS AT ANOTHER SITE ON THE EDWARDS AQUIFER RECHARGE ZONE, THE OWNER OF THE SITE MUST RECEIVE APPROVAL OF A WATER POLLUTION ABATEMENT PLAN FOR THE PLACEMENT OF FILL MATERIAL OR MASS GRADING PRIOR TO THE PLACEMENT OF SPOILS AT THE OTHER SITE.

10. IF PORTIONS OF THE SITE WILL HAVE A TEMPORARY OR PERMANENT CEASE IN CONSTRUCTION ACTIVITY LASTING LONGER THAN 14 DAYS, SOIL STABILIZATION IN THOSE AREAS SHALL BE INITIATED AS SOON AS POSSIBLE PRIOR TO THE 14TH DAY OF INACTIVITY. IF ACTIVITY WILL RESUME PRIOR TO THE 21ST DAY, STABILIZATION MEASURES ARE NOT REQUIRED. IF DROUGHT CONDITIONS OR INCLEMENT WEATHER PREVENT ACTION BY THE 14TH DAY, STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS POSSIBLE.

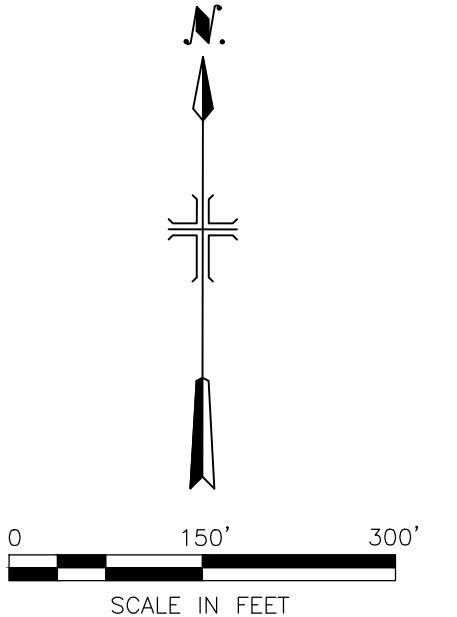
11. THE FOLLOWING RECORDS SHALL BE MAINTAINED AND MADE AVAILABLE TO THE TCEQ UPON REQUEST:
 - THE DATES WHEN MAJOR GRADING ACTIVITIES OCCUR;
 - THE DATES WHEN CONSTRUCTION ACTIVITIES TEMPORARILY OR PERMANENTLY CEASE ON A PORTION OF THE SITE; AND
 - THE DATES WHEN STABILIZATION MEASURES ARE INITIATED.

12. THE HOLDER OF



RCADIS U.S., INC.
BPE FIRM REGISTRATION NO.: F-533

DEALS:



LEGEND:

FLOW DIRECTI

TIME OF CONCENTRATION FLOW PATH

WATERSHED BOUNDARY LINE

SUBBASIN ANALYSIS POINT

NOTES

1. WATERSHEDS WERE DEVELOPED FROM ANALYSIS AT THE DOWNSTREAM POINT AT LEAST 3,000 FT DOWNSTREAM FROM THE PROPERTY BOUNDARY AS REQUIRED BY THE CITY OF NEW BRAUNFELS DRAINAGE AND EROSION CONTROL MANUAL.
2. THE PROJECT AREA IS LOCATED OUTSIDE OF THE 100-YR FLOODPLAIN AS SHOWN IN FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) FLOOD INSURANCE RATE MAP (FIRM) PANEL 48091C0435F EFFECTIVE SEPTEMBER 2009

Watershed	Time of Concentration (min)	CN	2-year Discharge (Q2) (ft ³ /s)	5-year Discharge (Q5) (ft ³ /s)	10-year Discharge (Q10) (ft ³ /s)	25-year Discharge (Q25) (ft ³ /s)	100-year Discharge (Q100) (ft ³ /s)
Pre-Construction							
I	27.49	91.9	70.63	99.70	124.46	147.75	189.67
Post-Construction							
I	27.49	91.9	69.03	98.30	123.16	146.51	188.39
Ultimate Conditions							
I	27.49	91.9	69.03	98.30	123.16	146.51	188.39

CITY OF NEW BRAUNFELS



TRANSPORTATION & CAPITAL IMPROVEMENTS

BERGFELD AVENUE IN-PIPE STORMWATER FILTRATION SYSTEM

REVISIONS

STATUS:
FOR CONSTRUCTION

Watershed	2-year Normal Depth (ft)	10-year Normal Depth (ft)	25-year Normal Depth (ft)	100-year Normal Depth (ft)
Pre-Construction				
I	1.77	2.14	2.68	3.15
Post-Construction				
I	1.84	2.30	3.04	3.70

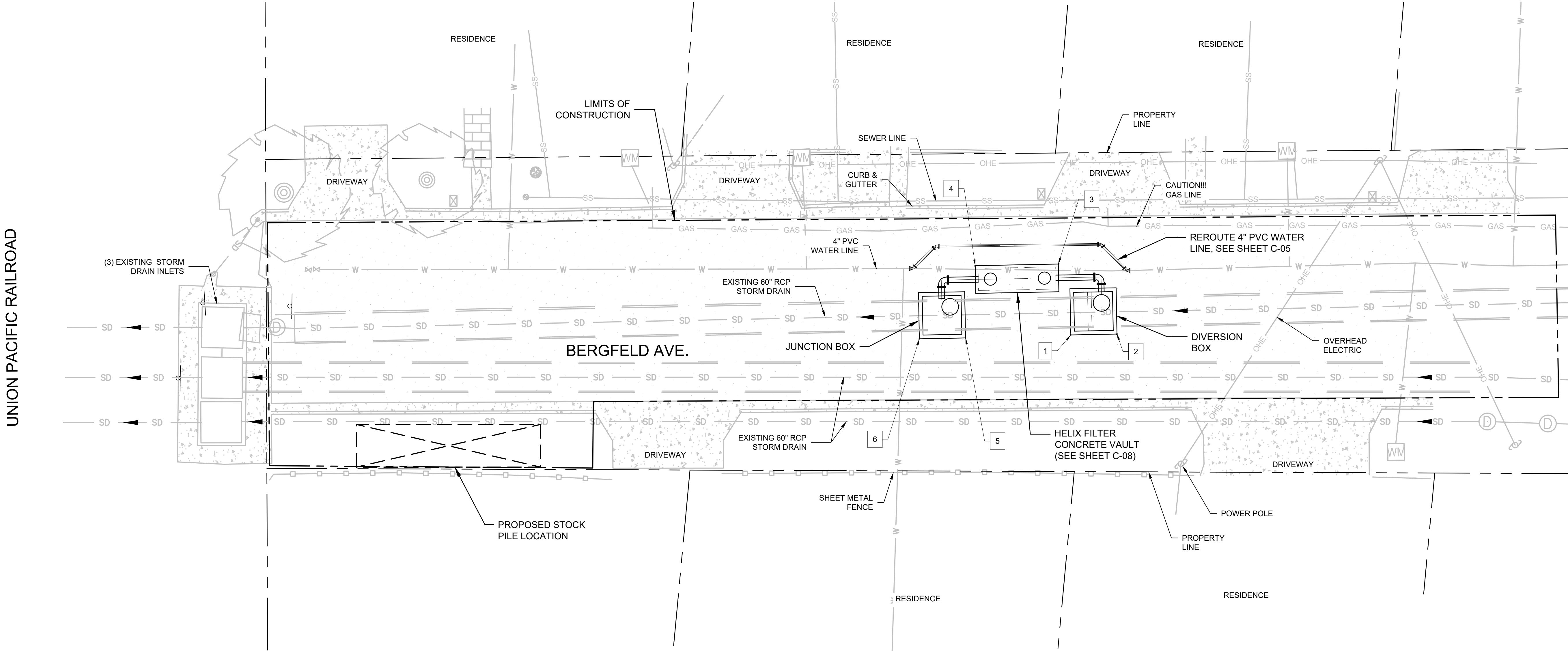
1. TITLE:

DRAINAGE AREAS AND CALCULATION POINTS

SCALE:  0 1
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UNREDUCED DRAWING

DRAWING NO.: G-07

HEET NO.: 7 OF 25

0 10' 20'
SCALE IN FEET

NOTES:

1. CONTRACTOR SHALL VERIFY ALL EXISTING PIPE CROSSINGS AT EACH PROPOSED PIPELINE AND/OR CROSSING AND SHALL RECORD ALL PIPE MATERIAL, INVERT ELEVATIONS AND CLEARANCES ON THE AS-BUILT DRAWINGS.
2. CONTRACTOR SHALL POTHOLE AND VERIFY ALL EXISTING PIPING MATERIALS AND INVERT ELEVATIONS AT POINT OF CONNECTIONS.
3. UNDERGROUND GAS, WATER, ELECTRIC, TELEPHONE, CHEMICAL AND OTHER UTILITIES MAY EXIST WITHIN THE WORK AREA. THE UTILITIES SHOWN ON THESE PLANS ARE APPROXIMATE AND FOR INFORMATION ONLY. THE CONTRACTOR SHALL BE RESPONSIBLE TO LOCATE UNDERGROUND UTILITIES BEFORE COMMENCING WORK RELATED ACTIVITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGE TO THE UTILITIES CAUSED BY THE CONTRACTOR'S OPERATION.
4. REFER TO SHEET C-04 FOR PLAN OF PROFILE OF THE DIVERSION AND JUNCTION BOXES.
5. CONTRACTOR TO PROVIDE CORRIDOR ACCESS TO RESIDENCE AT ALL TIMES.

SITE STRUCTURE POINT TABLE		
Point #	Northing	Easting
1	13798254.43	2239026.83
2	13798248.20	2239032.36
3	13798264.44	2239035.09
4	13798275.66	2239025.13
5	13798268.52	2239014.08
6	13798274.75	2239008.55

PROPOSED PROJECT LAYOUT AND DIMENSION CONTROL PLAN	
SCALE:	0 AS SHOWN
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DRAWING NO.:	C-01
SHEET NO.:	8 OF 25

STATUS:
FOR CONSTRUCTIONARCADIS
PROJECT NO.: 30193770

DATE: JULY 2024

DESIGNED BY: C.MARTIN

DRAWN BY: N.CANDELAS

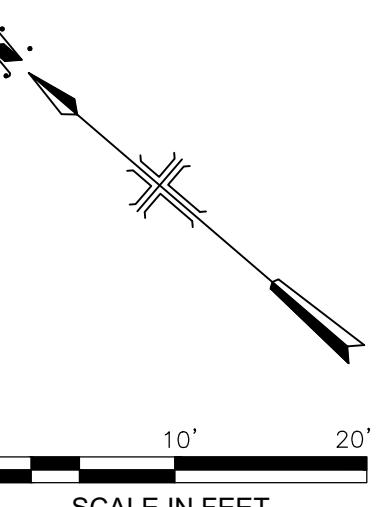
CHECKED BY: R.JENKINS

SHEET TITLE:

CIVIL

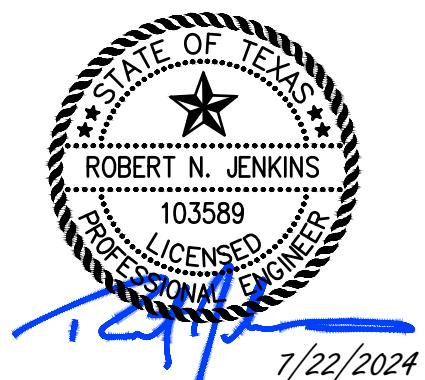
RELEVANT SPECIFICATIONS:

- TXDOT ITEM 100 - PREPARING RIGHT-OF-WAY
- TXDOT ITEM 502 - BARRICADES, SIGNS, AND TRAFFIC HANDLING
- TXDOT ITEM 508 - CONSTRUCTION DETOURS



SCALE IN FEET

DEALS:



 7/22/2024

CITY OF NEW BRAUNFELS



TRANSPORTATION & CAPITAL IMPROVEMENTS

BERGFELD AVENUE N-PIPE STORMWATER FILTRATION SYSTEM

REVISIONS

STATUS:
FOR CONSTRUCTION

RCADIS
PROJECT NO.: 30193770
DATE: JULY 2024
DESIGNED BY: C.MARTIN
DRAWN BY: N.CANDELAS
CHECKED BY: R. JENKINS

HEFT TITLE:

CIVIL

STORMWATER POLLUTION PRESERVATION PLAN

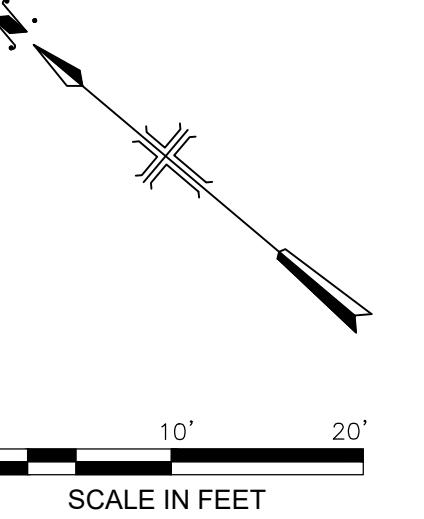
RELEVANT SPECIFICATIONS:

- TXDOT ITEM 506 - TEMPORARY EROSION, SEDIMENTATION AND ENVIRONMENTAL CONTROLS

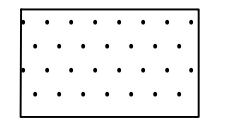
SCALE: 0 BAR IS ONE INCH C

DRAWING NO : C-02

PAGE NO. 9 OF 25



LEGEND:



ASPHALT

RELEVANT SPECIFICATIONS:

- TXDOT ITEM 216 - PROOF ROLLING
- TXDOT ITEM 300 - SURFACE COURSE AND PAVEMENTS
- TXDOT ITEM 302 - AGGREGATES FOR SURFACE TREATMENTS
- TXDOT ITEM 310 - PRIME COATING
- TXDOT ITEM 316 - SEAL COAT
- TXDOT ITEM 341 - DENSE-GRADED HOT-MIX ASPHALT

NOTE:

1. CONTRACTOR TO ENSURE APPROPRIATE MEASURES ARE TAKEN TO SAFEGUARD PROPERTY OWNERS IMPROVEMENTS BEYOND THE LIMITS OF CONSTRUCTION

STATUS:
FOR CONSTRUCTION

ARCADIS
PROJECT NO.: 30193770
DATE: JULY 2024
DESIGNED BY: C.MARTIN
DRAWN BY: N.CANDELAS
CHECKED BY: R.JENKINS

SHEET TITLE:

CIVIL

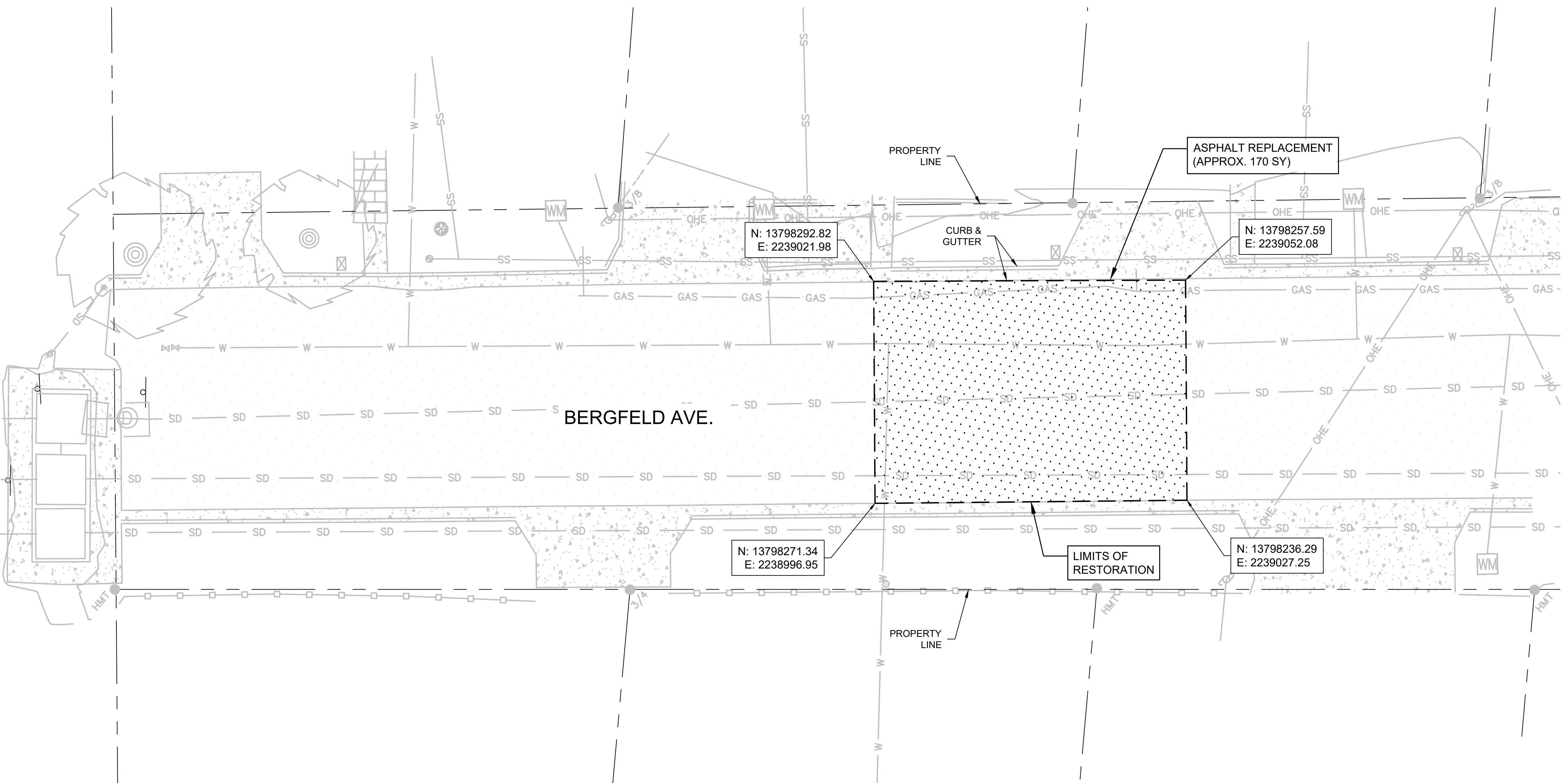
SITE
RESTORATION
PLAN

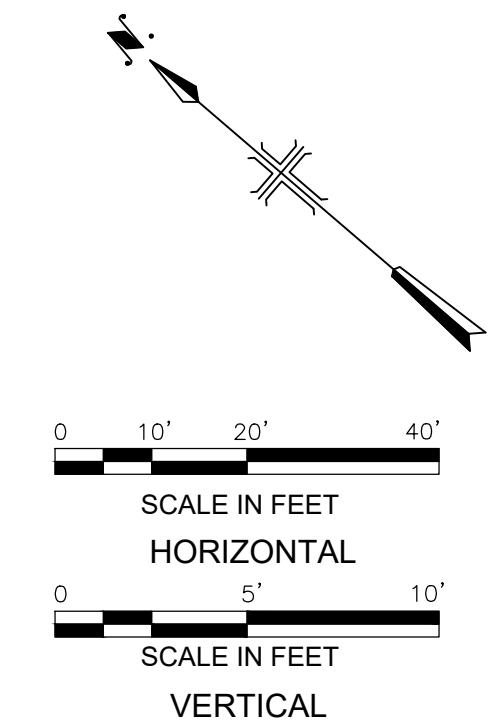
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UNREDUCED DRAWING

DRAWING NO.: C-03

SHEET NO.: 10 OF 25





NOTES:

1. CONTRACTOR SHALL VERIFY ALL EXISTING PIPE CROSSINGS AT EACH PROPOSED PIPELINE AND/OR CROSSING AND SHALL RECORD ALL PIPE MATERIAL, INVERT ELEVATIONS AND CLEARANCES ON THE AS-BUILT DRAWINGS.
2. CONTRACTOR SHALL POTHOLE AND VERIFY ALL EXISTING PIPING MATERIALS AND INVERT ELEVATIONS AT POINT OF CONNECTIONS.
3. UNDERGROUND GAS, WATER, ELECTRIC, TELEPHONE, CHEMICAL AND OTHER UTILITIES MAY EXIST WITHIN THE WORK AREA. THE UTILITIES SHOWN ON THESE PLANS ARE APPROXIMATE AND FOR INFORMATION ONLY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGE TO THE UTILITIES CAUSED BY THE CONTRACTOR'S OPERATION.
4. MEANS AND METHODS OF EXCAVATION ARE THE RESPONSIBILITY OF THE CONTRACTOR. SUBMIT EXCAVATION PLAN FOR REVIEW. IF SHORING WILL BE USED, PROVIDE SHORING PLAN SIGNED AND SEALED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF TEXAS.

CITY OF
NEW BRAUNFELSBERGFELD AVENUE
IN-PIPE STORMWATER
FILTRATION SYSTEM

REVISIONS
NO. DATE ISSUED FOR BY

RELEVANT SPECIFICATIONS:

- TXDOT ITEM 400 - STRUCTURES
- TXDOT ITEM 402 - TRENCH EXCAVATION PROTECTION
- TXDOT ITEM 464 - REINFORCED CONCRETE PIPE
- TXDOT ITEM 465 - JUNCTION BOXES, MANHOLES, AND INLETS
- TXDOT ITEM 471 - FRAMES, GRATES, RINGS, AND COVERS

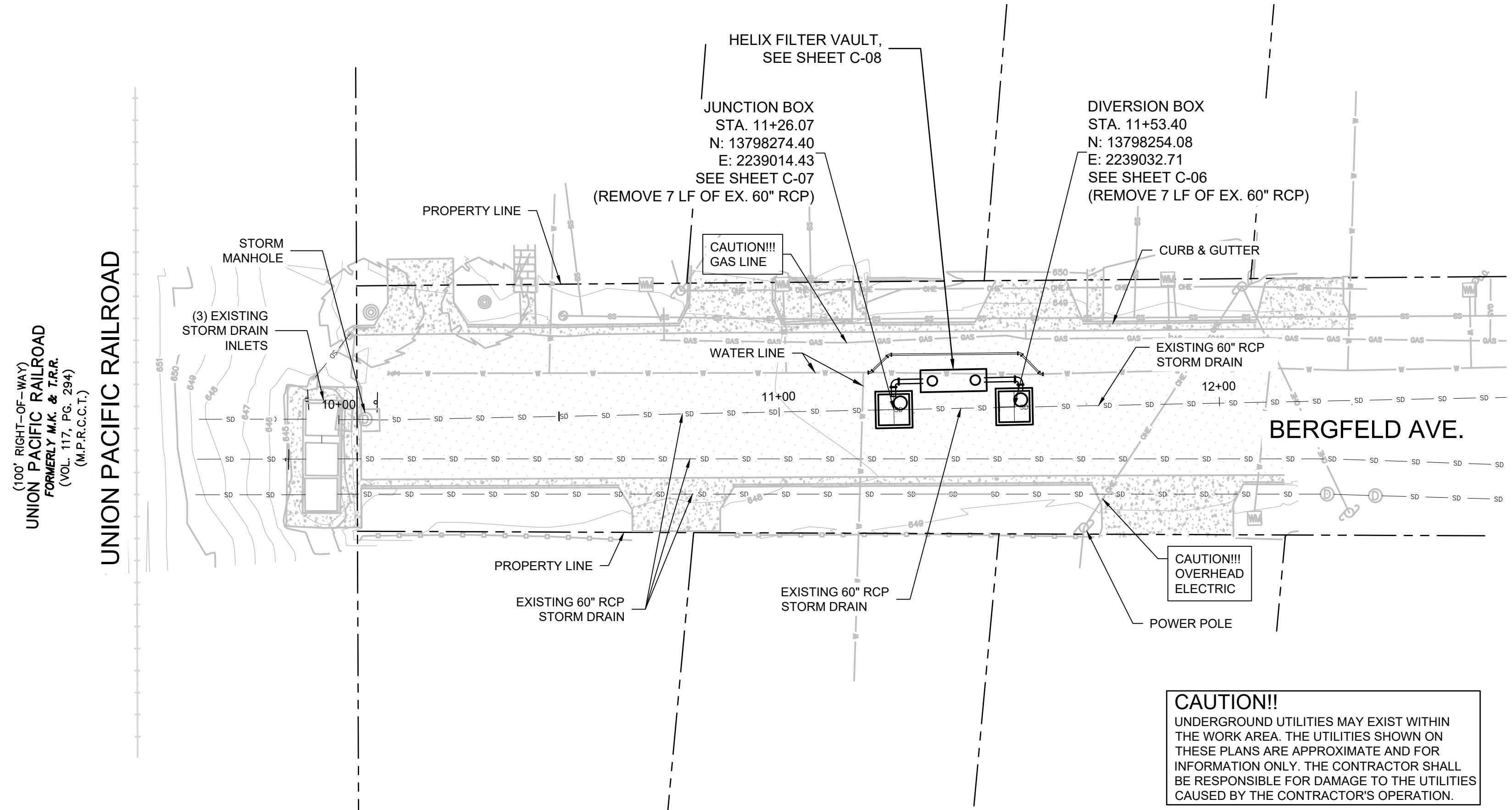
STATUS:
FOR CONSTRUCTION

ARCADIS PROJECT NO.:	30193770
DATE:	JULY 2024
DESIGNED BY:	C.MARTIN
DRAWN BY:	N.CANDELAS
CHECKED BY:	

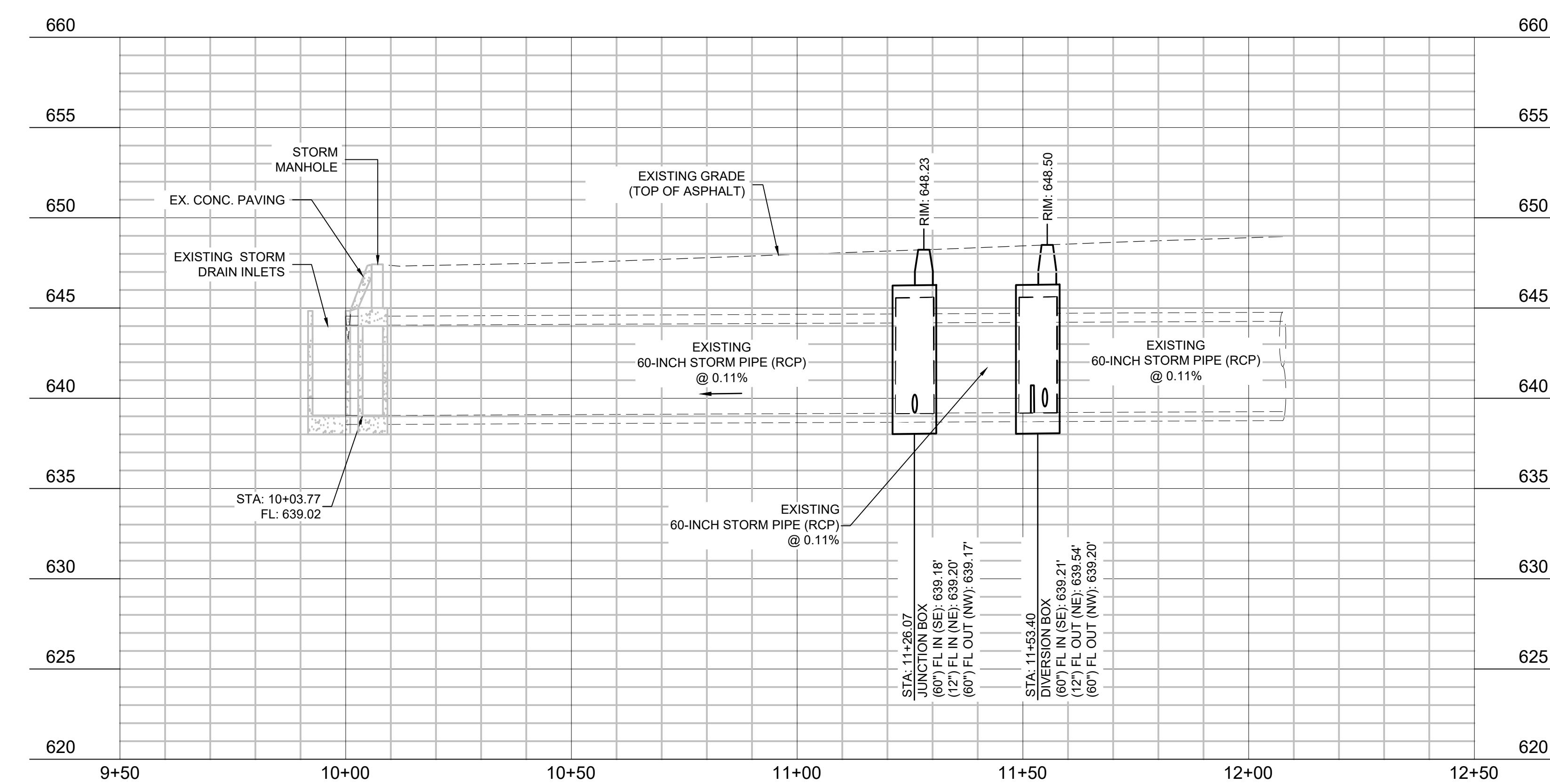
SHEET TITLE:
CIVILSTORM WATER
PLAN AND PROFILESCALE:
AS SHOWN
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UNREDUCED DRAWING

DRAWING NO.: C-04

SHEET NO.: 11 OF 25



PLAN



PROFILE

CITY OF
NEW BRAUNFELSBERGFELD AVENUE
IN-PIPE STORMWATER
FILTRATION SYSTEM

REVISIONS

NO. DATE ISSUED FOR BY

STATUS:
FOR CONSTRUCTIONARCADIS
PROJECT NO.: 30193770
DATE: JULY 2024
DESIGNED BY: C.MARTIN
DRAWN BY: N.CANDELAS
CHECKED BY: R.JENKINS

SHEET TITLE:

CIVIL

FLOW DIVERSION BOX
PLAN AND SECTIONSSCALE:
AS SHOWN
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UNREDUCED DRAWING

DRAWING NO.: C-06

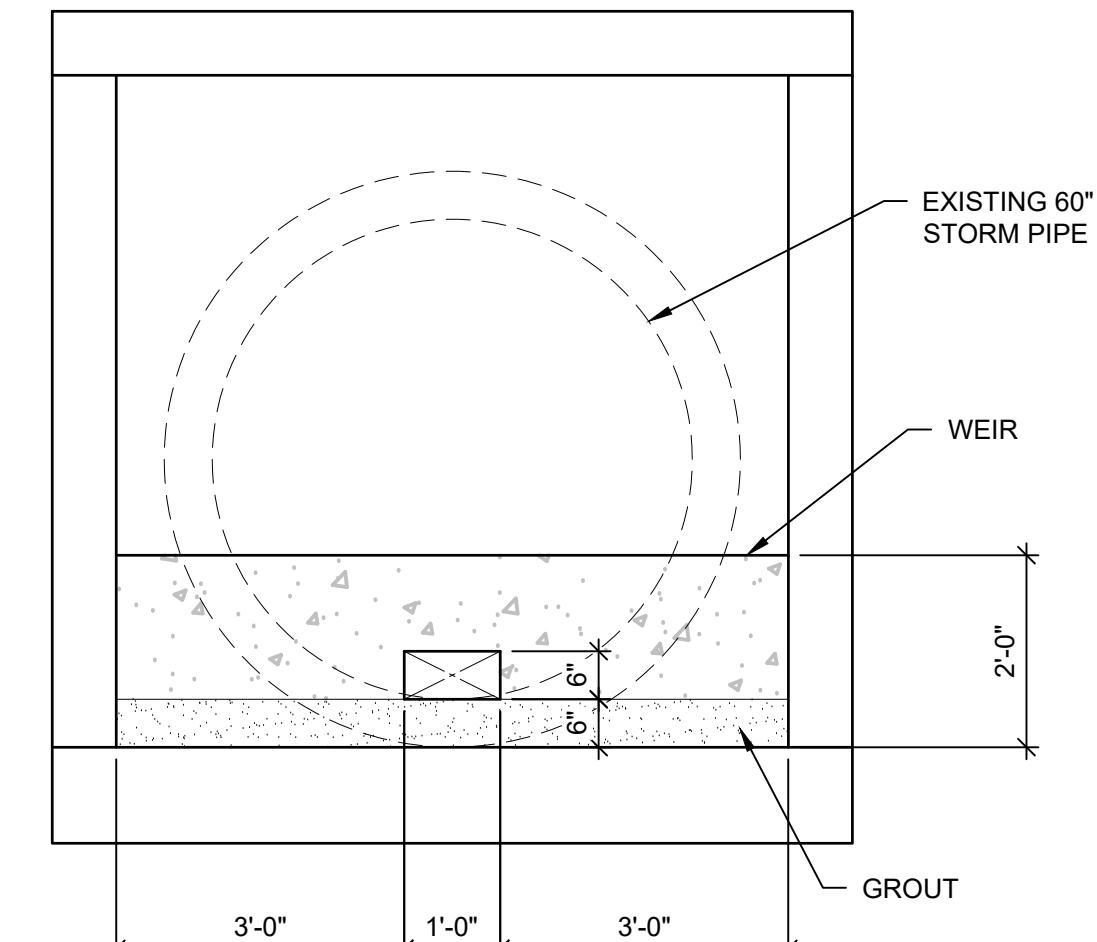
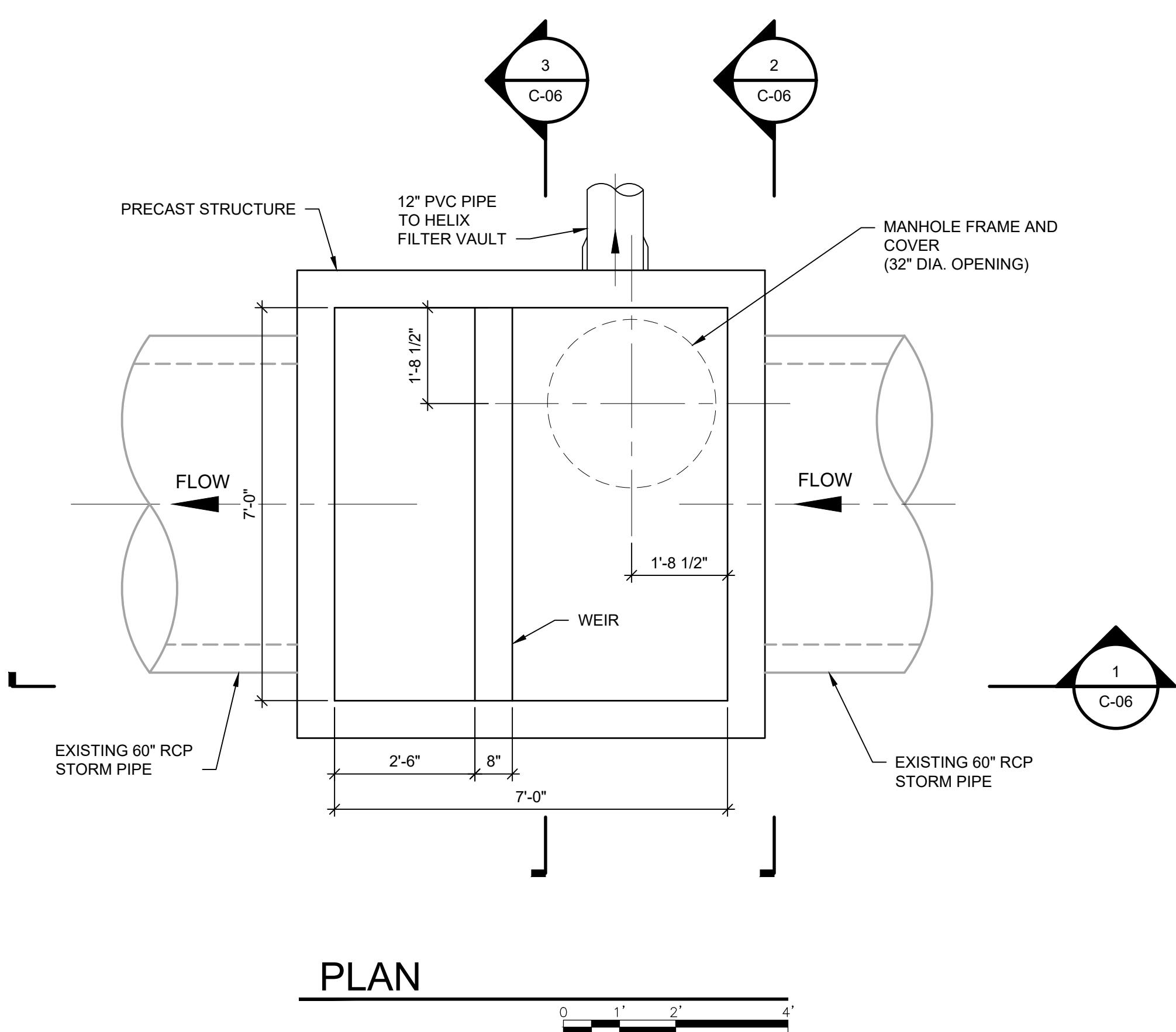
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NOTES:

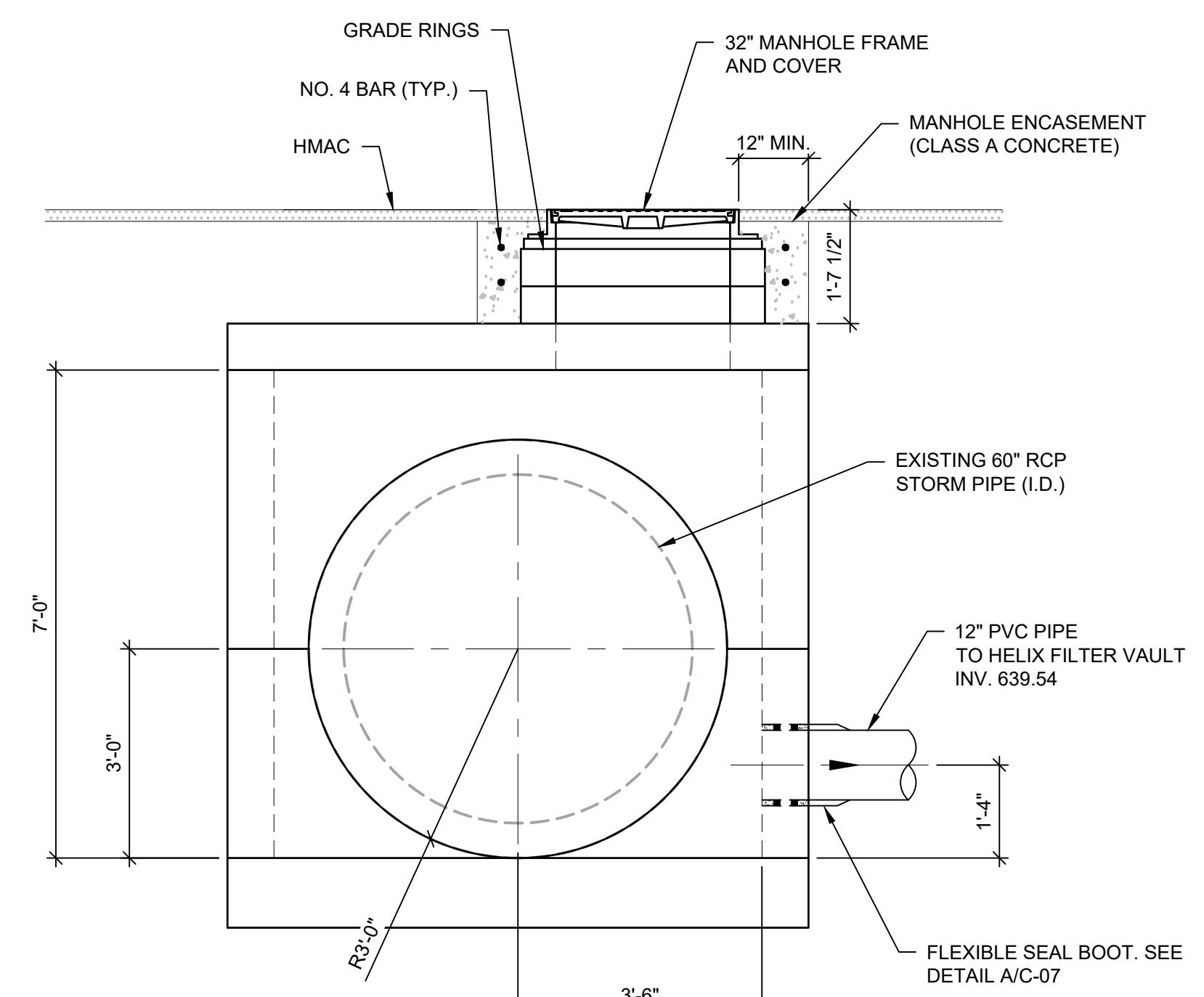
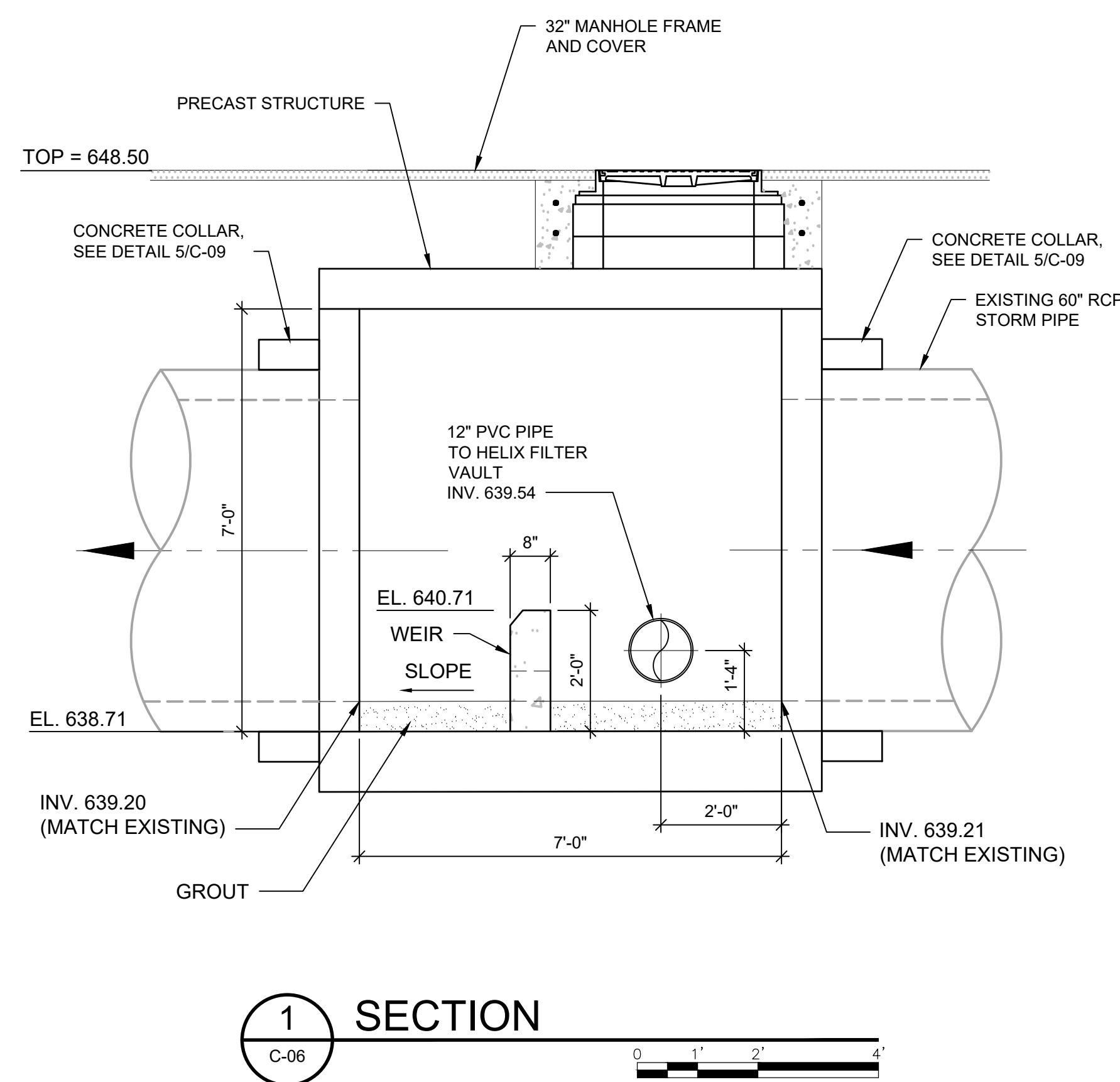
- CONTRACTOR SHALL FURNISH AND INSTALL PRECAST DIVERSION STRUCTURE MANUFACTURED IN ACCORDANCE WITH ASTM C-1577. CONTRACTOR SHALL RETAIN THE SERVICES OF A PROFESSIONAL ENGINEER LICENSE IN THE STATE OF TEXAS TO PREPARE DRAWINGS FOR THE DIVERSION STRUCTURE FOUNDATION. CONTRACTOR SHALL RETAIN THE SERVICES OF A GEOTECHNICAL ENGINEER LICENSED IN THE STATE OF TEXAS FOR GEOTECHNICAL INVESTIGATION FOR FOUNDATION DESIGN. CONTRACTOR SHALL SUBMIT ENGINEER SEALED FOUNDATION DRAWINGS AND GEOTECHNICAL REPORT FOR REVIEW BY ENGINEER AT LEAST 30 DAYS PRIOR TO CONSTRUCTION OF JUNCTION STRUCTURE.
- CONTRACTOR SHALL SUBMIT PRECAST MANUFACTURER'S SHOP DRAWINGS MINIMUM OF 30 DAYS PRIOR TO THE MANUFACTURE OF PRECAST SECTIONS FOR ENGINEERS REVIEW. SUBMITTALS SHALL INCLUDE DETAILS TO INCLUDE WALL REINFORCEMENT AND JOINT DETAILS. CONCRETE PIPE CONNECTIONS TO PRECAST STRUCTURES WILL BE REINFORCED CONCRETE COLLARS - AND PVC PIPE CONNECTIONS SHALL BE IN ACCORDANCE WITH ASTM C990. APPLICATION OF NON-SHRINK GROUT INSIDE JOINT OPENING PER MANUFACTURER RECOMMENDATIONS. PRELIMINARY JUNCTION STRUCTURE DESIGN LOADS ARE AS FOLLOW:
 - A. DL=50 PSF
 - B. LL=150 PSF
 - C. JUNCTION EMPTY AND FULL W/ WATER (BOTH CONDITIONS)

RELEVANT SPECIFICATIONS (JUNCTION BOXES):

- TXDOT ITEM 402 - TRENCH EXCAVATION PROTECTION
- TXDOT ITEM 465 - JUNCTION BOXES, MANHOLES, AND INLETS



SECTION



SECTION

NOTES:

1.0 WEIGHT ESTIMATE:

- 1.1 COVER: 6,000 - LB (3.0 TONS)
- 1.2 BASE: 29,000 - LB (14.5 TONS)

2.0 VAULT:

- 2.1 REINFORCEMENT STEEL: ASTM A-615 OR EQUIVALENT.
- 2.2 CONCRETE MATERIALS:

THE CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 28 MPa AT THE END OF 28 DAYS.
- 2.3 ACCESS MANHOLES: ASTM-A-48, CLASS 35B GRAY IRON OR ASTM A536, GRADE 80-55-06 DUCTILE IRON.
- 2.4 FILTER HOUSING: HDPE CORRUGATED PIPE, 30-IN DIA.
- 2.5 HELICAL FILTER ELEMENTS: CRS WIRE FRAME WITH TREATED T20 FOAM COVERS.

3.0 CONCRETE STRUCTURE DESIGNED TO MEET OR EXCEED H-20 LOAD RATING

4.0 PERFORMANCE CHARACTERISTICS (REF):

- 4.1 TREATED FLOW RATE: 3 CFS (1350 GPM)
- 4.2 BYPASS FLOW RATE: 13 CFS (5800 GPM)

5.0 ACCESS MANHOLES ARE SUPPLIED SEPARATELY WITH THE HELIX VAULT. EAST JORDAN IRON WORKS, EJIW #1581 & EJIW #1480 CASTINGS ARE RECOMMENDED FOR REPEATED VEHICULAR TRAFFIC AND CONFORM TO AASHTO M306 STANDARDS. FINAL MANHOLE CASTING INSTALLATION, AND ADJUSTMENT TO GRADE, SHALL BE PERFORMED BY QUALIFIED PERSONNEL. GRADE RINGS ARE NOT SUPPLIED AND ARE THE RESPONSIBILITY OF THE CONTRACTOR.

6.0 OFFLOADING, EXCAVATION, DEWATERING, DRAINAGE FILL, AND BACKFILL OPERATIONS SHALL BE PERFORMED IN ACCORDANCE WITH OSHA AND LOCAL REGULATIONS AND ARE THE RESPONSIBILITY OF THE CONTRACTOR. SUB-BASE AND BACK-FILL DEPTH ARE SITE SPECIFIC AND SHALL BE SPECIFIED BY THE ENGINEER OF RECORD.

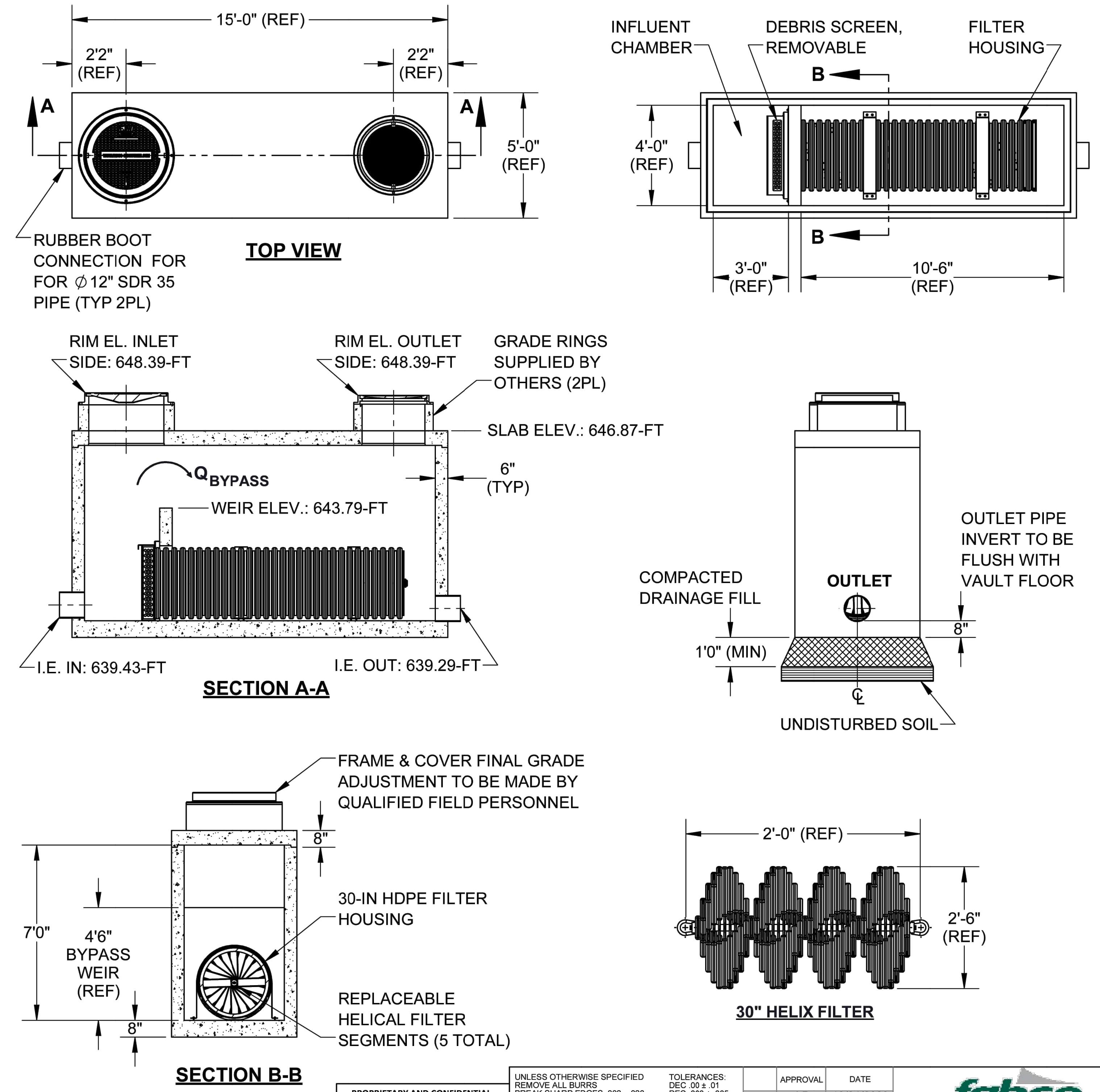
7.0 THE CONTRACTOR SHALL VERIFY THAT THE UNIT IS VERTICALLY AND HORIZONTALLY PLUMB AND STABLE, WITH MINIMUM VOIDS AND MINIMUM UN-COMPACTED SOIL AFTER BACK FILL OPERATION.

8.0 IF REQUIRED, REMOVE SKIN-KNOCKOUT FROM VAULT, CONNECT THE EXISTING PIPE TO THE VAULT INLET AND OUTLET PORTS WITH APPROVED NON-SHRINKING GROUT-FILL IN ACCORDANCE WITH MANUFACTURERS INSTRUCTION. HELIX VAULT "INLET" AND "OUTLET" PORTS ARE CLEARLY LABELED WITH BLACK PAINT. EXISTING INLET/OUTLET PIPE TO BE ALIGNED FLUSH WITH RESPECTIVE INTERIOR VAULT WALLS.

9.0 MAINTENANCE AND HELICAL FILTER REPLACEMENT INSTRUCTIONS ARE PROVIDED SEPARATELY AND ARE SITE SPECIFIC.

10.0 HELICAL FILTER REPLACEMENT (IN GENERAL):

FOR BEST PERFORMANCE REPLACE HELICAL FILTERS IAW FABCO RECOMMENDATIONS. HIGH CONTAMINANT LOCATIONS MAY REQUIRE MORE FREQUENT FILTER REPLACEMENT. REMOVE ANY DEBRIS OR HEAVY SEDIMENT FROM THE INFLUENT CHAMBER. REMOVE THE INLET DIFFUSER AND SLIDE EACH HELICAL FILTER SEGMENT OUT OF THE FILTER HOUSING. INSERT THE REPLACEMENT HELICAL FILTERS. EACH HOUSING REQUIRES FIVE (5) HELICAL FILTER SEGMENTS, DISPOSE OF USED FILTER MEDIA IN ACCORDANCE WITH LOCAL REGULATION.



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PROJECT	NEW BRAUNFELS, TX			DWN	J.P.
MATERIAL		CHKR			
		ENGR	J.P.	12/21/2023	
		UPD			
 HELIX BACTERIA VAULT SINGLE TUBE					
SIZE	DWG. NO.	REV C			
B	VHB30-1.1-000	C			
SCALE: NONE			SHEET 1 OF 1		

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5 OTHERWISE SPECIFIED
6 ALL BURRS
7 SHARP EDGES .002 - .020
8 .020 MAX
9 SIONS ARE IN INCHES AND
0 BE CHEMICALLY APPLIED
1 TED FINISHES

2 CT NEW BRAUNFELS, TX

3 IAL

APPROVAL	DATE	
DWN	J.P.	12/21/2023
CHKR		
ENGR	J.P.	12/21/2023
UPD		

FABCO INDUSTRIES, INC. 24 CENTRAL DRIVE FARMINGDALE, NY 11735 WWW.FABCO-INDUSTRIES.COM		
HELIX BACTERIA VAULT SINGLE TUBE		
SIZE	DWG. NO.	REV
B	VHB30-1.1-000	C
SCALE	NONE	Sheet 1 of 1

SCALE:
AS SHOWN



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BAR IS ONE INCH ON
UNREDUCED DRAWING

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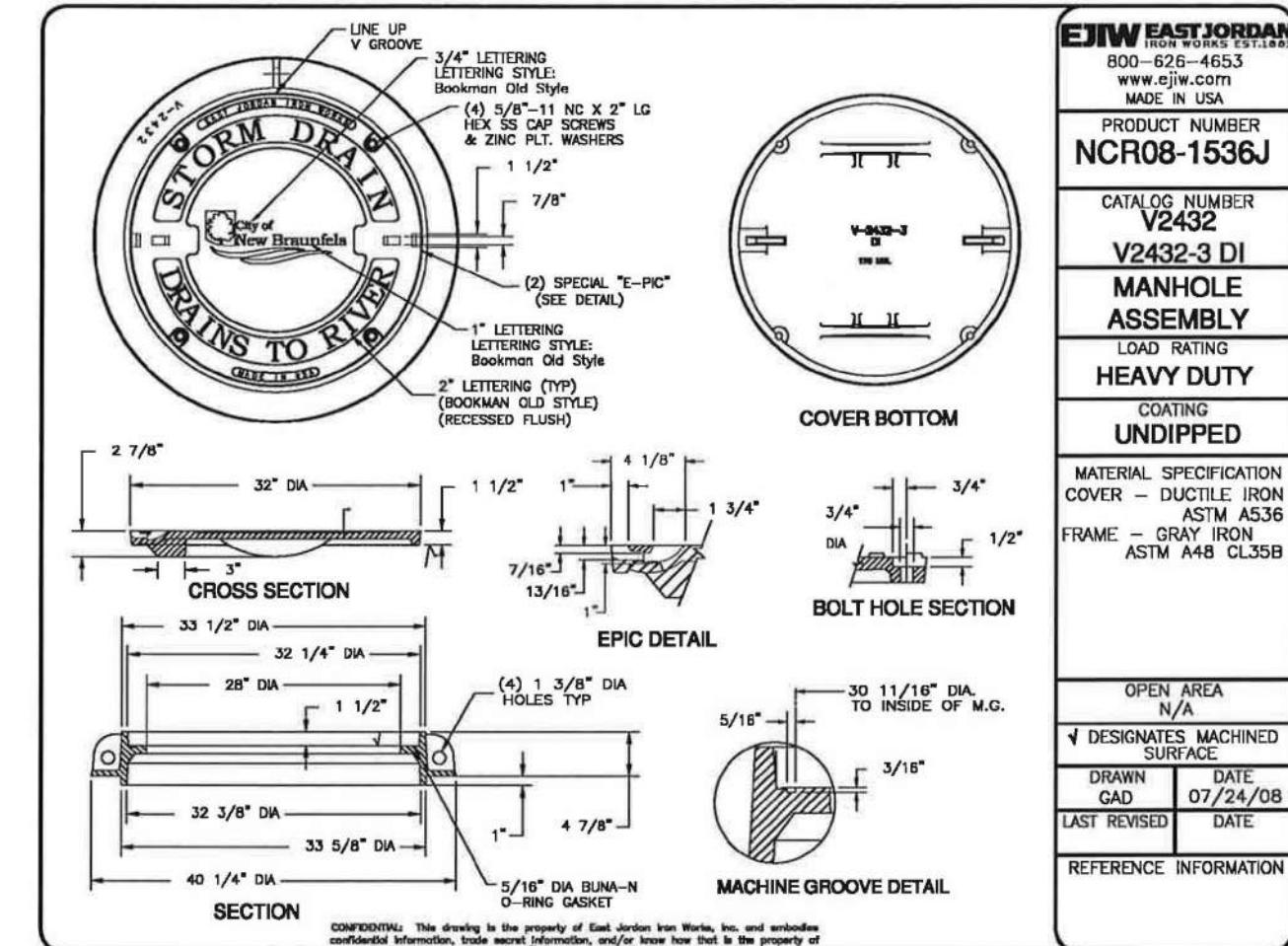
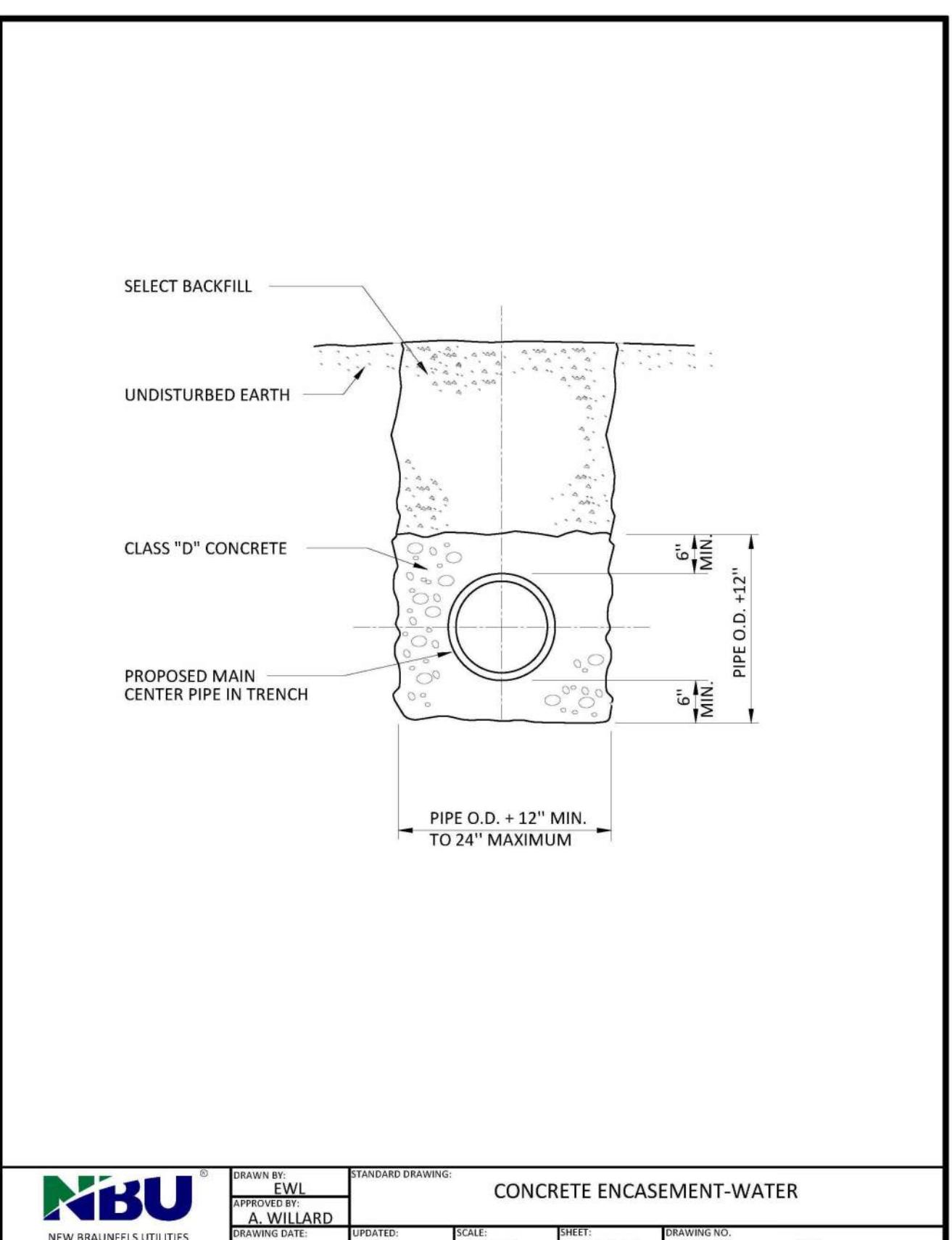
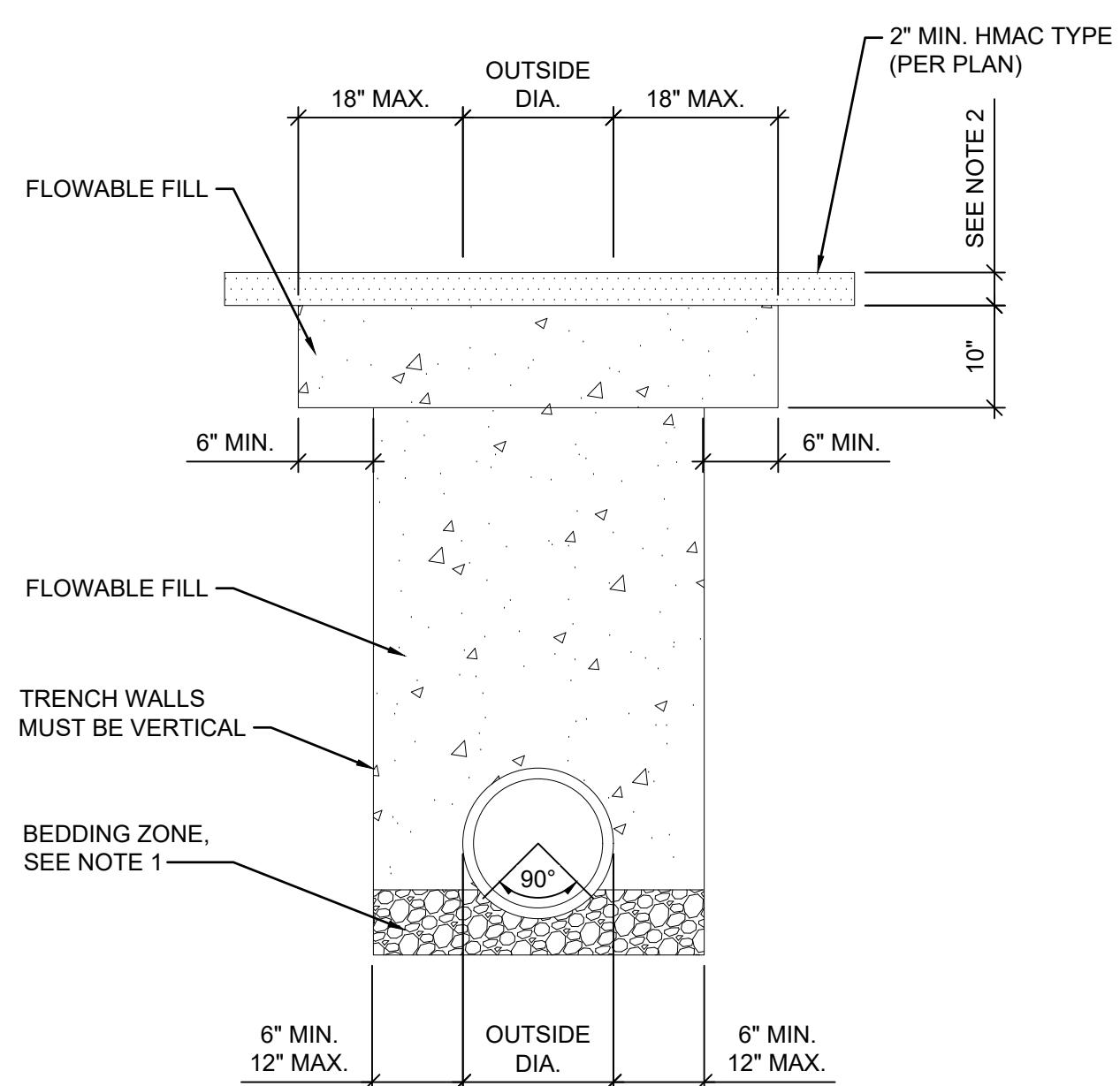
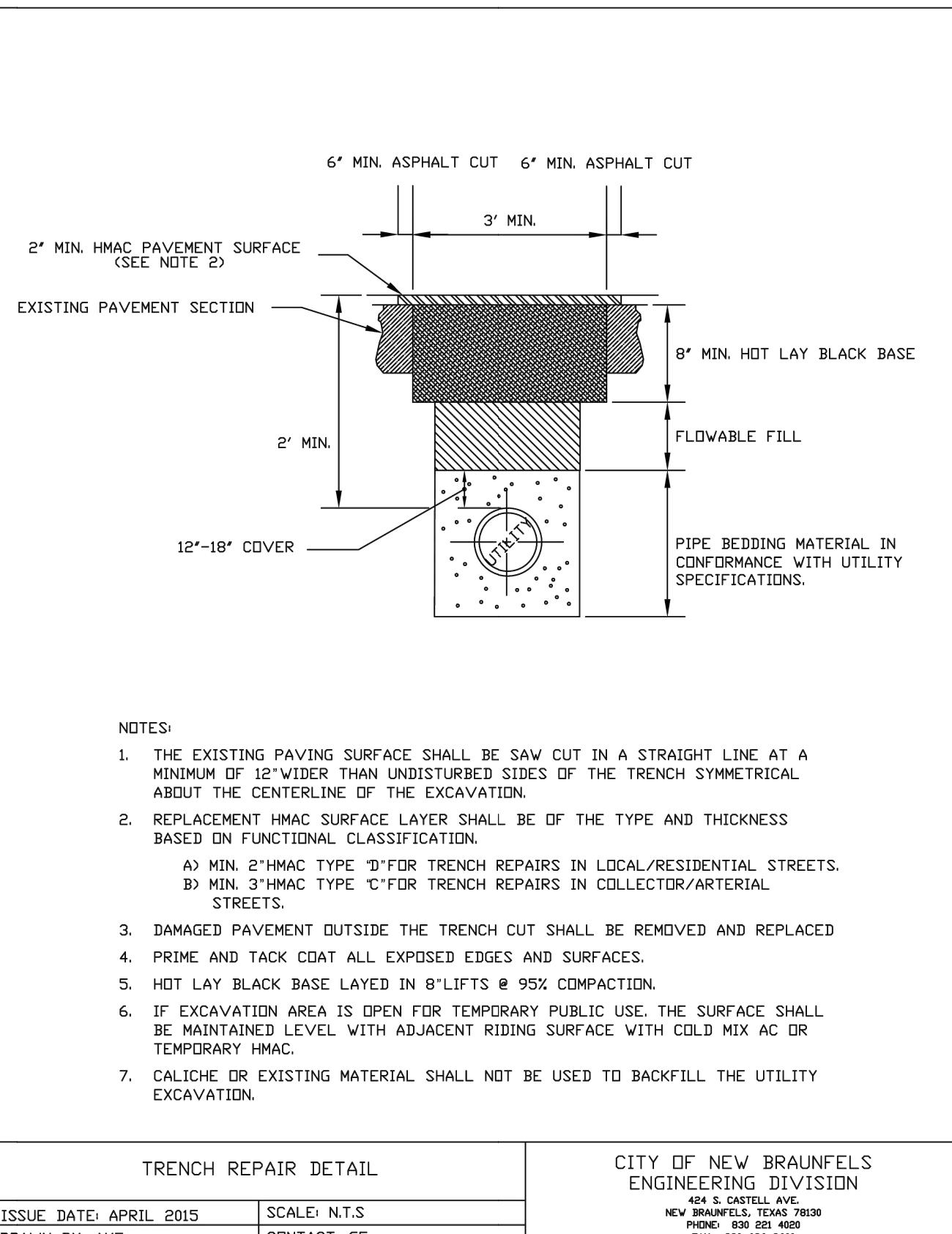
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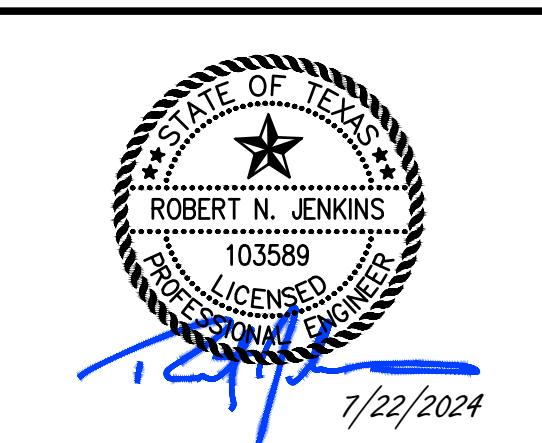
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CITY OF
NEW BRAUNFELS



TRANSPORTATION & CAPITAL IMPROVEMENTS

BERGFELD AVENUE N-PIPE STORMWATER FILTRATION SYSTEM

REVIEWS

STATUS:
FOR CONSTRUCTION

RCADIS
PROJECT NO.: 30193770

DATE: JULY 2024

DESIGNED BY: C.MARTIN

DRAWN BY: N.CANDELAS

CHECKED BY: R.JENKINS

五

CIVII

SW/PPP DETAILS

SWPPP DETAILS

SCALE:
AS SHOWN

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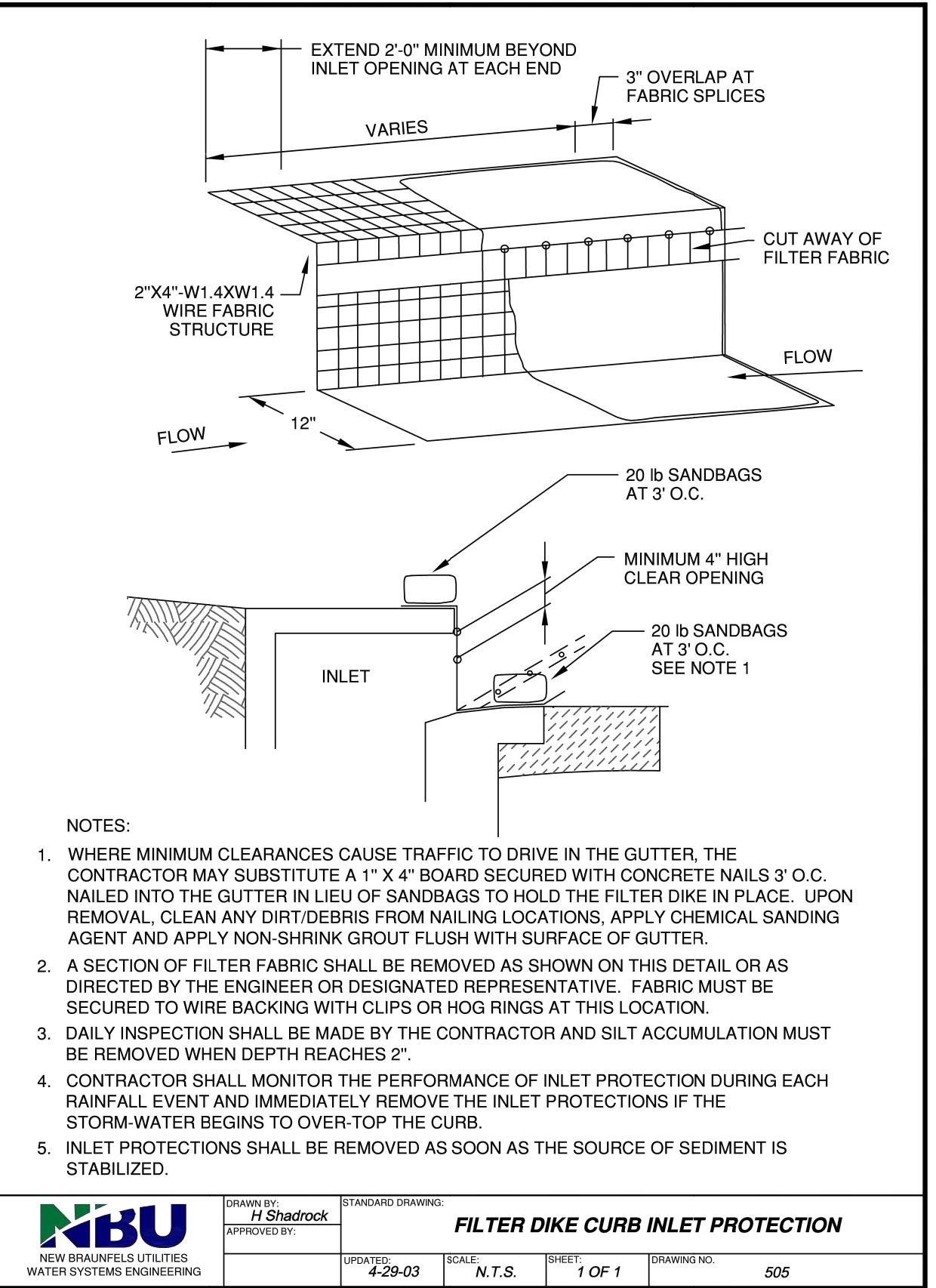
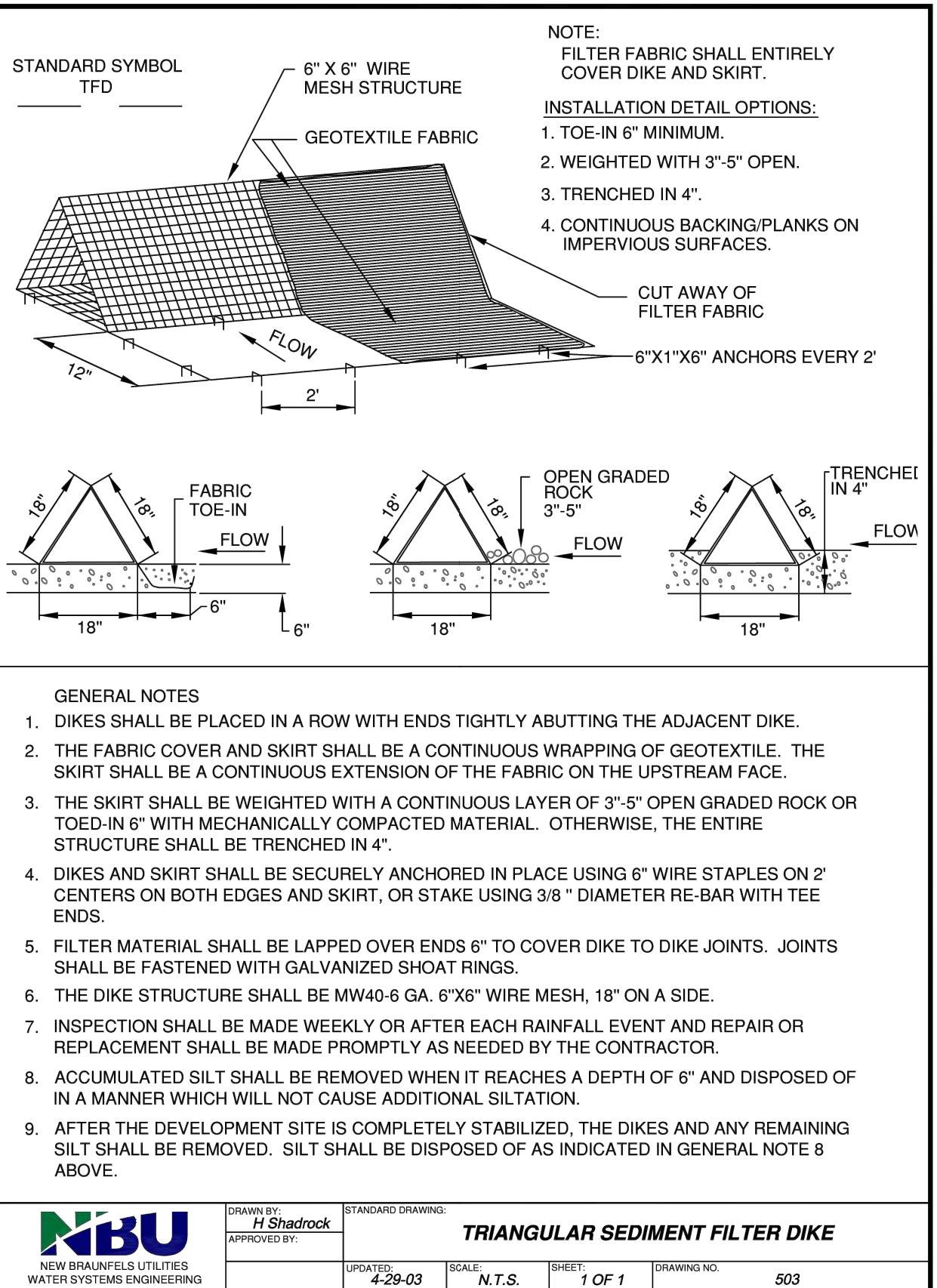
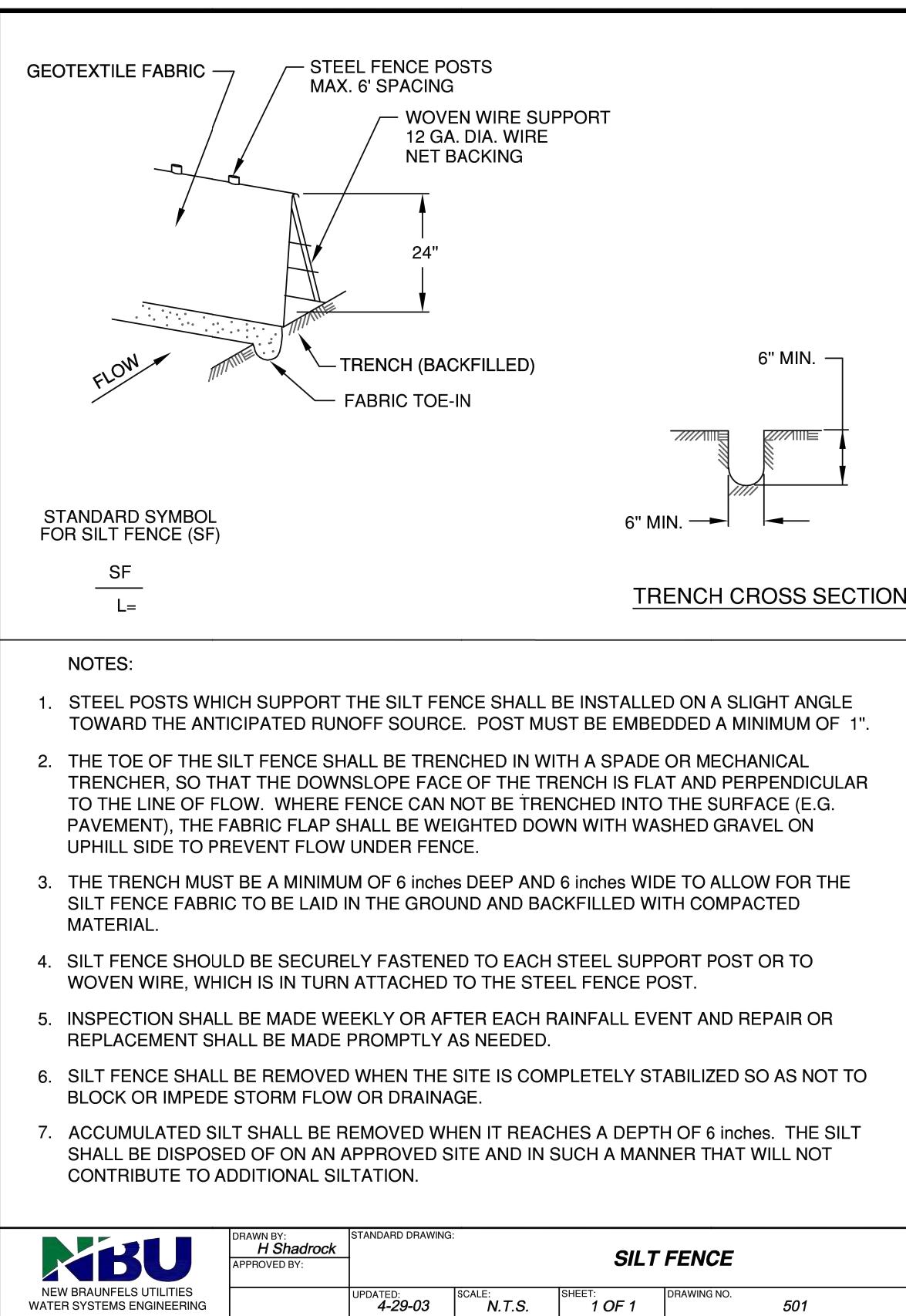
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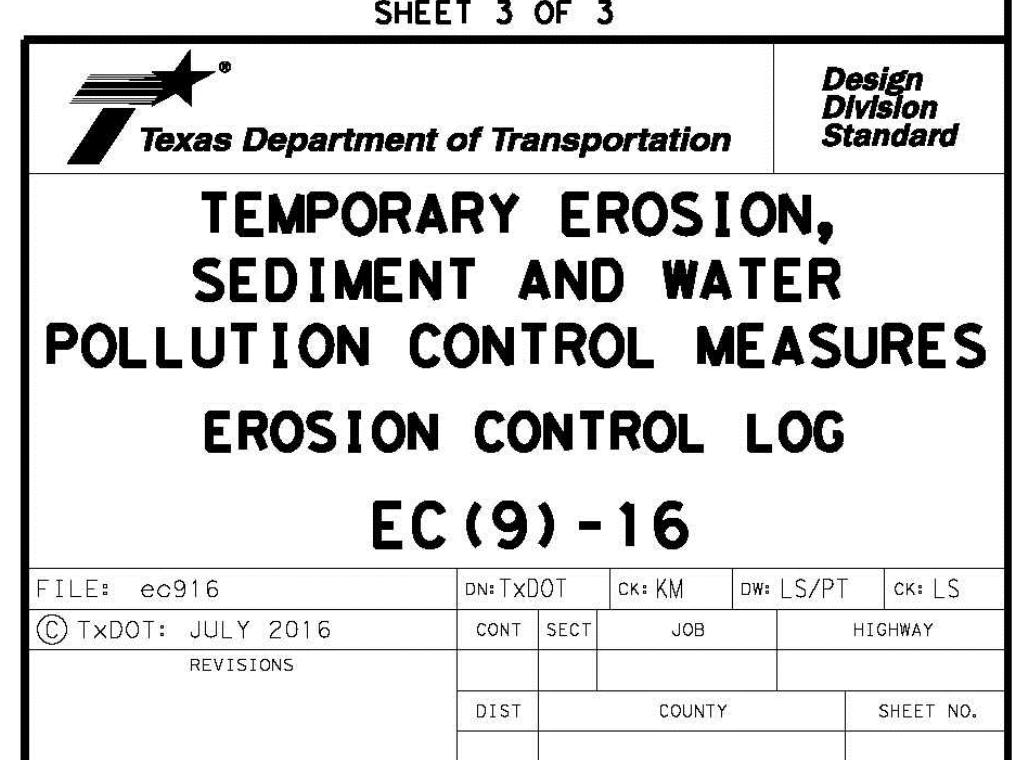
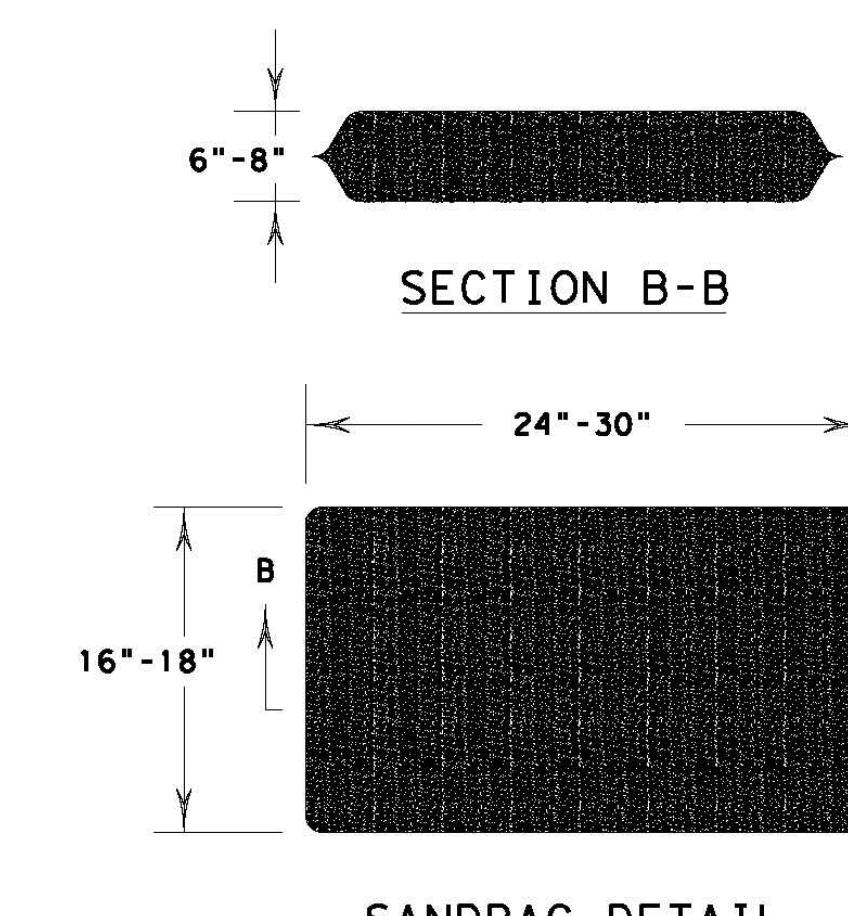
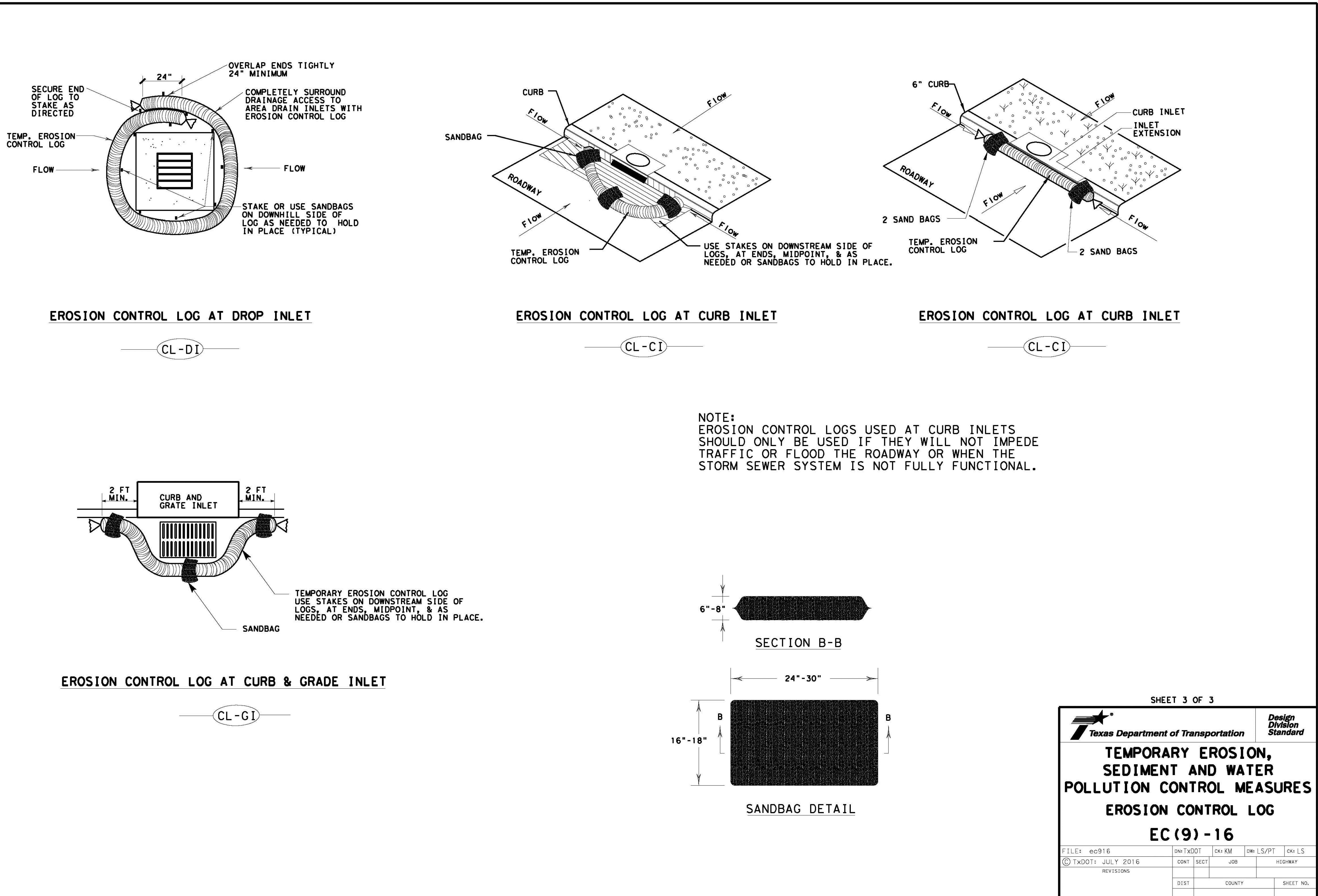
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DATE:



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CITY OF NEW BRAUNFELS



TRANSPORTATION & CAPITAL IMPROVEMENTS

BERGFELD AVENUE IN-PIPE STORMWATER FILTRATION SYSTEM

REVISIONS

Speed MPH	Formula	Minimum Desirable Taper Lengths **			Suggested Maximum Spacing of Channelizing Devices	
		10' Offset	11' Offset	12' Offset	On a Taper	On a Tangent
30	$L = \frac{WS^2}{60}$	150'	165'	180'	30'	60'
35		205'	225'	245'	35'	70'
40		265'	295'	320'	40'	80'
45		450'	495'	540'	45'	90'
50		500'	550'	600'	50'	100'
55		550'	605'	660'	55'	110'
60		600'	660'	720'	60'	120'
65		650'	715'	780'	65'	130'
70		700'	770'	840'	70'	140'
75		750'	825'	900'	75'	150'
80		800'	880'	960'	80'	160'

** Taper lengths have been rounded off.
-Length of Taper (FT.) W=Width of Offset (FT.)
-Reated Speed (MPH)

SUGGESTED MAXIMUM SPACING OF
CHANNELIZING DEVICES AND
MINIMUM DESIRABLE TAPER LENGTHS

PAGE 9 OF 12



BARRICADE AND CONSTRUCTION CHANNELIZING DEVICES

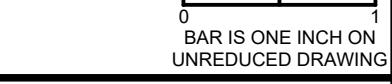
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(C) TxDOT November 2002		CONT	SECT	JOB		HIGHWAY			
REVISIONS									
9-07	8-14	DIST	COUNTY				SHEET NO.		
7-13	5-21								

NOTE:

SPECIFICATIONS TO BE FOLLOWED TXDOT 510 (ONE WAY TRAFFIC CONTROL).

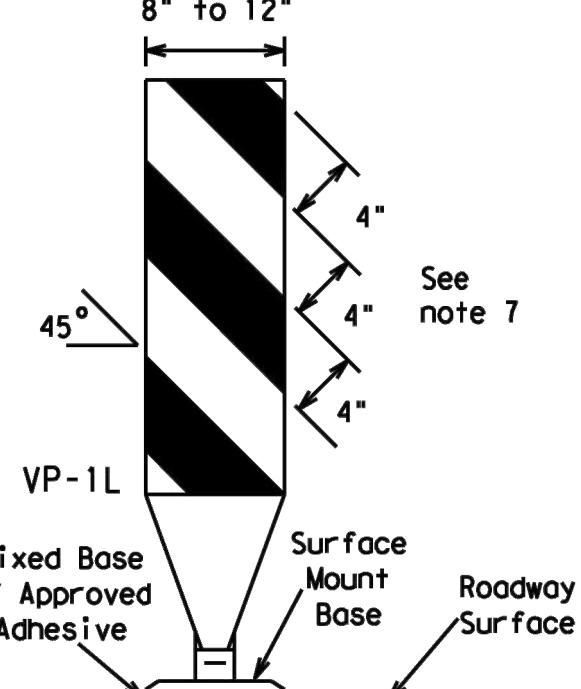
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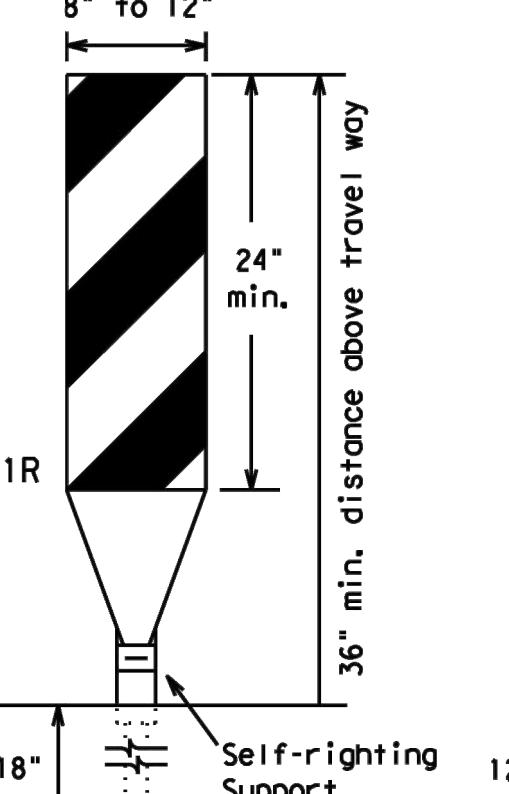
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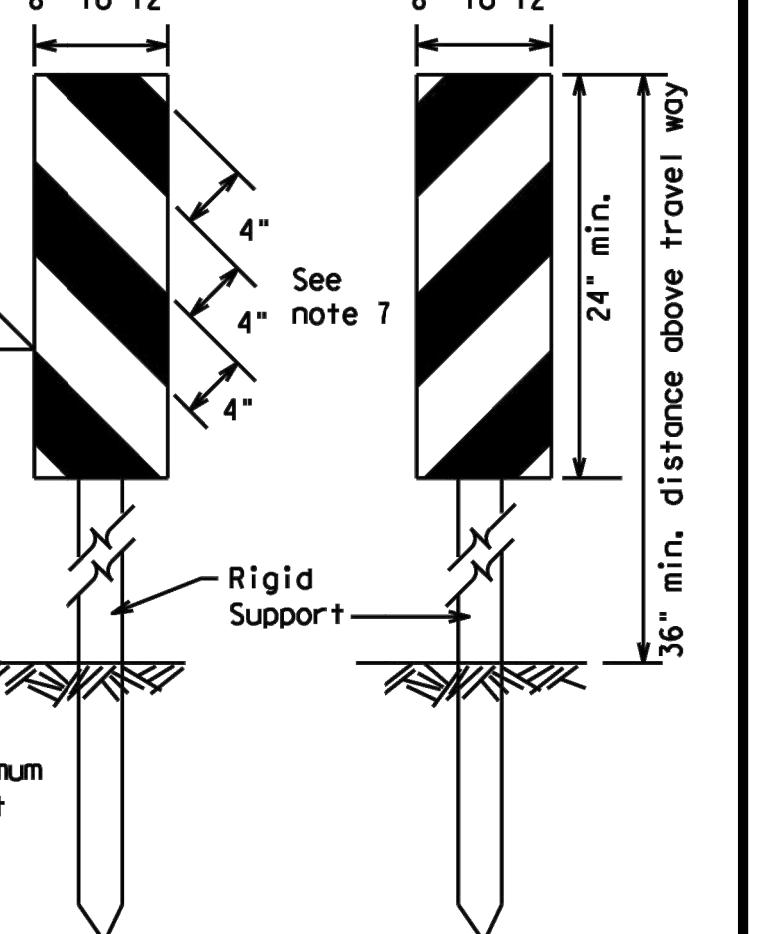
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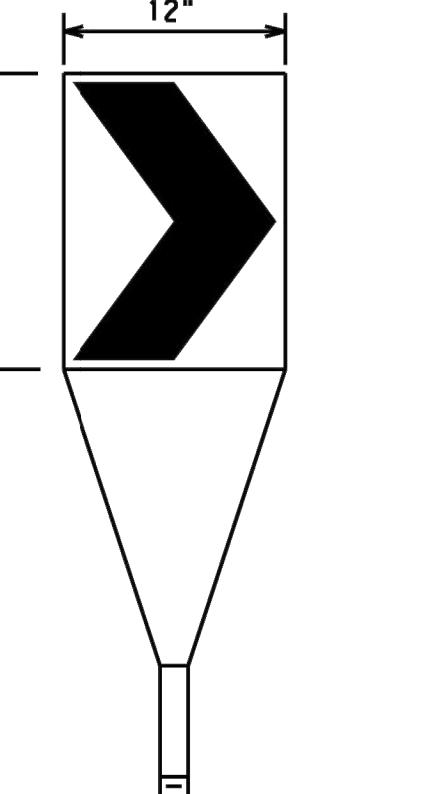
VP-1L
Fixed Base w/ Approved Adhesive
Surface Mount Base
Roadway Surface



VP-1R
Self-righting Support
18"
36" min. distance above travel way



45°
See note 7
Rigid Support
12" minimum embedment depth
36" min. distance above travel way



12"
18" Min.
36"
Fixed Base w/ Approved Adhesive
(Driveable Base, or Flexible Support can be used)

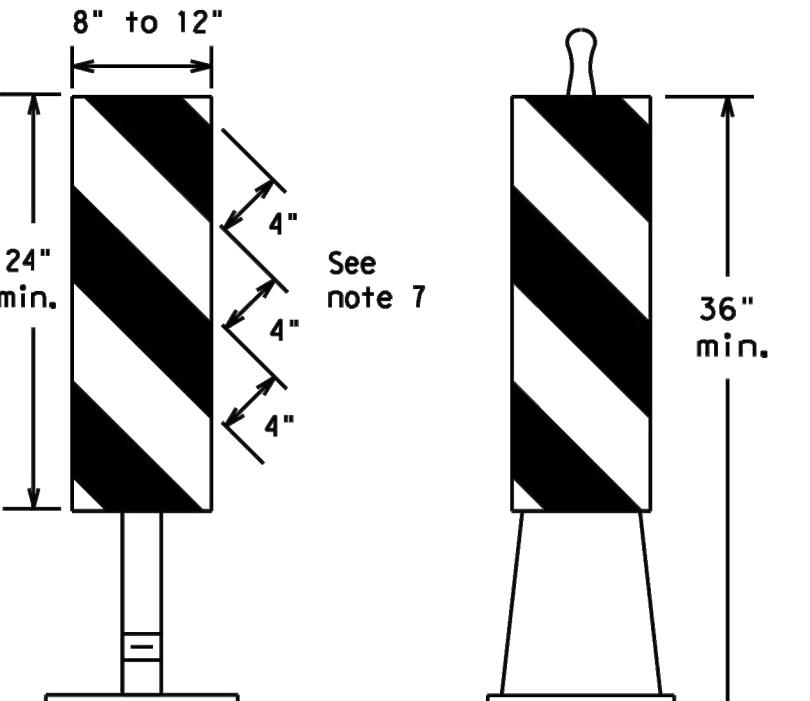
GENERAL NOTE

1. Work Zone changes in close proximity to speed roadways placement is controlled by Traffic Control Devices.
2. Channelizing devices are to be portable bases.
3. Channelizing devices are to be used in areas where drivers or vehicle operators are difficult to see, where in the presence of "Compliant Work Zone Traffic Control Devices" (CWZTCD).
4. The Contractor shall repair any damaged, nonreflective, or nonconforming to the Engineer/Inspector's device spacing.
5. Portable bases are to be used for portable bases.
6. Pavement surface treatments between the areas of Adhesives shall be recommended.
7. The installation of devices shall not be detrimental to the surface discoloration is not permitted on all applications.

FIXED
(Rigid or self-righting)

DRIVEABLE

CHEVRONS

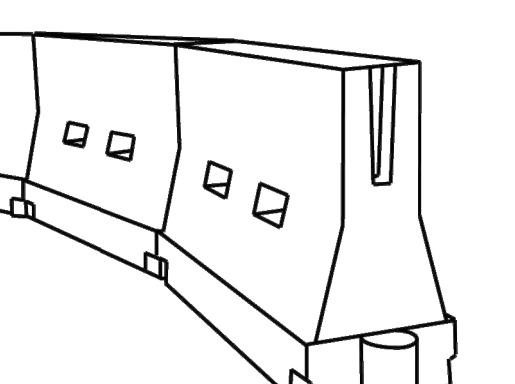


24" min.
36" min.
(Rigid or self-righting)

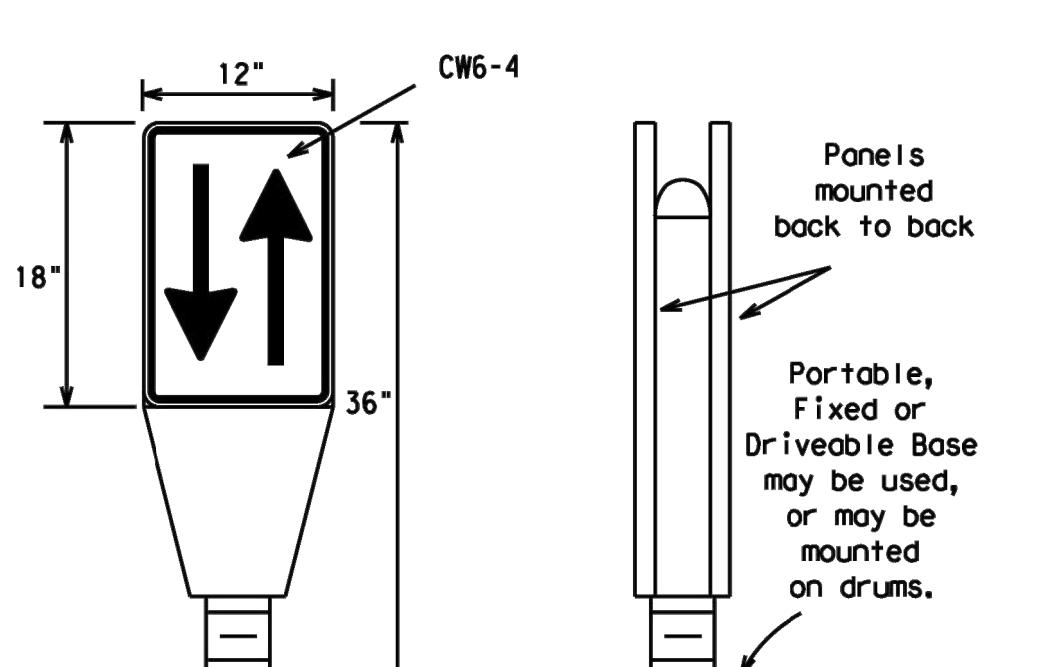
PORTABLE

VERTICAL PANELS (VPs)

LONGITUDINAL CHANNELIZING DEVICES (LCD)



OPPOSING TRAFFIC LANE DIVIDERS (OTLD)



CW6-4
12"
18"
36"
Panels mounted back to back
Portable, Fixed or Driveable Base may be used, or may be mounted on drums.

WATER BALLASTED SYSTEMS USED AS BARRIERS

1. Opposing Traffic Lane Dividers (OTLD) are delineation devices designed to convert a normal one-way roadway section to two-way operation. OTLD's are used on temporary centerlines. The upward and downward arrows on the sign's face indicate the direction of traffic on either side of the divider. The base is secured to the pavement with an adhesive or rubber weight to minimize movement caused by a vehicle impact or wind gust.
2. The OTLD may be used in combination with 42" cones or VPs.
3. Spacing between the OTLD shall not exceed 500 feet. 42" cones or VPs placed between the OTLD's should not exceed 100 foot spacing.
4. The OTLD shall be orange with a black non-reflective legend. Sheeting for the OTLD shall be retroreflective Type B_{FL} or Type C_{FL} conforming to Departmental Material Specification DMS-8300, unless noted otherwise. The legend shall meet the requirements of DMS-8300.

OPOSING TRAFFIC LANE DIVIDERS (OTLD)

LONGITUDINAL CHANNELIZING DEVICES OR BARRIERS

If used to channelize pedestrians, longitudinal channelizing devices or water ballasted systems must have a continuous detectable bottom for users of long canes and the top of the unit shall not be less than 32 inches in height.

