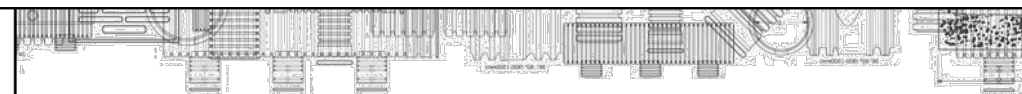


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LIST OF REVISIONS: (4/25/2025)





INSTALLATION GUIDE

DURASLOT® Pipe Installation for Stormwater Drainage

DURASLOT® Surface Drains are manufactured to meet AASHTO M252, AASHTO M294 or ASTM F230. It is made from a flexible conduit, which is designed to attain its structural strength utilizing ring compression derived from soil pressure. For this to occur, a minimum height of cover is required. Since this is not possible, the drain must be backfilled with concrete to allow it to accept vehicular traffic. This is true of any pipe with an inlet mounted on top to form this type of surface drain. The pipe cannot function in the manner for which it was designed when it is installed this close to the surface. The concrete-filled trench provides the actual structure for this type of design.

Following are some of the most often utilized installation details for DURASLOT® surface drains:

(A) **Heavy Traffic** - surrounded by concrete for critical loading applications. This would include frequent high-speed HS-20 traffic, such as a highway. The dimensions 'S' is generally 3" to 6" depending on the specific conditions for the project (design layout, traffic patterns, soil properties, etc.)

HEAVY TRAFFIC CONDITION

(B) **Moderate Traffic** - surrounded by concrete to below the center of the pipe. This type of installation has been used when traffic loads are not as heavy (i.e., retail parking lots, against curbs, etc.). The soil below the pipe and concrete must be high quality and well compacted.

MODERATE TRAFFIC CONDITION

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(C) **Residential / Pedestrian Applications** – concrete, asphalt, or soil concrete slab at grade. For non-vehicular installations (patios, sidewalks, against foundations, and landscaping projects) there still must be a surface adjoining the slot which will not erode where stormwater flows into the slotted inlet.

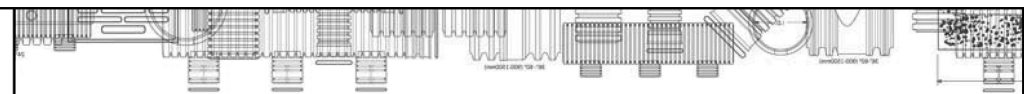
RESIDENTIAL/PEDESTRIAN CONDITION

(D) **Perforated Pipe for Stormwater Recharge** – concrete down to below the spring line. Pipe perforated in the bottom quadrant set in a filter fabric lined and stone-filled trench to allow surface drainage to recharge into the ground water. For moderate or light traffic only.

STORMWATER RECHARGE CONDITION

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SUGGESTIONS FOR SETTING DURASLOT® INSIDE A TRENCH:

Before backfilling DURASLOT®, one must first set and secure the system in place.

Some methods that have been used are:

1.) Hung from cross members & suspended with wire or zip tie

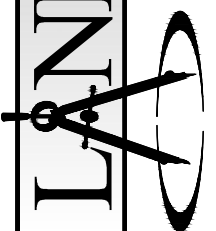
2.) Hung from cross members & set in a cradle made of rebar or wood

Before concrete is poured or asphalt is laid down, the slot opening should be covered to prevent it from being clogged. If you hang the DURASLOT®, a good way to do this is to run a piece of 1/4" to 1/2" plywood over the grates then use 2" duct tape on top.

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DESCRIPTION

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NO. BY: DATE: PROJECT: 2387-04 DATE: 10-20-21 CONTACT: Gmp EMAIL: ering@landmark-co.com

Steamboat Basecamp - Phase I

Details (Duraslot)

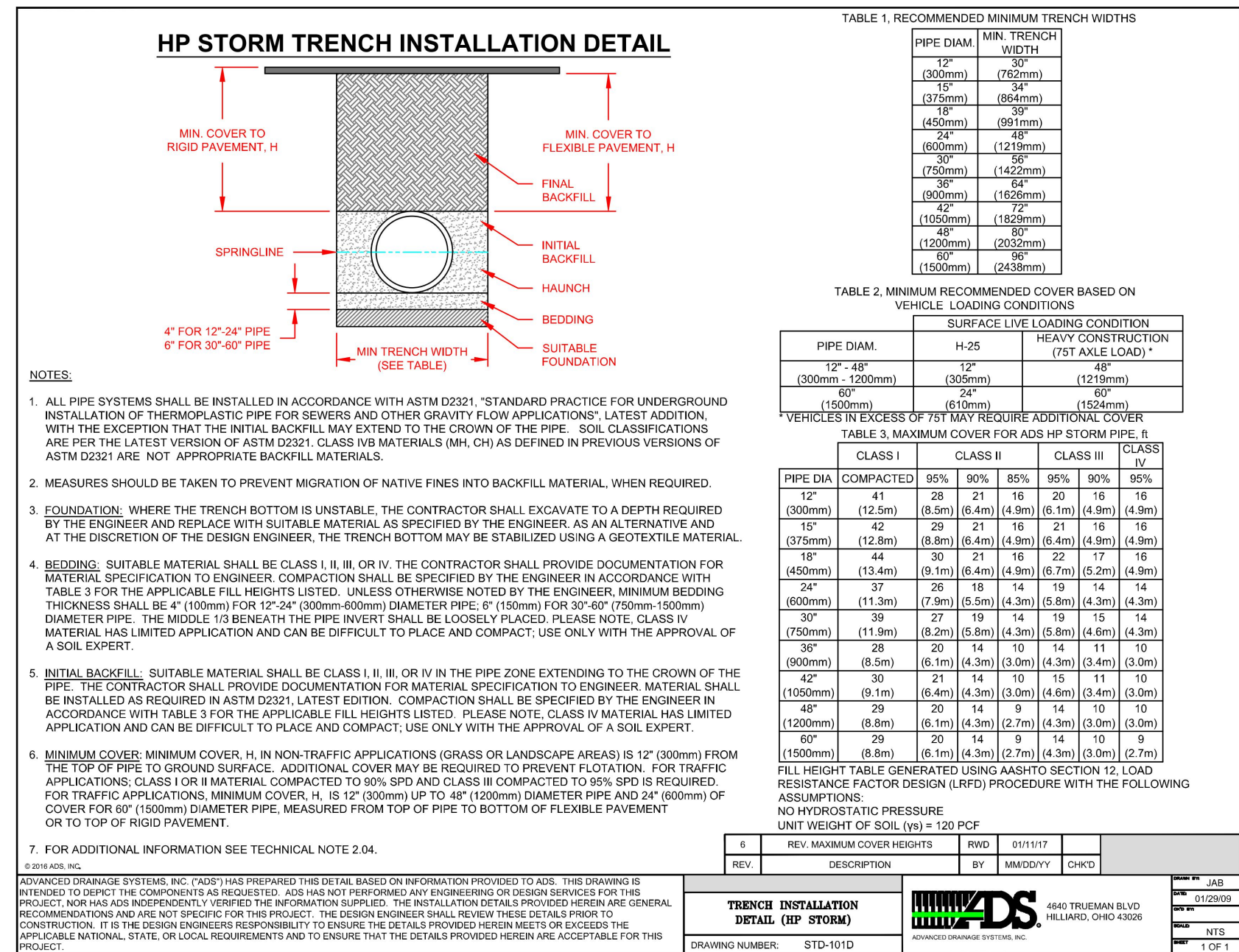
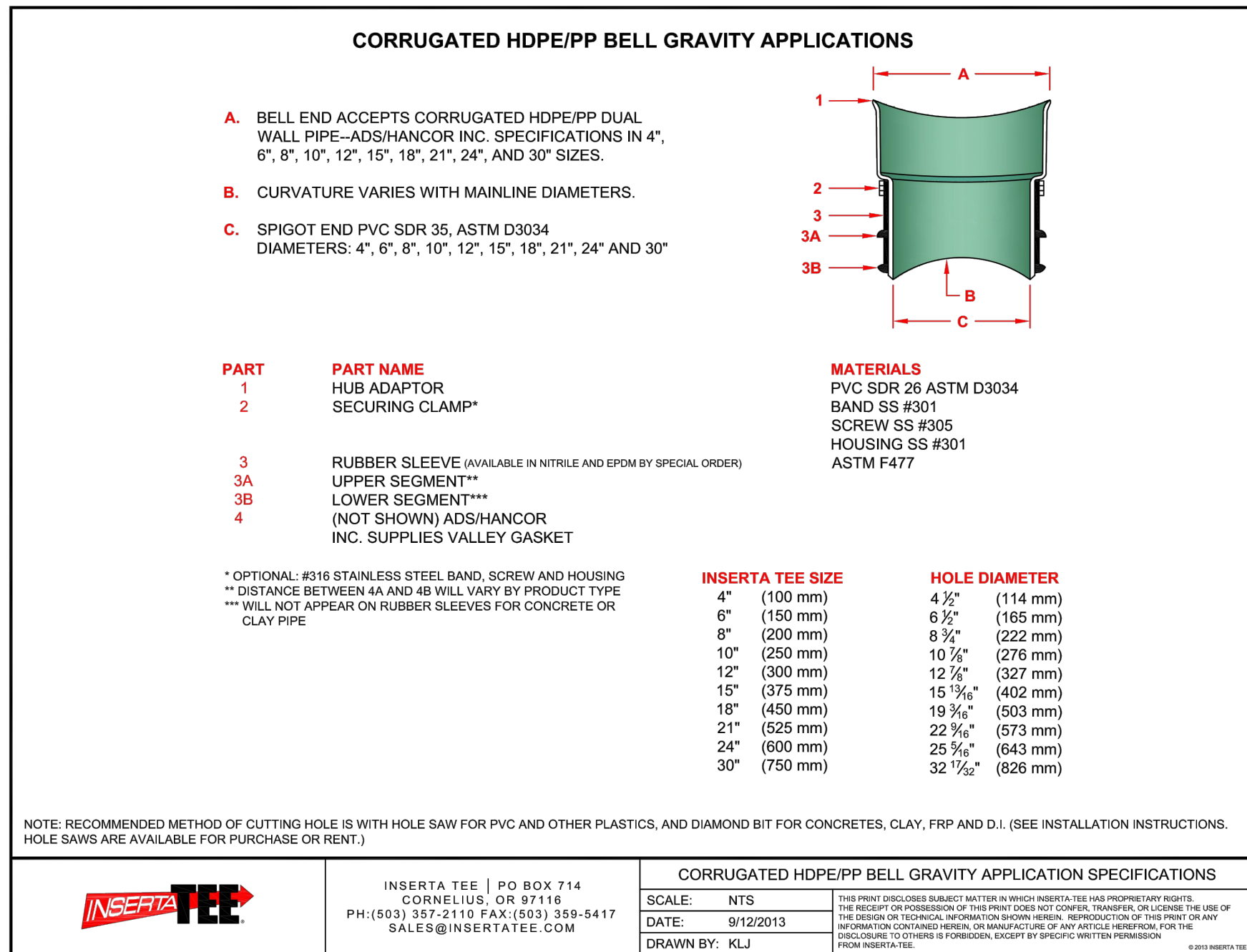
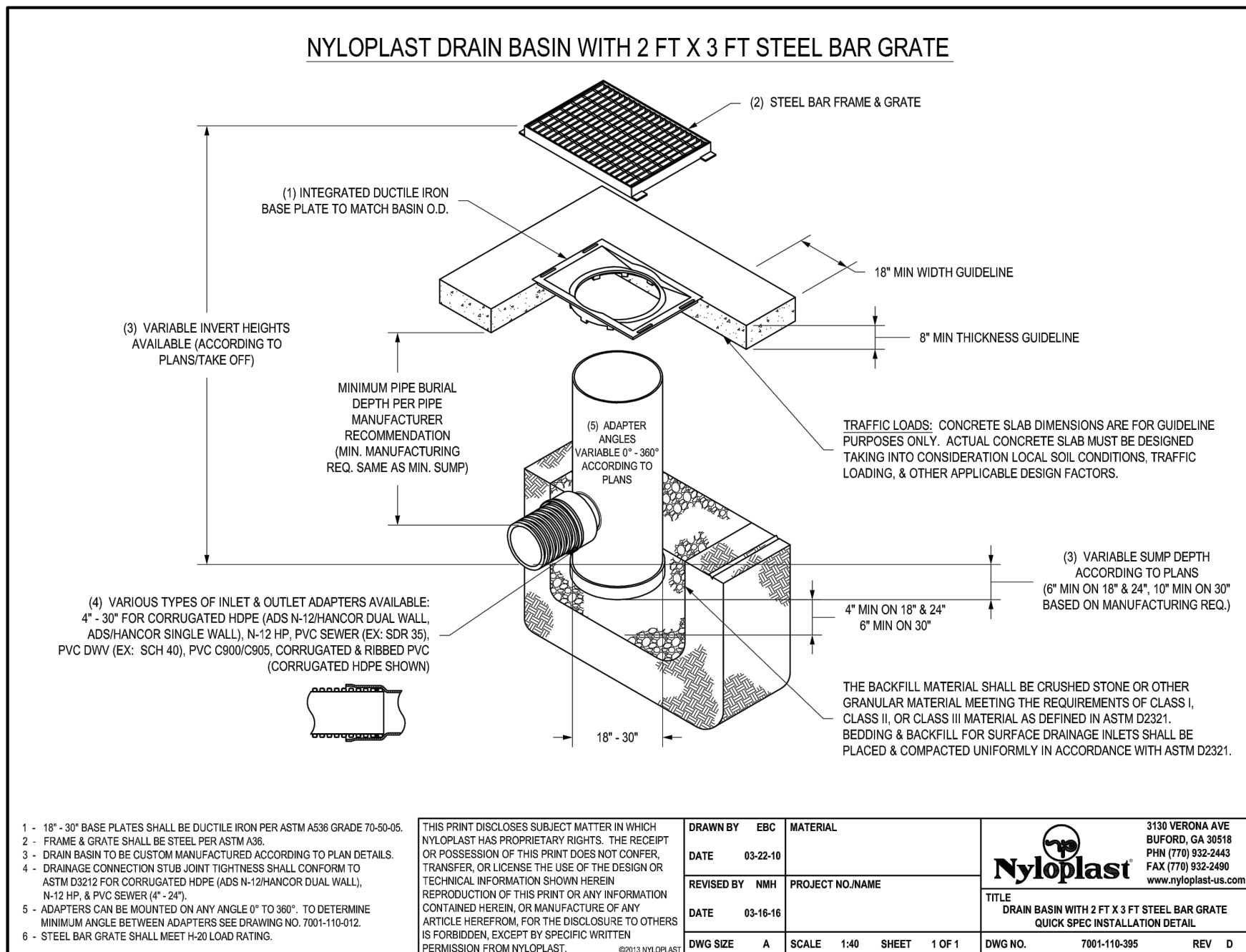
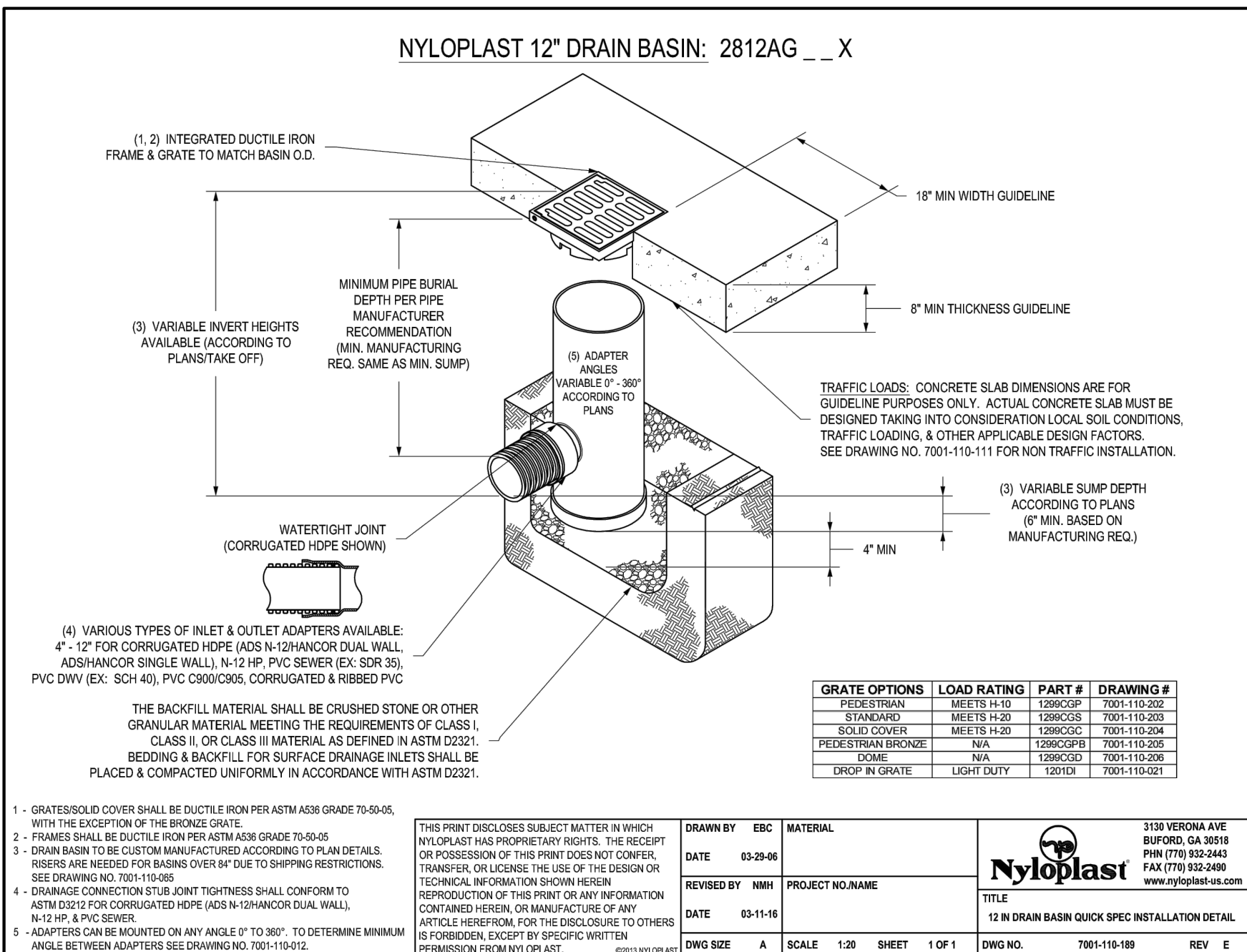
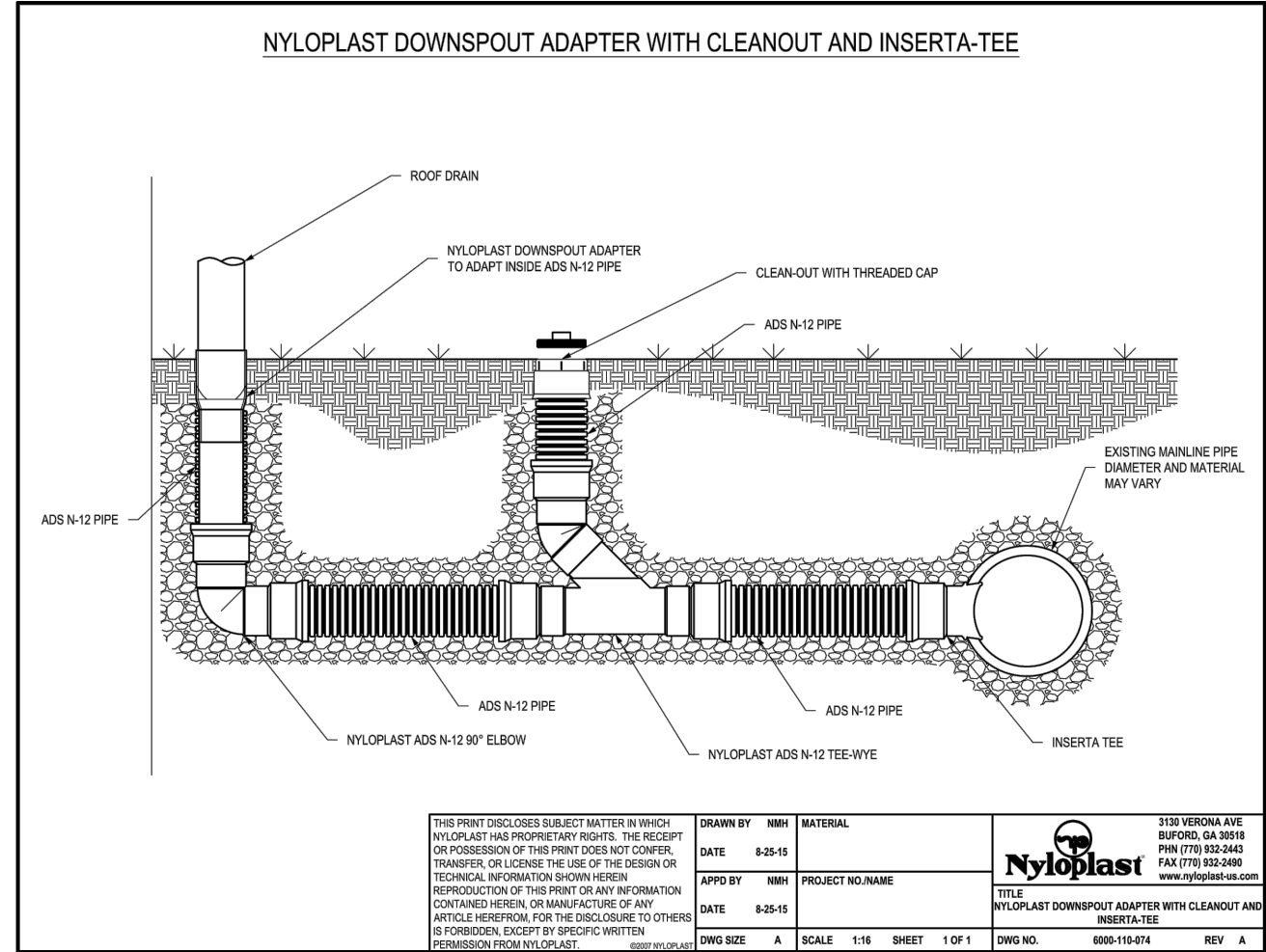
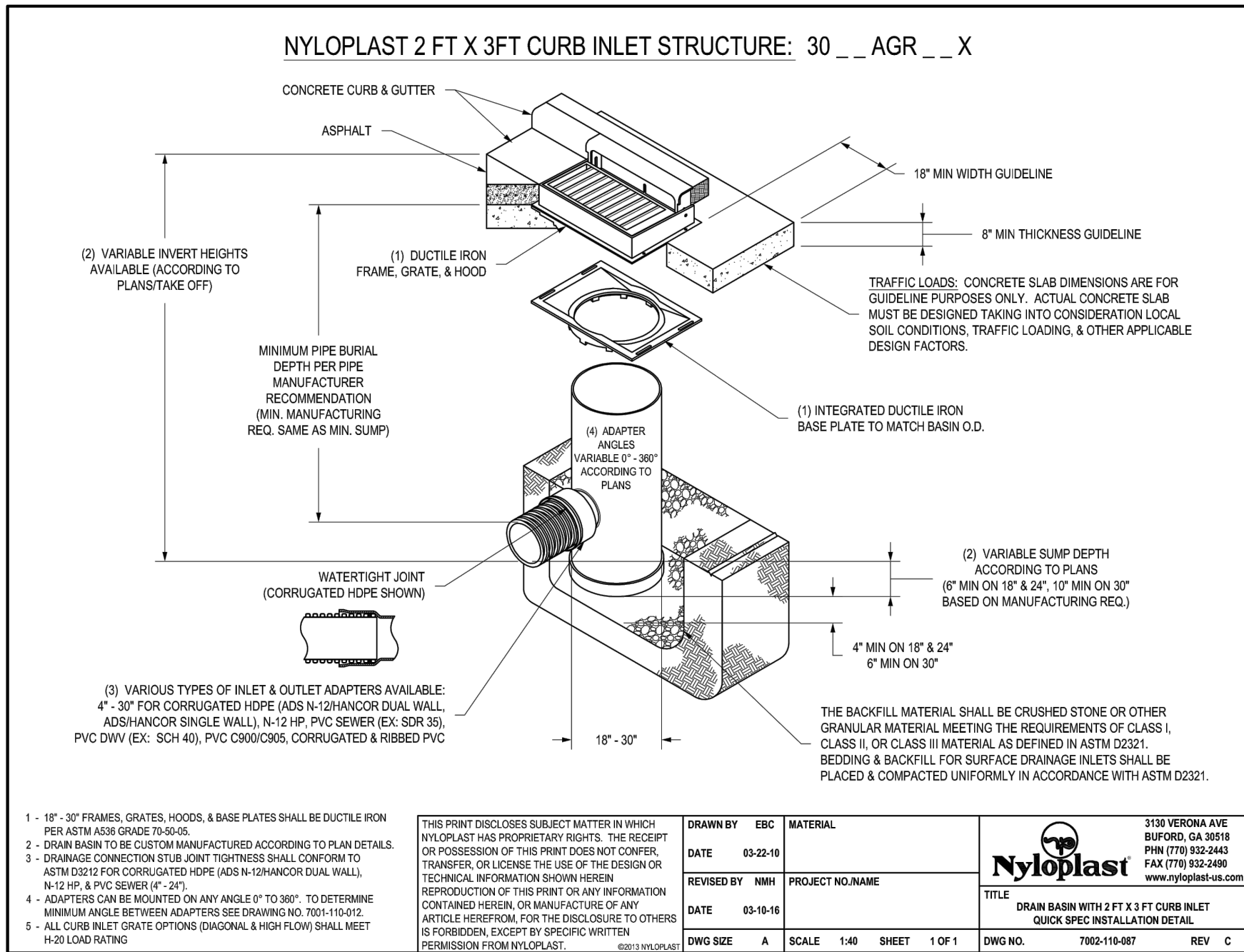
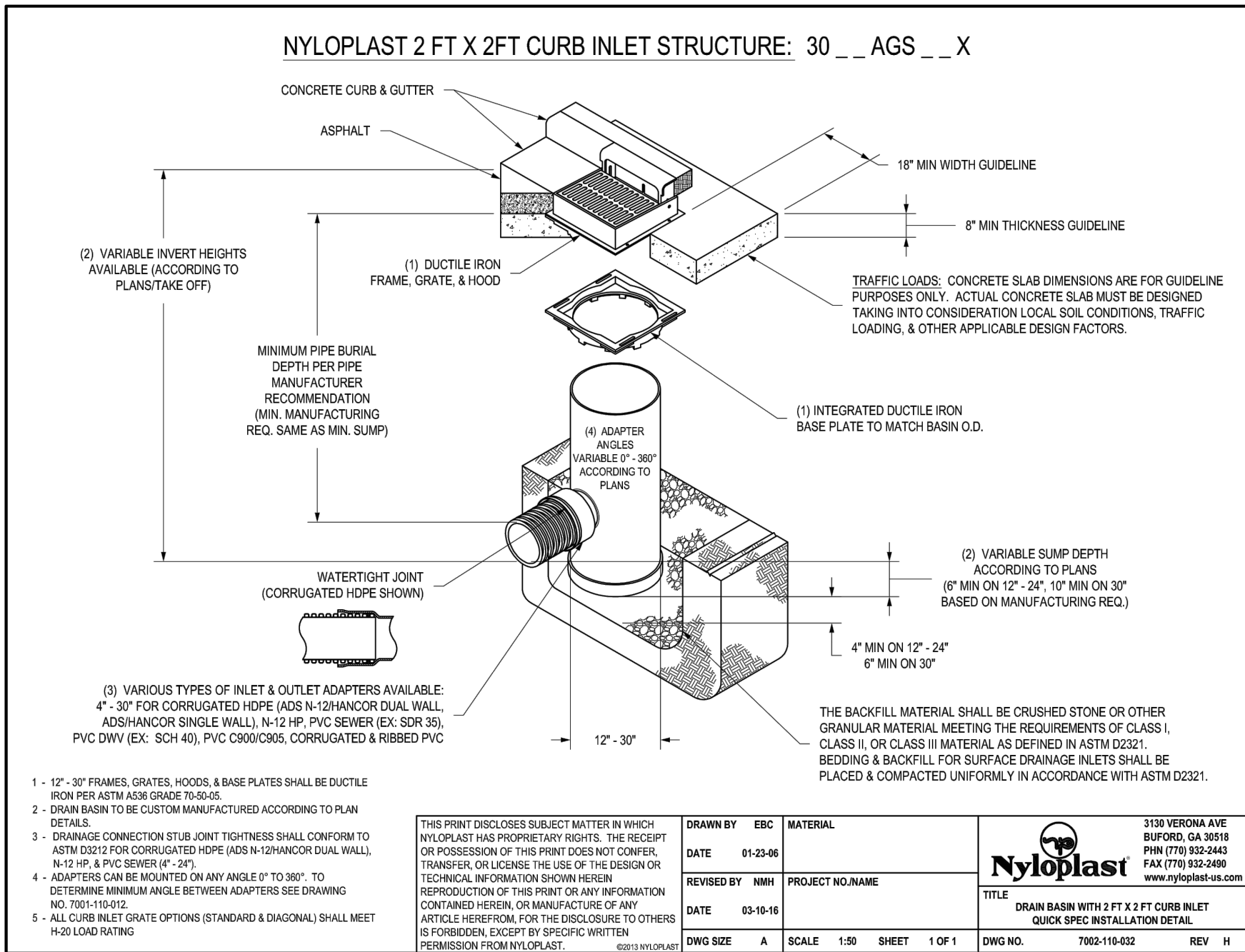
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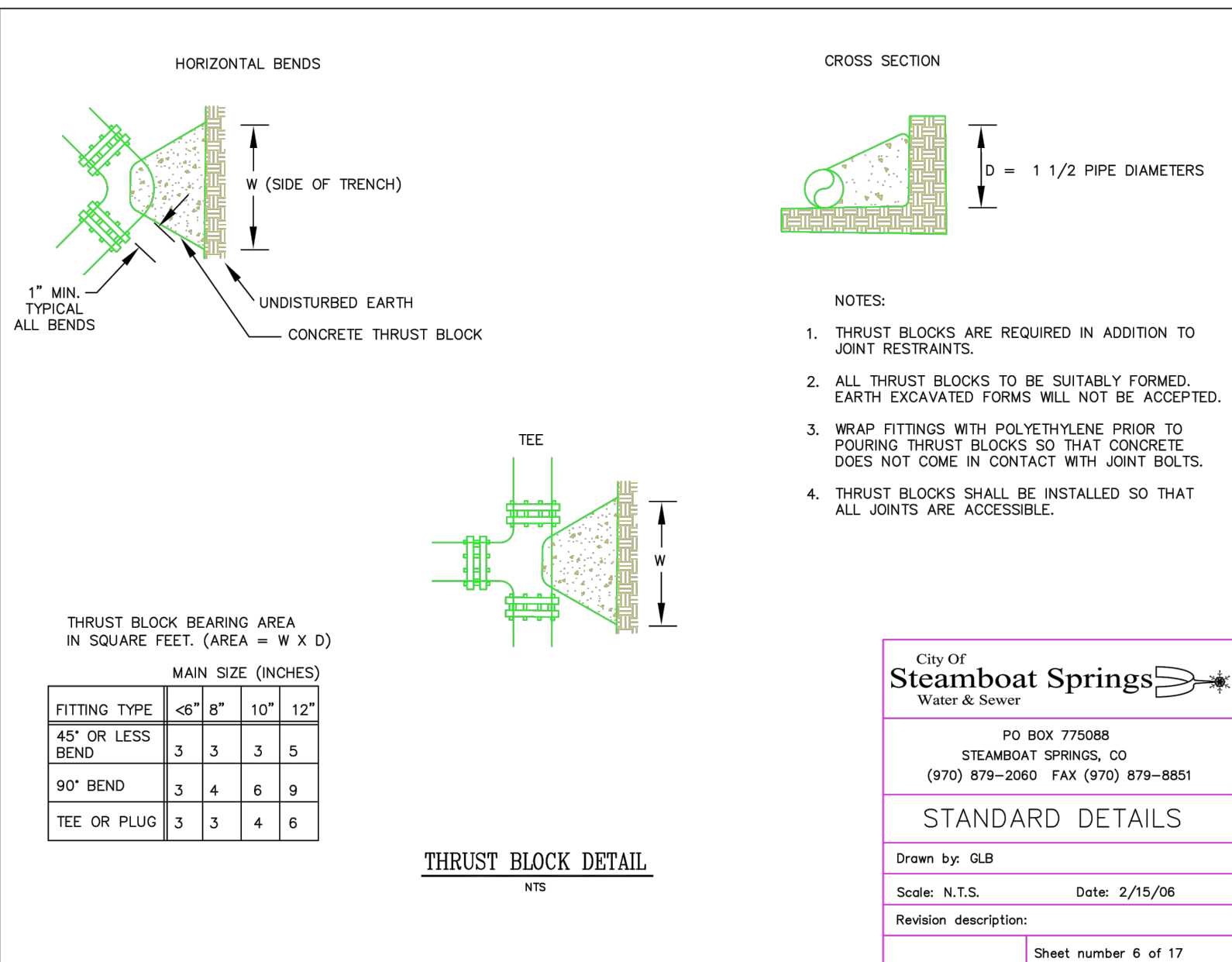
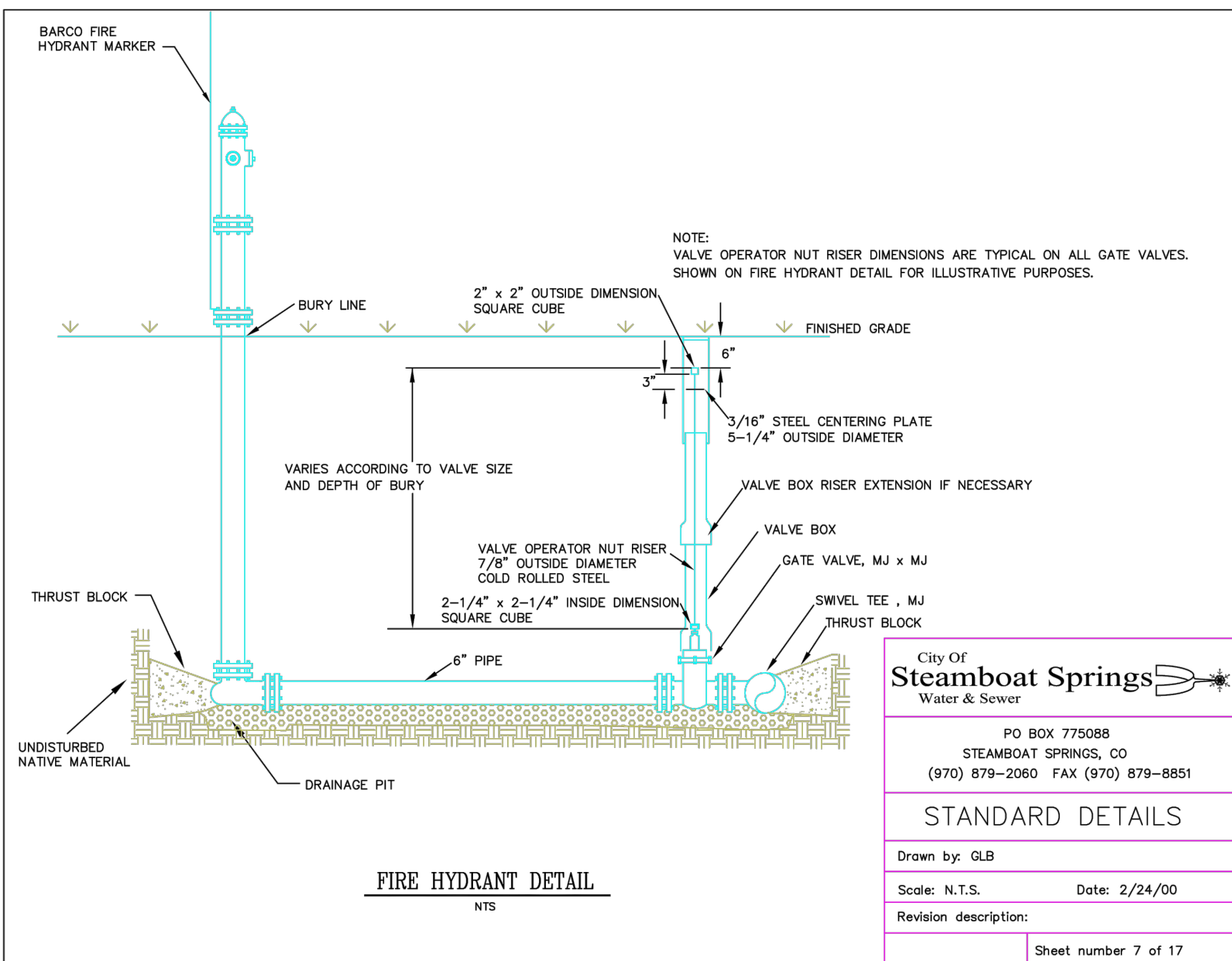
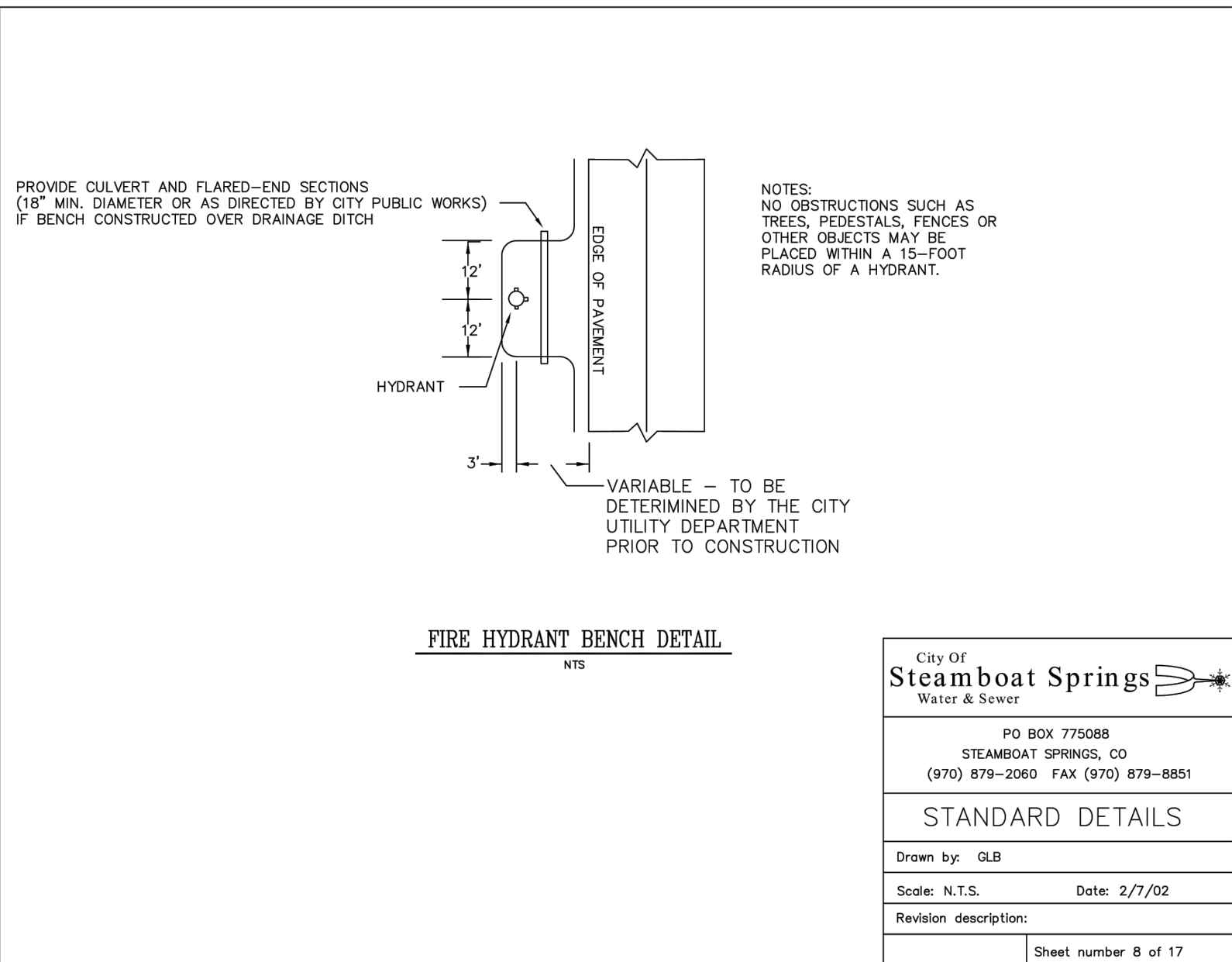
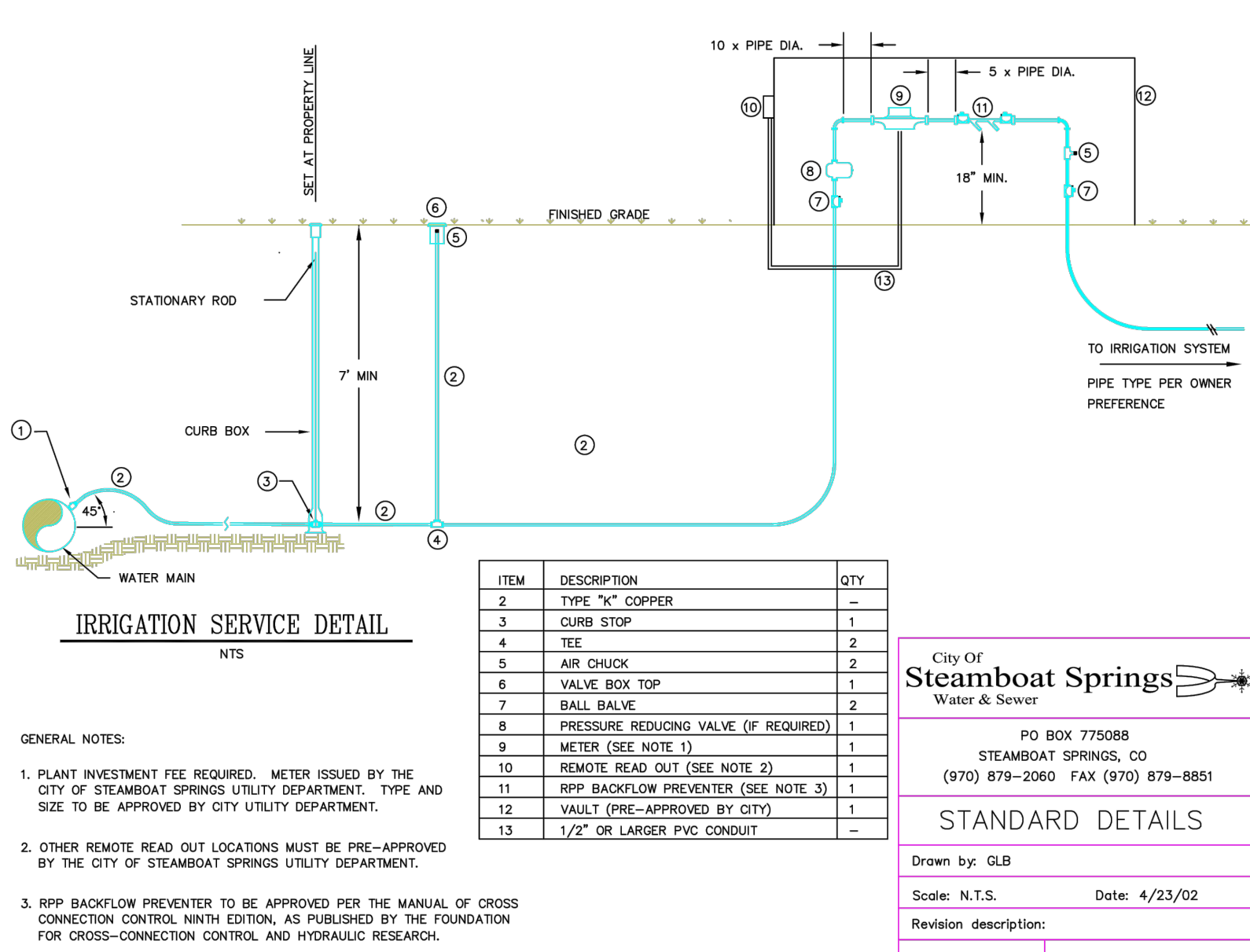
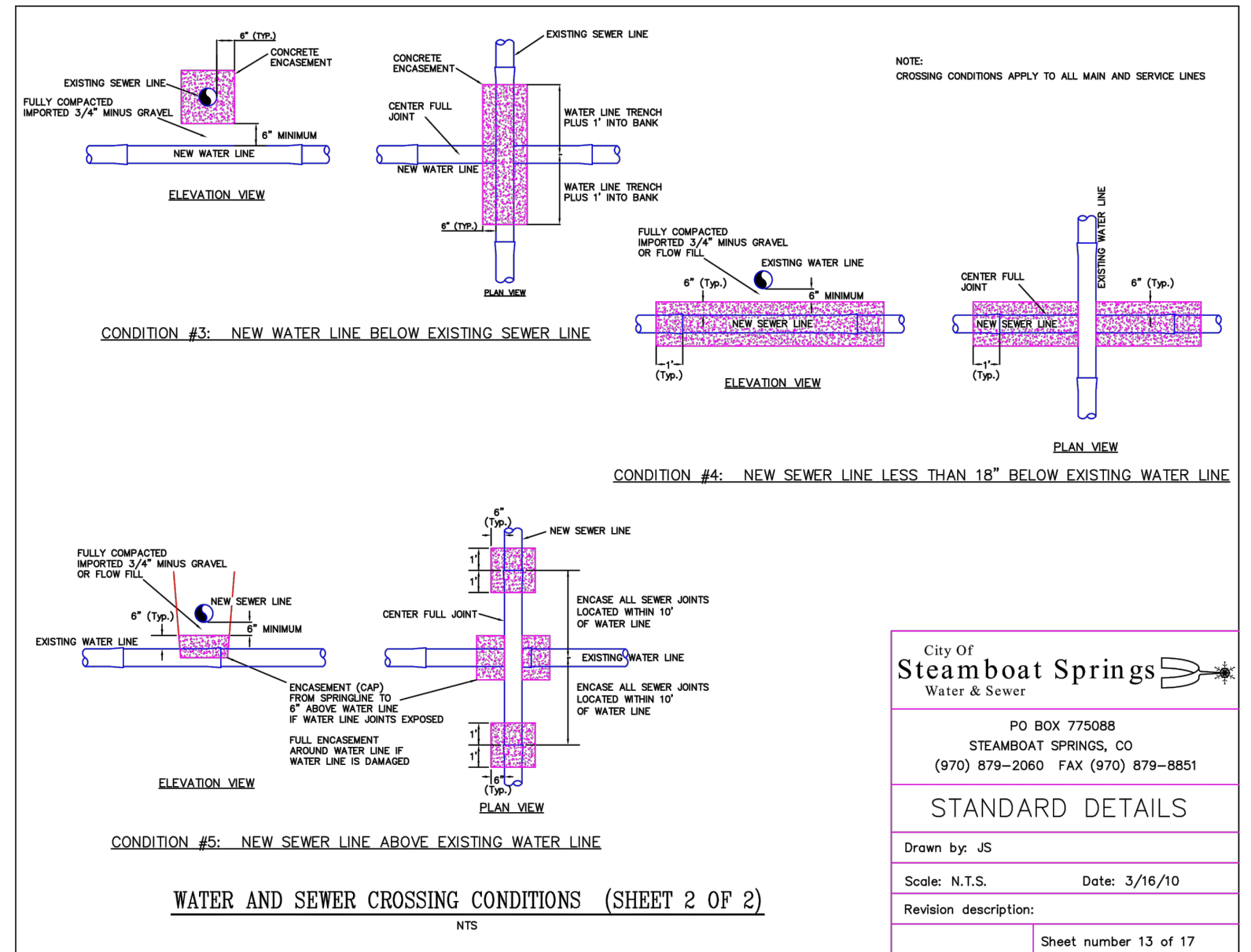
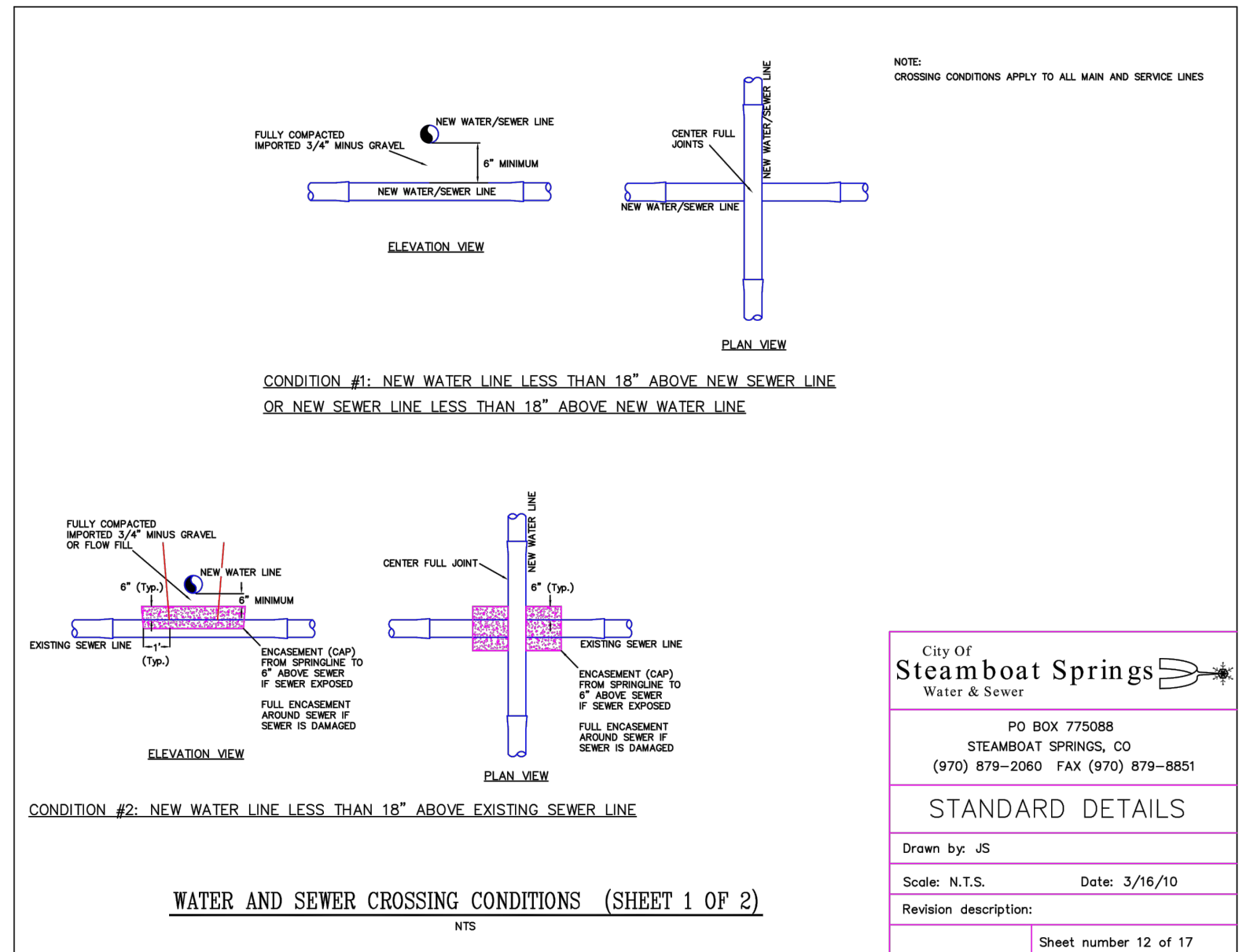
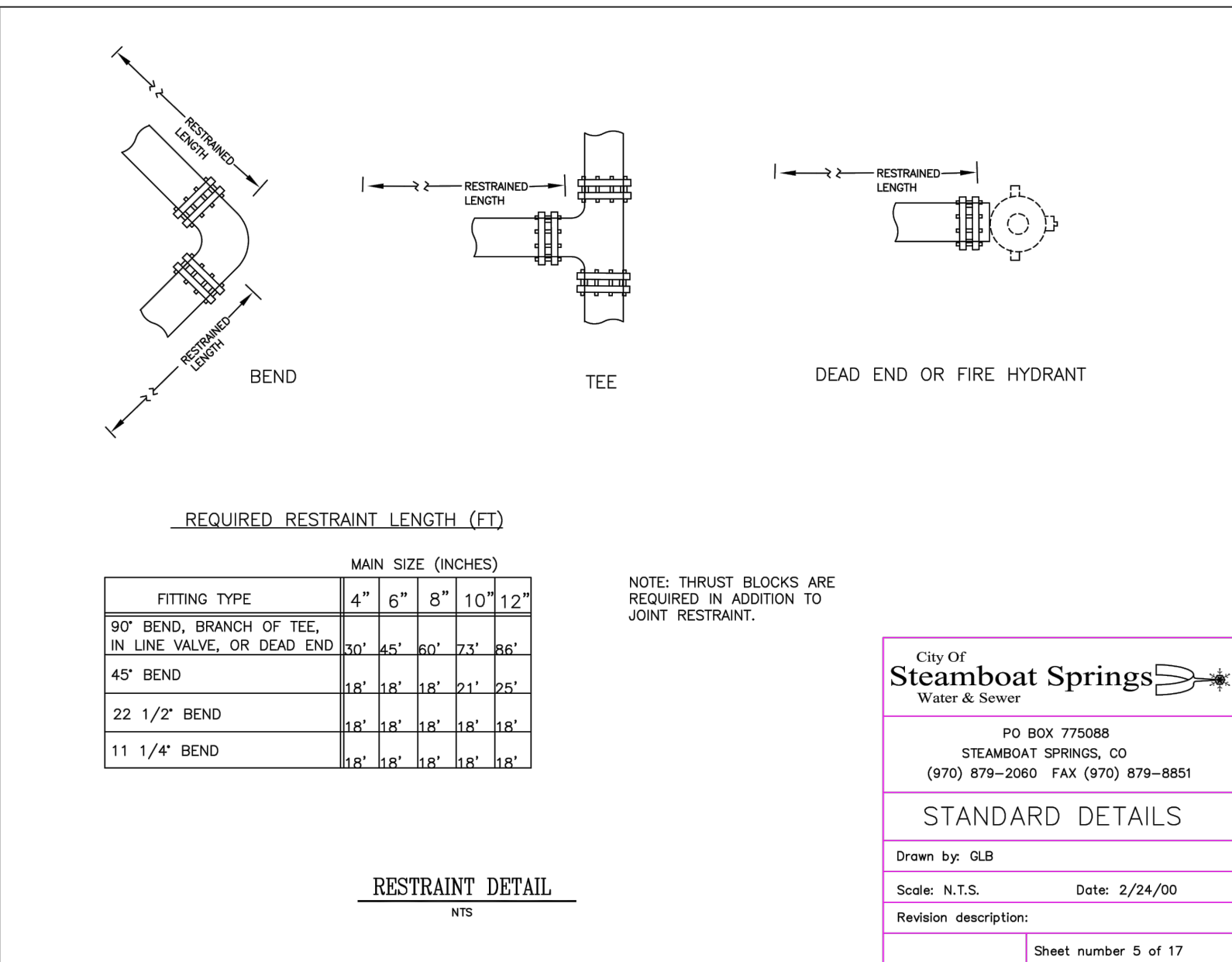
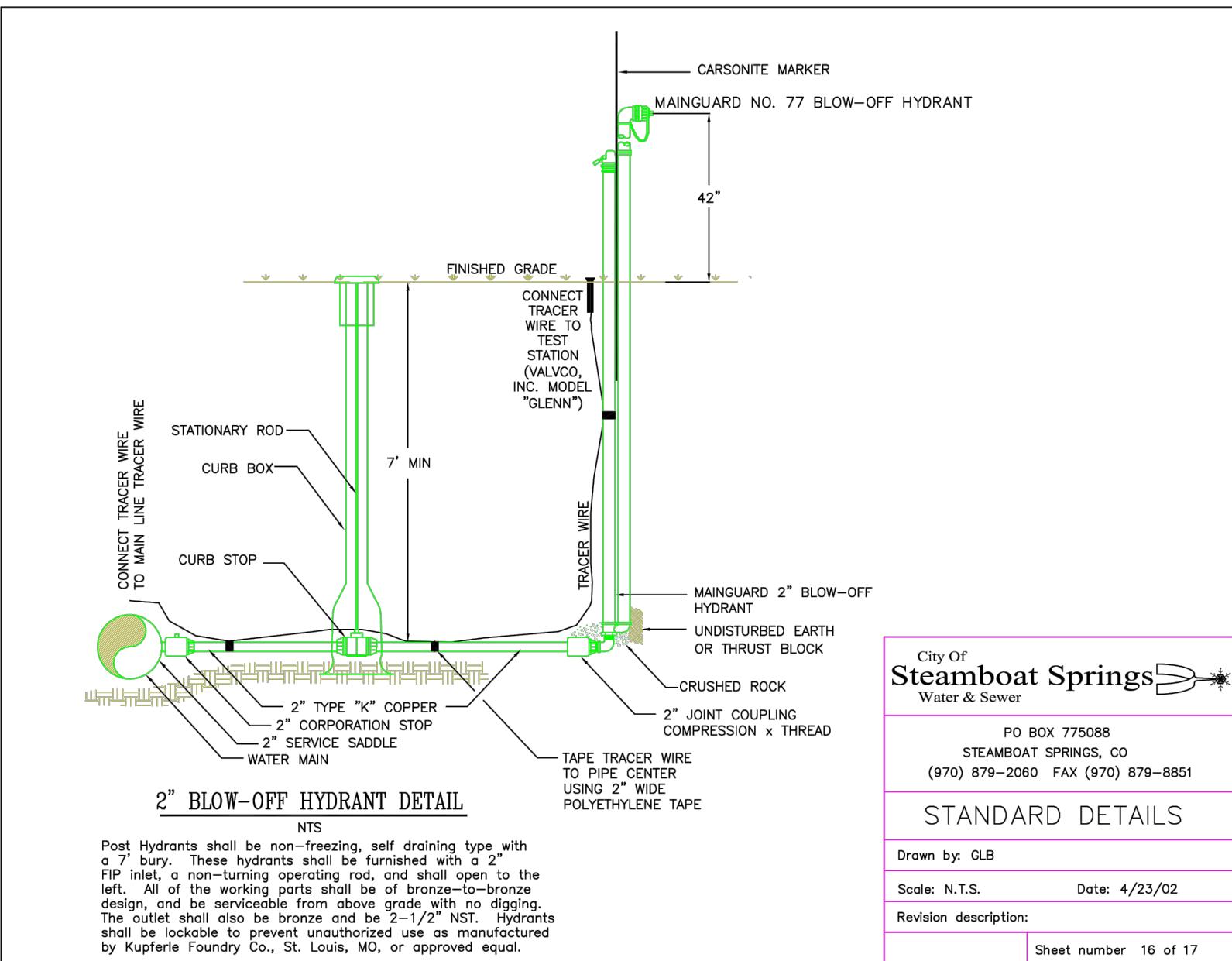
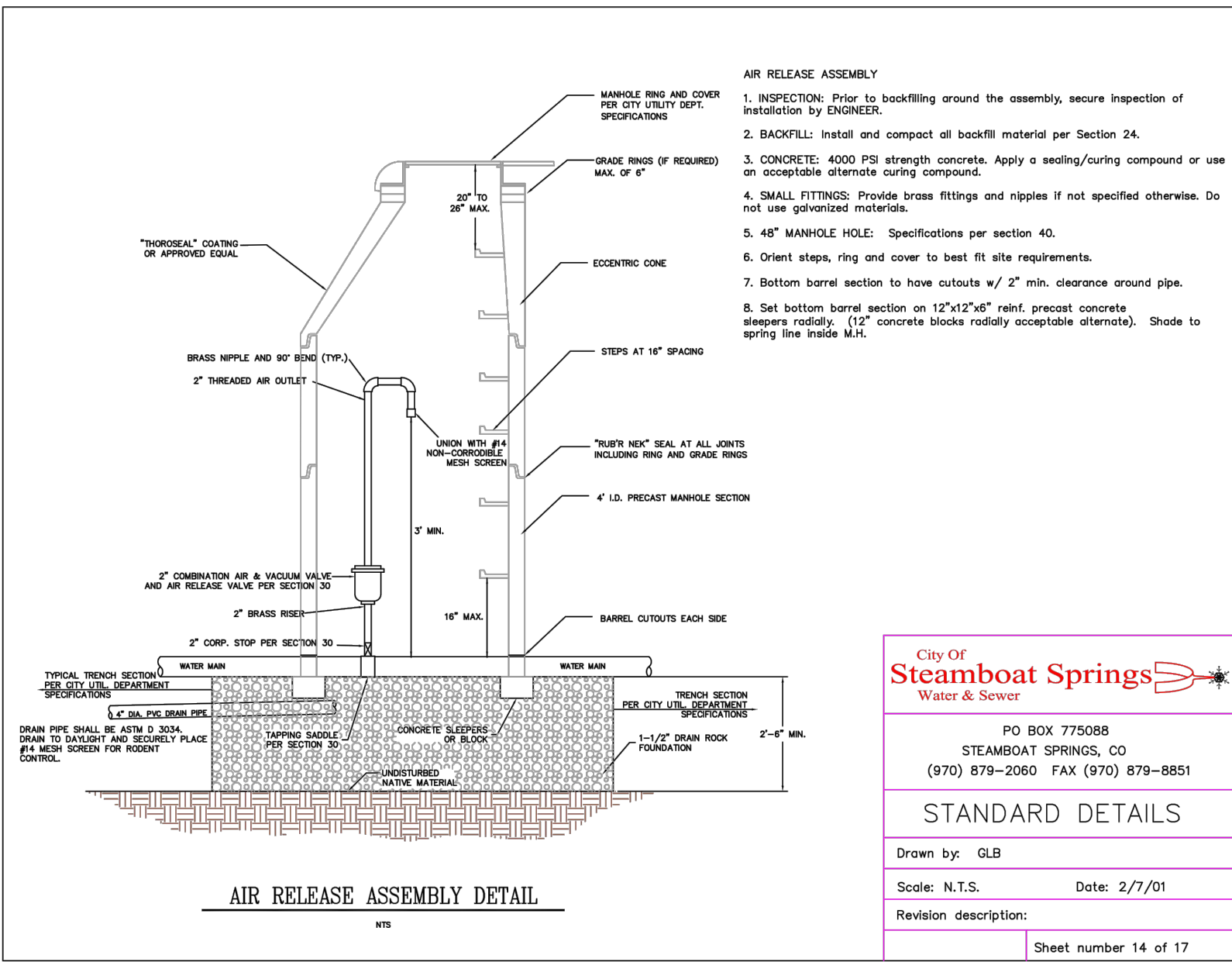
CALL UTILITY NOTIFICATION CENTER OF COLORADO



Know what's below.
Call before you dig.
CALL 2 BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES

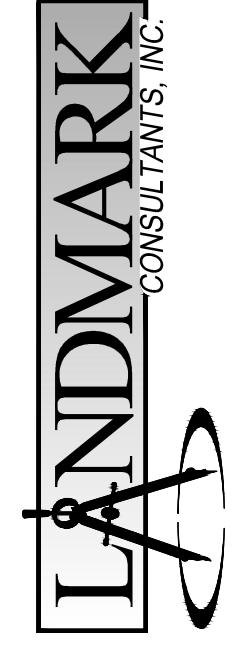


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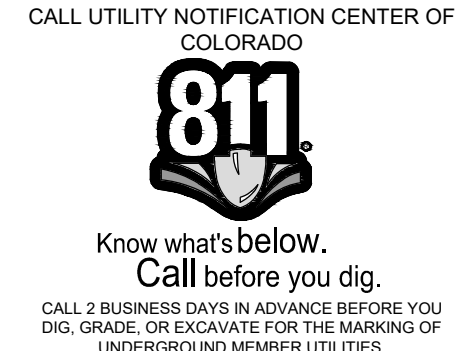
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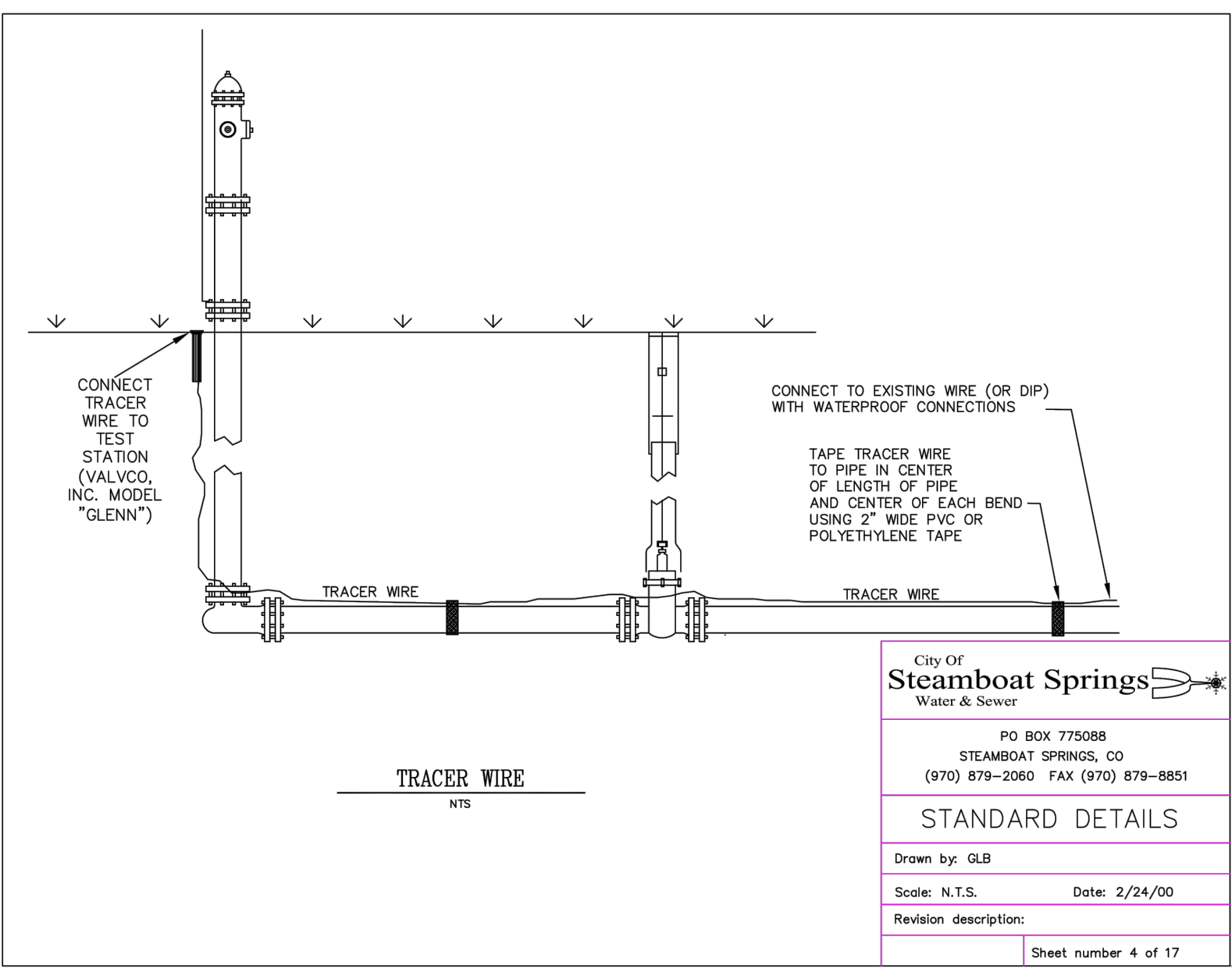
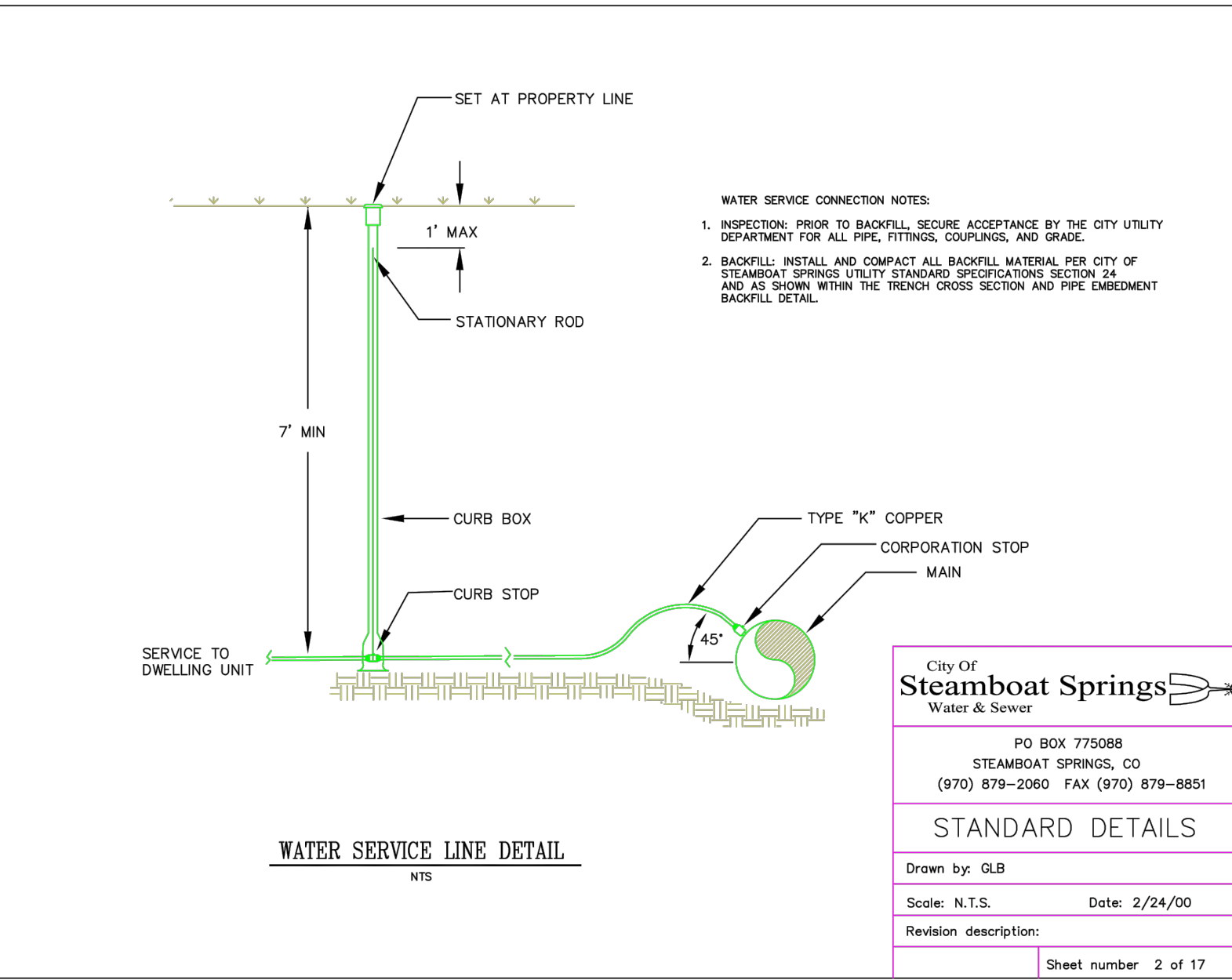
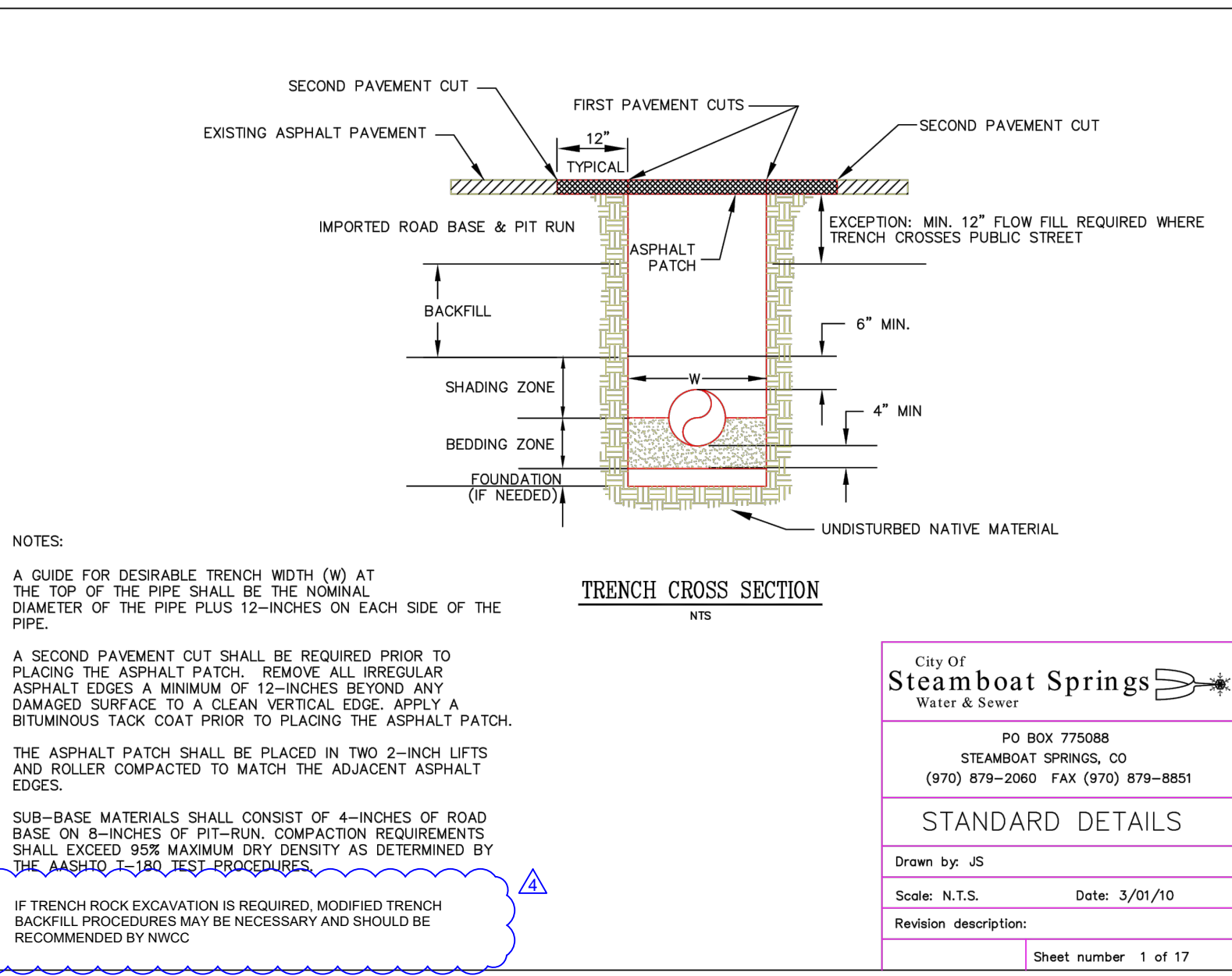
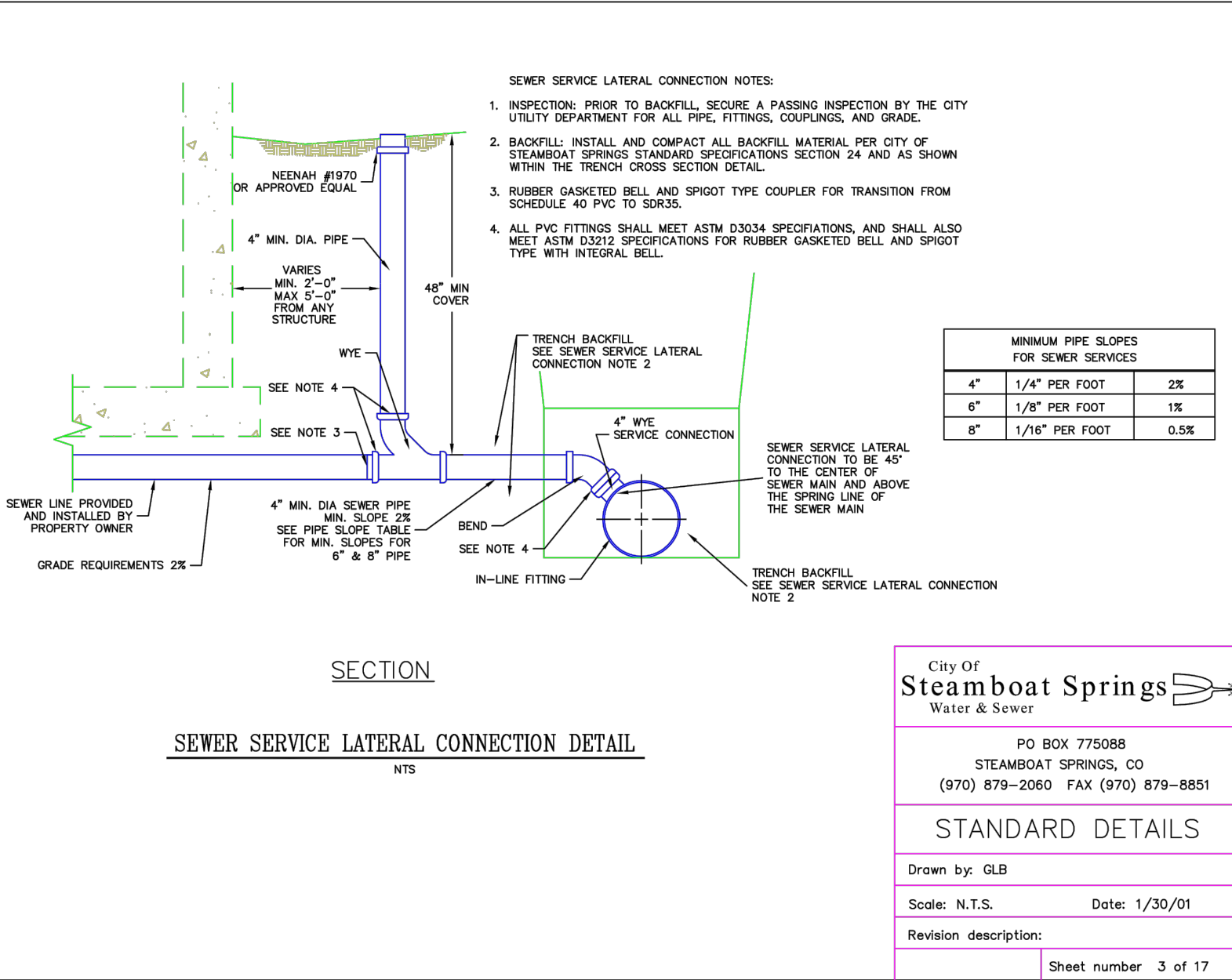
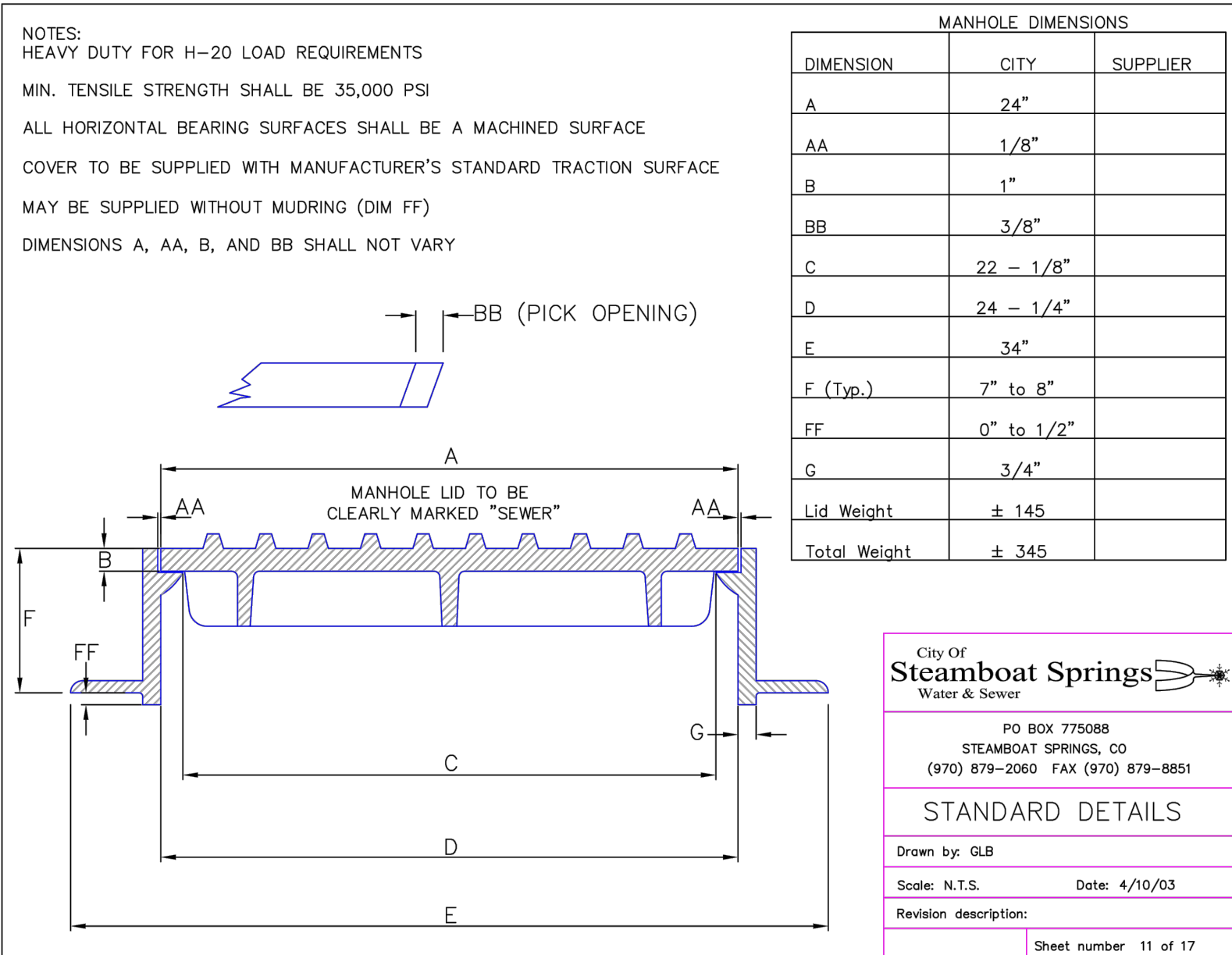
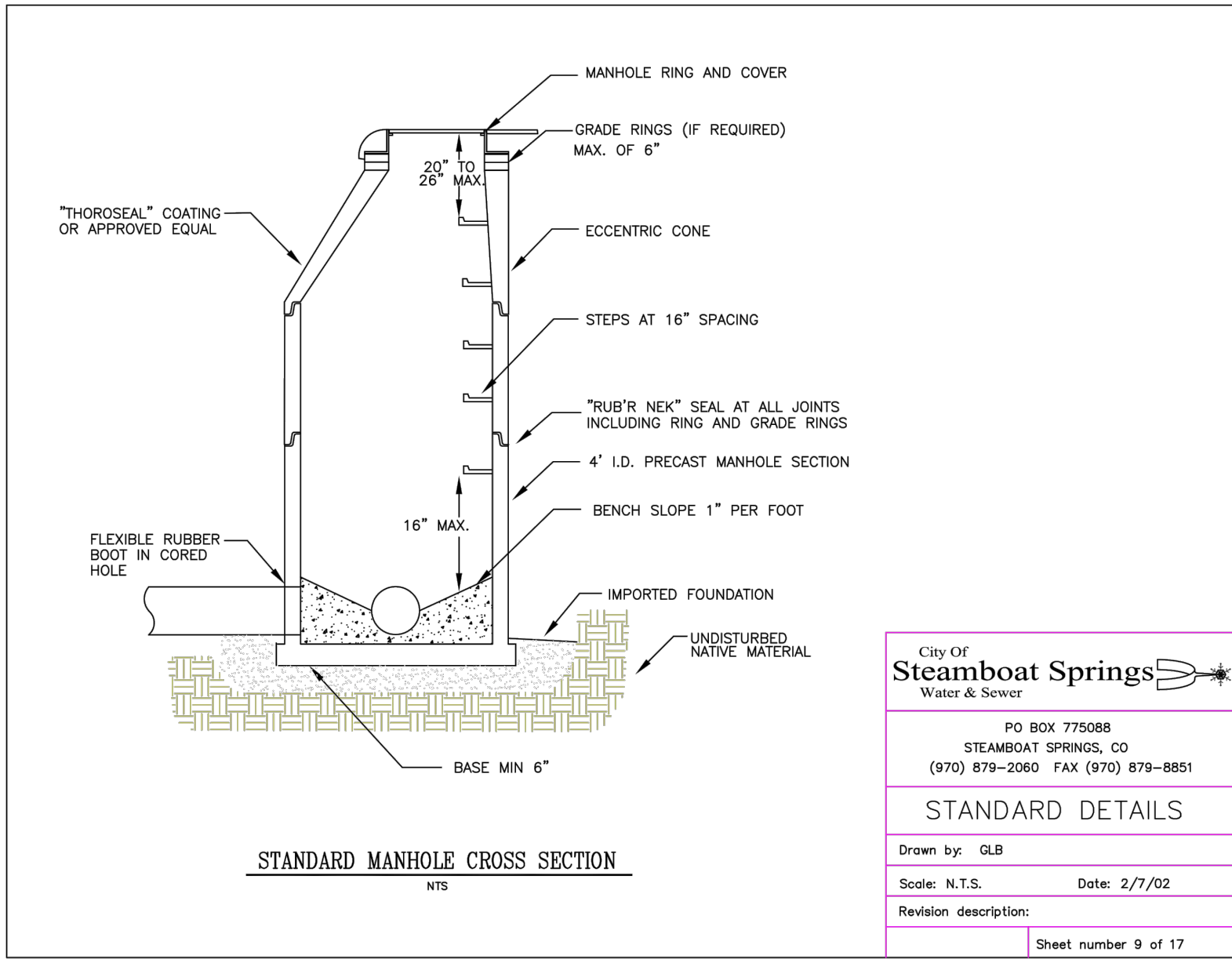
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PROJECT: 2387-04
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EMAIL: enrg@landmark-co.com

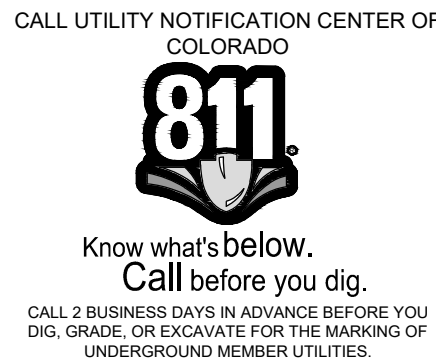
Steamboat Basecamp - Phase I
Details (Water & Sewer)

SHEET
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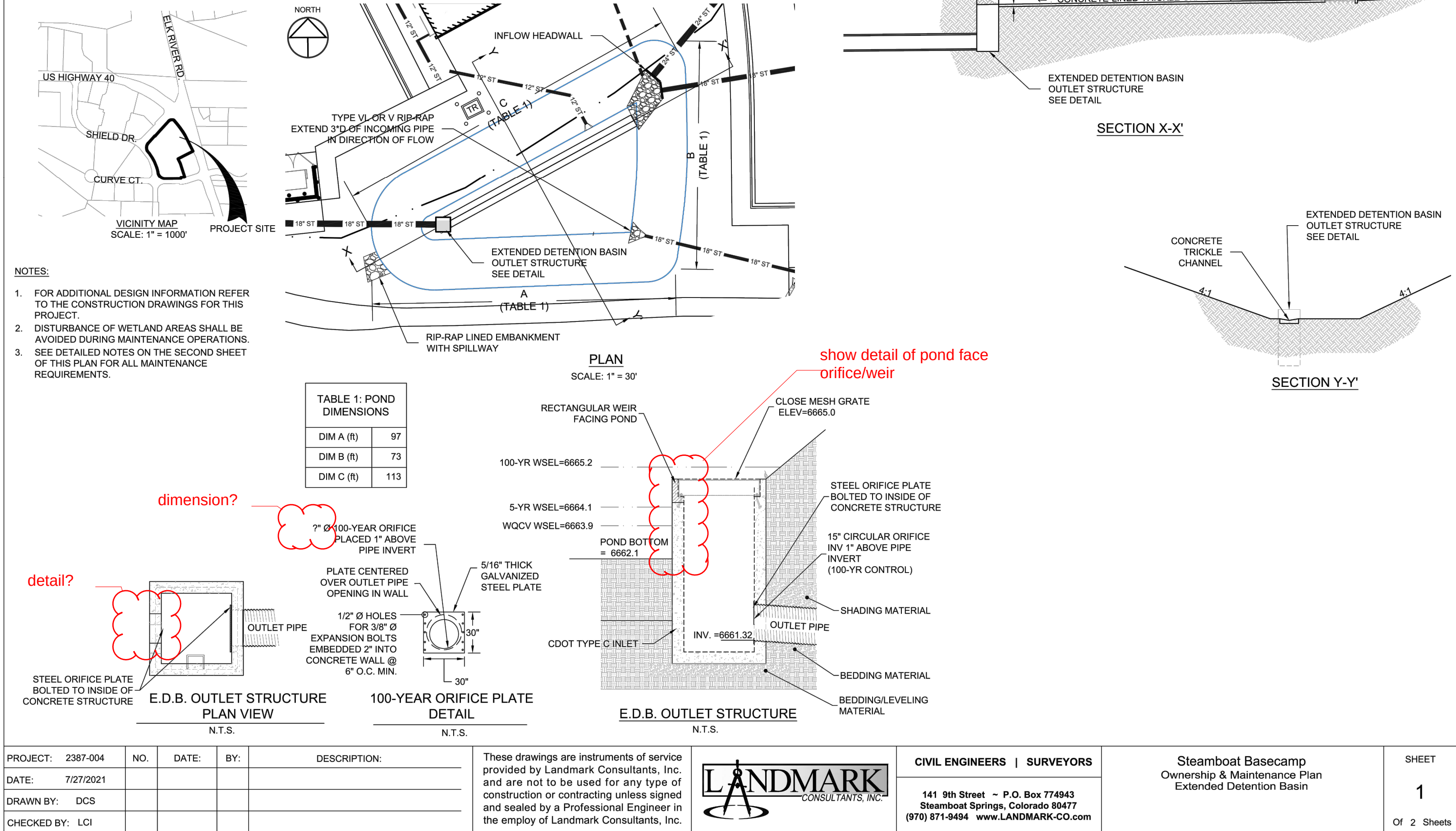
Steamboat Basecamp - Phase I

Details (Water & Sewer)

SHEET

C.516

STEAMBOAT BASECAMP OWNERSHIP AND MAINTENANCE PLAN FOR EXTENDED DETENTION BASIN



PROJECT: 2387-004	NO.	DATE:	BY:	DESCRIPTION:	These drawings are instruments of service provided by Landmark Consultants, Inc. and are not to be used for any type of construction or contracting unless signed and sealed by a Professional Engineer in the employ of Landmark Consultants, Inc.	CIVIL ENGINEERS SURVEYORS	Steamboat Basecamp Ownership & Maintenance Plan Extended Detention Basin	SHEET 1
DATE: 7/27/2021						141 9th Street ~ P.O. Box 774943 Steamboat Springs, Colorado 80477 (970) 871-9494 www.LANDMARK-CO.COM		Of 2 Sheets
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CHECKED BY: LCI								

OWNERSHIP AND MAINTENANCE PLAN FOR STEAMBOAT BASECAMP EXTENDED DETENTION BASIN

1. GENERAL PROJECT INFORMATION					2. REVISIONS TO MAINTENANCE FREQUENCY:					3. YEAR: 5-YEAR: 10.26 CFS 0.31 CFS 100-YEAR: 31.01 CFS 7.90 CFS				
A. STEAMBOAT BASECAMP. LOT 1, WORLDWEST SUBDIVISION					DATES/REASONS FOR CHANGES:					B. VOLUMES, DEPTHS, & WSELS:				
B. RECEIVING WATER: ROADSIDE DITCH ON CURVE COURT. ULTIMATE OUTFALL YAMPA RIVER.					C. TRAFFIC CONTROL: N/A					ITEM VOLUME WSEL DEPTH INVERT				
PROPERTY OWNER: MAY RIEDLER PROPERTIES 2201 WISCONSIN AVE NW SUITE 200 WASHINGTON DC 20007 galby@mayriegler.com					D. THE FACILITY DOES NOT REQUIRE CONFINED SPACE ENTRY PROCEDURES.					EXTENDED DETENTION BASIN 213,429.6 CF 4.8' 6662.1				
C. AGENCY RESPONSIBLE FOR MAINTENANCE: SAME AS OWNER					E. DEWATERING AND WATER CONTROL: DEWATERING OF THE MICRO-POOL BY PUMPING ONTO THE EDB'S BOTTOM GRASSES WILL BE NEEDED TO REMOVE ACCUMULATED SEDIMENT FROM THE MICRO-POOL'S BOTTOM.					WQCV 1,907 CF 6663.9 1.8'				
D. DESIGN ENGINEER: LANDMARK CONSULTANTS, INC. 141 9TH STREET STEAMBOAT SPRINGS, CO 80487 970-871-9494 ATTN: ERIK GRIEPENTROG, P.E. ERIKG@LANDMARK-CO.COM					F. DEBRIS, & TRASH REMOVAL & DISPOSAL. REMOVAL SHALL BE CONDUCTED IF THERE IS PRESENCE OF TRASH OR DEBRIS AT INSPECTION. SEDIMENT AND DEBRIS SHALL BE REMOVED MANUALLY USING A SHOVEL OR RAKE AND DISPOSED OF AT A LICENSED FACILITY. THE LONGEST DISTANCE BETWEEN THE EDGE OF AN ACCESS ROAD AND THE FAR CORNER OF A STRUCTURE REQUIRING SEDIMENT REMOVAL IS 35 FEET.					5-YEAR 1,918 CF 6663.9 1.8'				
					G. VEGETATION MANAGEMENT SEE SECTION 4 OF THE NOTES ON THIS SHEET					100-YEAR 2,675 CF 6664.2 2.1'				
					H. WETLAND AREAS: NA					C. WQCV DRAIN TIME = 40 HOURS				
2. GENERAL FACILITY DESCRIPTION					I. DESCRIBE ADDITIONAL REQUIRED MAINTENANCE PROCEDURES AND FREQUENCIES - N/A					8. SENSITIVE AREAS, WETLANDS, & PERMITS				
THIS FACILITY IS AN EXTENDED DETENTION BASIN THAT WILL RELEASE THE WATER QUALITY CAPTURE VOLUME OVER 40-HOURS. THE FACILITY HAS BEEN ADOPTED AND APPROVED BY THE MAY RIEDLER PROPERTIES AS A PART OF THE STEAMBOAT BASECAMP PROJECT. IT WILL RECEIVE RUNOFF FROM 3.17-ACRES AND WILL OCCUPY A PARCEL OF 0.12-ACRES THAT WILL BE USED TO TREAT RUNOFF VIA SETTLING AND PROVIDE ACCESS FOR MAINTENANCE ACTIVITIES.					J. MATERIALS TESTING OF SEDIMENT REMOVED FROM SITE IS NOT REQUIRED.					THE SITE INCLUDES 0.24-ACRES OF WETLANDS LOCATED NORTH OF THE DEVELOPMENT. MAINTENANCE ACTIVITIES WILL NOT IMPACT THE WETLANDS.				
3. INSPECTION & MAINTENANCE FREQUENCY & PROCEDURE					K. ALL MAINTENANCE MATERIALS AND TOOLS SHALL BE REMOVED FROM THE SITE FOLLOWING MAINTENANCE COMPLETION.					6. MISCELLANEOUS INFORMATION				
A. MAINTENANCE ACTIVITIES SHALL OCCUR ACCORDING TO TABLE 3:					3. EQUIPMENT, STAFFING, AND VEGETATION MANAGEMENT					A. PROJECT SURVEY:				
TABLE 3: MAINTENANCE ACTIVITY/FREQUENCY					A. EQUIPMENT REQUIRED: SHOVEL, RAKE, BACKHOE, CAMERA, DATA LOG / INSPECTION REPORT					TOPOGRAPHIC AND EXISTING CONDITIONS PER LANDMARK GROUND SURVEY 10-30-2020. SOME OFFSITE AND ADJACENT PROPERTY INFORMATION WAS DIGITIZED FROM AERIAL IMAGERY. LANDMARK IS NOT RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF THE EXISTING CONDITIONS AND/OR PROPERTY INFORMATION INCLUDING EASEMENTS AND ENCUMBRANCES AND THE OWNER ASSUMES ALL RISK WITH COMPLYING WITH THE LEGAL REQUIREMENTS OF THIS PROJECT.				
ACTIVITY REQUIRED FREQUENCY					B. STAFFING: ONE PERSON WHO IS QUALIFIED TO RUN THE REQUIRED EQUIPMENT IS REQUIRED FOR MAINTENANCE.					PROJECT BENCHMARKS IS RECOVERED NO. 5 REBAR W/ 1" ALUMINUM CAP STAMPED LANDMARK LS 29039, ELEV=6667.80 NAVD 88. THE COORDINATE SYSTEM IS COLORADO COORDINATE SYSTEM, NORTH ZONE, NAD83 (2011), NAVD88, COMBINED SCALE FACTOR: (N)1415866.11 (E)2036677.13, 1.000369666.				
LAWN MOWING AND LAWN CARE ROUTINE - DEPENDING ON AESTHETIC REQUIREMENTS					C. MOWING: MOWING MAY BE REQUIRED DEPENDING ON THE TYPE OF PLANTINGS. IF GRASS IS STARTED FROM SEED, ALLOW TIME FOR GERMINATION AND ESTABLISHMENT OF GRASS PRIOR TO MOWING. IF MOWING IS REQUIRED DURING THIS PERIOD FOR WEED CONTROL, IT SHOULD BE ACCOMPLISHED WITH HAND-HELD STRING TRIMMERS TO MINIMIZE DISTURBANCE TO THE SEEDBED. AFTER ESTABLISHED, MOW AS DESIRED OR AS NEEDED FOR WEED CONTROL. MOWING OF NATIVE/DROUGHT TOLERANT GRASSES MAY STOP OR BE REDUCED TO MAINTAIN A LENGTH OF NO LESS THAN 6 INCHES.					B. [ADDITIONAL INFORMATION]				
DEBRIS AND LITTER REMOVAL ROUTINE - TWICE ANNUALLY UPON INSPECTION AND AS NEEDED FOLLOWING SIGNIFICANT RAINFALL EVENTS					D. WEEDS & UNDESIRABLE VEGETATION: MAINTAIN HEALTHY, WEED FREE VEGETATION. WEEDS SHOULD BE REMOVED BY HAND TOOLS, MOWING, WEED WHACKING OR OTHER MEANS AS APPROPRIATE BEFORE THEY FLOWER. THE FREQUENCY OF WEEDING WILL DEPEND ON THE PLANTING SCHEME AND COVER.									
SEDIMENT REMOVAL FROM FOREBAY AND MICROPOOL ROUTINE - ONCE ANNUALLY AFTER COMPLETION OF SNOWMELT FROM CONTRIBUTING BASIN					4. SNOW AND ICE CONTROL									
NUISANCE CONTROL NON-ROUTINE - HANDLE AS NECESSARY PER INSPECTION OR LOCAL COMPLAINTS					FACILITY IS LOCATED WITHIN A SNOW STORAGE AREA. FACILITY SHALL BE INSPECTED AFTER SNOWMELT AND DEBRIS AND LITTER REMOVED.									
EROSION AND SEDIMENT CONTROL NON-ROUTINE - PERIODIC REPAIR AS NECESSARY BASIN ON INSPECTION					5. RIGHT-OF-WAY, ADJACENT OWNERSHIP, & ACCESS									
STRUCTURAL NON-ROUTINE REPAIR AS NEEDED BASED ON INSPECTIONS					A. RIGHT-OF-WAY DESCRIPTION: CURVE COURT, ROW VARIES. SHIELD DRIVE, ROW VARIES.									
INSPECTIONS ROUTINE - TWO TIMES ANNUALLY, ONCE AFTER COMPLETION OF SNOWMELT AND ONCE AFTER SIGNIFICANT RAINFALL EVENT					B. ADJACENT OWNERSHIP: NA									
SEDIMENT REMOVAL NON ROUTINE - PERFORMED WHEN SEDIMENT ACCUMULATION OCCUPIES 20% OF WQCV (1.091-CF OR 1.4-FT DEEP). THIS MAY VARY CONSIDERABLY, BUT EXPECT TO DO THIS EVERY 15 TO 20 YEARS					C. ACCESS INFORMATION AND DETAILS: MAINTENANCE ACCESS TO THE FACILITY IS VIA THE DRIVEWAY OFF OF SHIELD DRIVE. PROCEED TO THE SOUTH SIDE OF THE MAIN PARKING AREA.									
					D. MAINTENANCE OPERATIONS WILL NOT IMPACT OR OBSTRUCT RIGHT-OF-WAY AND A RIGHT-OF-WAY PERMIT IS NOT REQUIRED.									
					7. HYDRAULIC DESIGN									
					A. FLOW RATES (CFS): INFLOW OUTFLOW									
					BASE FLOW: 0 CFS 0 CFS									
					WQ EVENT: NA NA									
PROJECT: 2387-004 NO. DATE: BY: DESCRIPTION:					These drawings are instruments of service provided by Landmark Consultants, Inc. and are not to be used for any type of construction or contracting unless signed and sealed by a Professional Engineer in the employ of Landmark Consultants, Inc.					CIVIL ENGINEERS SURVEYORS				
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