CONSTRUCTION PLANS
FOR
COPLEY ADDTION
CITY OF SHERMAN, GRAYSON COUNTY, TEXAS

VICINITY MAP — N.T.S.

INDEX OF SHEETS

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF INTERIM REVIEW UNDER THE AUTHORITY OF DAVID A. VILBIG, P.E., 67207 ON DECEMBER 20, 2018. IT IS NOT TO BE USED FOR CONSTRUCTION, FINAL BID, OR PERMIT PURPOSES.

DAVID A. VILBIG, P.E., R.P.L.S.

ISSUED FOR REVIEW

20 DECEMBER 2018

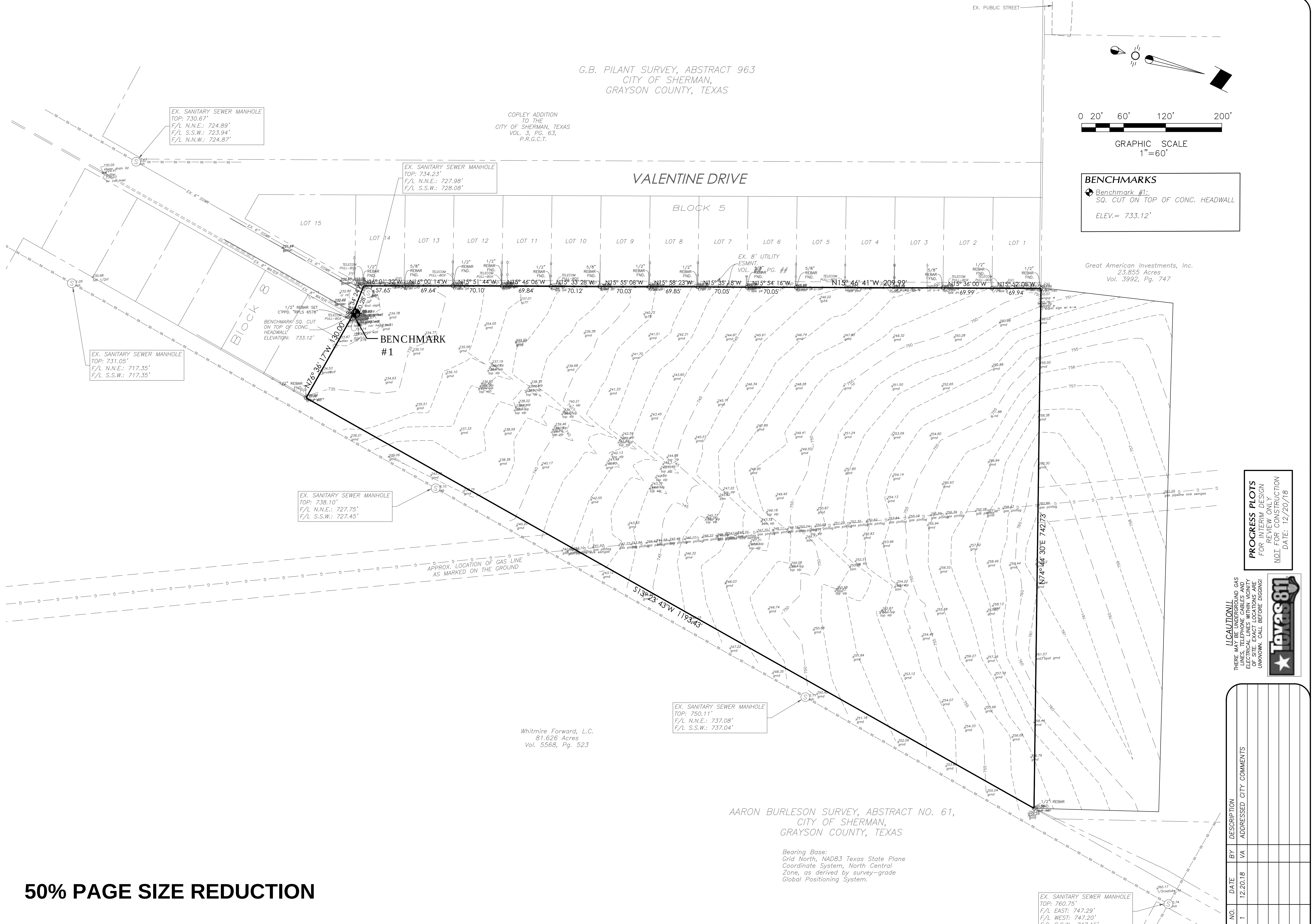
ENGINEER
Vilbig + Associates, P.L.L.C.
Consulting Engineers & Surveyors
517 W WOODARD STREET
Denison, TX 75020
(214) 352-7339
fax (214) 352-0999

CITY OF SHERMAN
Clint Philpott, P.E.
220 W MULBERRY STREET
Sherman, TX 75090
(903)-892-7208

OWNER
Mitchell Enterprises, Ltd.
700 N. Crockett
Sherman, Texas 75090
903-893-6593

SURVEYOR
Helvey-Wagner Surveying, Inc.
222 W MAIN STREET,
Denison, Texas 75020
Office: (903) 436-6191
Fax: (903) 463-4088
Texas Board of Professional Land Surveying

50% PAGE SIZE REDUCTION



NO.	DATE	BY	DESCRIPTION
1	12.20.18	VA	ADDRESSED CITY COMMENTS

50% PAGE SIZE REDUCTION

VILBIG & ASSOCIATES, INC.
CONSULTING ENGINEERS & SURVEYORS
517 W WOODARD STREET DENISON, TX 75020

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF BIDDING ONLY UNDER THE AUTHORITY OF DAVID A. VILBIG, P.E., 67207 ON

COPLEY ADDITION

EXISTING TOPOGRAPIC

SUBMITTAL #1: --/--/--
SUBMITTAL #2: --/--/--
SUBMITTAL #3: --/--/--
SUBMITTAL #4: --/--/--
DESIGN: VA DRAWN: VA

SHEET
C

PLAN LEGEND

PROJECT BOUNDARY LINE	ADJACENT SUBDIVISION BOUNDARIES
EXISTING LOT LINES	PROPOSED RIGHT-OF-WAY LINES
FORMER LOT LINES	PROPOSED LOT LINES
EXISTING R.O.W. CENTERLINE	PROPOSED R.O.W. CENTERLINE
I.R.F. — IRON ROD FOUND	I.R.S. — 1/2 INCH IRON ROD WITH YELLOW CAP MARKED RPLS 3989 SET
EXISTING EASEMENTS	PROPOSED EASEMENTS
OHE — EXISTING ELECTRIC LINE	EXISTING BUILDING SETBACK LINES
PP — EXISTING POWER POLE & GUY	PROPOSED BUILDING SETBACK LINES
UGTEL — EX. UNDERGROUND TELEPHONE	20" PECAN — TREE, TYPE & DIAMETER
GAS — EXISTING GAS LINE	
G — EXISTING GAS METER	BLRD — EXISTING PIPE BOLLARD
LIGHT — EXISTING STREET OR FLOOD LIGHT	CM — CONTROLLING MONUMENT
EX.8"SS — S — EX. SANITARY SEWER LINE	PROPOSED CURB INLET
SSMH — EX. SANITARY SEWER MANHOLE	8"SS — PROPOSED SANITARY SEWER
18"RCP — EX. STORM SEWER LINE	PROPOSED SANITARY SEWER MANHOLE
620 / 618 — EXISTING CONTOUR LINES	8"SS — PROPOSED SANITARY SEWER SERVICE
# 642.13 — EXISTING SPOT ELEVATION	PROPOSED STORM SEWER
EXISTING ASPHALT PAVING	620 — PROPOSED CONTOUR LINE
EXISTING CONCRETE PAVING	625.10 — PROPOSED SPOT GRADE
EXISTING CURB	PROPOSED DRAINAGE SWALE
FH — EXISTING FIRE HYDRANT	---HP--- ---LP--- PROPOSED HIGH & LOW POINT
EX.12"W — EXISTING WATER LINE	PROPOSED CURB
W — EXISTING WATER METER	FH — PROPOSED FIRE HYDRANT
WV — EXISTING WATER VALVE	8"WATER — PROPOSED WATER LINE
T — UNDERGROUND TELEPHONE LINE	PROPOSED WATER METER
OUGT — UNDERGROUND CABLE MARKER	PROPOSED WATER TEE
EXISTING DITCH CENTERLINE	PROPOSED WATER VALVE
EXISTING FENCE	8"WATER — PROPOSED WATER SERVICE
	PROPOSED SAWCUT LINE
	PROPOSED PAVEMENT DRAINAGE FLOW
	BENCHMARK

STANDARD ABBREVIATIONS

AC	ACRES / AIR CONDITIONING	**FL**	FLOW LINE	**PVI**	POINT OF VERTICAL INTERSECTION
APP	APPROXIMATE	**FT**	FEET	**PVMT**	PAVEMENT
ARCH	ARCHITECTURAL	**FUT**	FUTURE	**R**	RADIUS
ARV	AIR RELEASE VALVE	**G**	GAS	**RC**	REINFORCED CONCRETE
ASPH	ASPHALT	**GI**	GRATE INLET	**RCA**	REINFORCED CONCRETE ARCH PIPE
BC	BACK OF CURB	**GM**	GAS METER	**RCB**	REINFORCED CONCRETE BOX
B-B	BACK TO BACK OF CURB	**GRAV**	GRAVEL	**RCI**	RECESSED CURB INLET
BFR	BARRIER-FREE RAMP	**GUT**	GUTTER	**RCP**	REINFORCED CONCRETE PIPE
BM	BENCHMARK	**HDPE**	HIGH DENSITY POLYETHYLENE PIPE	**REINF**	REINFORCED
BP	BEGIN PAVEMENT	**HDWL**	HEADWALL	**RL**	RIDGE LINE
BW	BOTTOM OF WALL	**HGL**	HYDRAULIC GRADE LINE	**ROW**	RIGHT OF WAY
CATV	CABLE TV	**HMAC**	HOT MIX ASPHALTIC CONCRETE	**RR**	RAILROAD
CF	CUBIC FEET	**HP**	HIGH POINT / HIGH PRESSURE	**RT**	RIGHT
CFS	CUBIC FEET PER SECOND	**HVAC**	HEATING, VENTILATION AND AIR CONDITIONING	**SET**	SAFETY END TREATMENT
C&G	CURB & GUTTER			**SF**	SQUARE FEET
CI	CURB INLET	**HW**	HEADWATER	**SY**	SQUARE YARD
CL	CENTER LINE	**ICV**	IRRIGATION CONTROL VALVE	**SQ**	SQUARE
CM	CONTROLLING MONUMENT	**IN**	INCHES	**SS**	SANITARY SEWER
CMA	CORRUGATED METAL ARCH PIPE	**IRR**	IRRIGATION WATER	**STA**	STATION
CMP	CORRUGATED METAL PIPE	**IPF**	IRON PIPE FOUND	**STD**	STANDARD
CO	CLEANOUT	**IRF**	IRON ROD FOUND	**STM**	STORM DRAIN
CONC	CONCRETE	**IRS**	IRON ROD SET	**SVC**	SERVICE
CONST	CONSTRUCT	**LF**	LINEAR FEET	**SW**	SIDEWALK
CPI	CURB POINT OF INTERSECTION	**LP**	LOW POINT / LOW PRESSURE	**SWR**	SEWER
CR	CURB RETURN	**LS**	LUMP SUM	**SY**	SQUARE YARD
CY	CUBIC YARD	**LT**	LEFT	**T**	TELEPHONE
DCO	DOUBLE CLEANOUT	**MEP**	MECHANICAL, ELECTRICAL AND PLUMBING	**TAN**	TANGENT
DIA	DIAMETER	**MH**	MANHOLE	**TBD**	TO BE DETERMINED
DI	DUCTILE IRON PIPE	**MO**	MIDDLE ORDINATE	**TC**	TOP OF CURB
DOM	DOMESTIC WATER	**MON**	MONUMENT	**TMH**	TELEPHONE MANHOLE
EA	EACH	**N/A**	NOT APPLICABLE	**TOE**	TOE OF SLOPE
ELEV	ELEVATION	**NG**	NATURAL GROUND (EXISTING)	**TOP**	TOP OF PAVEMENT
EMH	ELECTRIC MANHOLE	**OC**	ON CENTER	**TOS**	TOP OF SLOPE
EOA	EDGE OF ASPHALT	**OCEW**	ON CENTER EACH WAY	**TW**	TOP OF WALL / TAILWATER
EOC	EDGE OF CONCRETE	**OHE**	OVERHEAD ELECTRIC	**TYP**	TYPICAL
EP	END AVEMENT	**OHT**	OVERHEAD TELEPHONE / CABLE	**UGE**	UNDERGROUND ELECTRIC
ESMT	EASEMENT	**PC**	POINT OF CURVATURE	**UGT**	UNDERGROUND TELEPHONE / CABLE
EX	EXISTING	**PCC**	POINT OF COMPOUND CURVATURE	**UNK**	UNKNOWN
FC	FACE OF CURB	**PI**	POINT OF INTERSECTION	**VCP**	VITREOUS CLAY PIPE
F-F	FACE TO FACE OF CURB	**PL**	PROPERTY LINE	**W**	WATER
FF	FINISHED FLOOR ELEVATION	**PP**	POWER POLE	**WL**	WATER LINE
FH	FIRE HYDRANT	**PRC**	POINT OF REVERSE CURVATURE	**WM**	WATER METER
FM	FORCE MAIN	**PT**	POINT OF TANGENCY	**WTR**	WATER
FP	FINISHED PAD ELEVATION	**PVC**	POLYVINYL CHLORIDE PIPE	**WV**	WATER VALVE

50% PAGE SIZE REDUCTION

GENERAL NOTES

1. Prior to any construction, the Contractor shall be familiar with the plans including all notes, the standard specifications and standards for construction in the City, and any other applicable standards or specifications relevant to the proper completion of the work specified. Failure on the part of the Contractor to be familiar with all Standards and Specifications pertaining to this work shall in no way relieve the Contractor of responsibility of performing the work in accordance with all such applicable Standards and Specifications.

2. Underground utility locations shown on these plans are based on as-built plans obtained from government agencies and/or private utility companies, and above-ground locations of objects related to the underground utilities, such as valves, inlets, manholes, and location markers. The Engineer cannot guarantee the accuracy of the underground utility locations shown on these plans and is not responsible for any inaccuracies in the location, size, grade, or full extent of existing above-ground or underground facilities shown on these plans. The Contractor shall field verify the location of all existing utilities prior to beginning any construction and notify the Engineer if locations and flowlines are different that those shown on the plans. As required by the "Texas Underground Facility Damage Prevention and Safety Act", the Contractor must contact Texas811 at least 48 hours prior to any excavation operations being performed.

3. Contractor shall be responsible for contacting all necessary public utilities prior to beginning permanent paving work to ensure that all proposed buried utilities are properly installed. It will be the responsibility of the Contractor to protect all public utilities in the construction of this project. All storm sewer inlets, valve boxes, cleanouts, manholes, fire hydrants, gas mains, meter boxes, electric and telephone duct banks, etc. must be adjusted to the proper line and grade by the Contractor prior to and/or during the placement of permanent paving. Any facilities damaged during construction shall be restored to a state as good or better than their condition prior to construction, at the sole expense of the Contractor. The Contractor shall coordinate the placement of any necessary sleeving with the plumbing, electrical, and irrigation subcontractors.

4. It will be the responsibility of the Contractor to protect all existing paving, sidewalks, buildings and other structures that will remain in place during the construction. The Contractor shall be responsible for reporting any inaccuracies in facility locations that may affect successful completion of the work as specified. Unless otherwise directed, the Contractor is responsible for maintaining said facilities in their present condition, and if they are damaged, they shall be restored to a state as good or better than their condition prior to construction, at the sole expense of the Contractor.

5. Contractor shall possess, prior to construction, all necessary permits, licenses, etc., and shall perform all work in compliance with any terms and conditions. All work shall be done in compliance with applicable state, federal, and local regulations.

6. The Contractor shall be responsible for inspecting the site and shall be familiar with the soil conditions to be encountered and any onsite conditions which may affect successful performance of the work, such as the availability of transportation and labor, access to public streets, access to utilities needed during construction, presence and extent of groundwater, and unforseen weather conditions. Any failure by the Contractor to properly ascertain the onsite conditions will not relieve him from responsibility for properly estimating the difficulty or cost of successfully performing the work.

7. Any rock encountered during excavation, any pavement or structures required to be removed, and/or any materials contaminated by the Contractor during construction shall be considered waste material and shall be disposed of as specified in Note #11.

8. Prior to commencing excavation operations, the Contractor shall consult with the Owner and/or the Engineer to determine how and where to dispose of waste materials. Waste materials shall be moved at the Contractor's expense and placed in a legally and environmentally sound manner at a location approved by the Owner and any applicable governing authorities and/or private property owners. Waste material disposal practices shall comply with all applicable state, federal and local regulations. At the conclusion of construction, the Contractor may not leave stockpiled waste materials onsite unless the Owner specifically authorizes this practice in writing. Unless otherwise specified in the Contract, removal of waste materials work shall not be paid for directly but will be considered subsidiary to other bid items.

9. The Contractor is responsible for final stabilization of all disturbed areas not covered by pavement, buildings, or other erosion-resistant surfaces or structures. Unless otherwise specified in the contract documents, landscape plans, specifications of the governing authority, or the SWPPP, all disturbed areas shall be landscaped with at least 4" of topsoil and seasonally appropriate grass seed, mulch, or sod per the preference of the Owner. Unless otherwise specified in the contract documents, existing on-site topsoil shall be stripped, stockpiled, and reused wherever possible. Stripped topsoil shall be stockpiled on-site at a location approved by the Owner, and shall be kept reasonably free of rocks larger than 3" (three inches) in diameter, non-vegetative construction debris, noxious weeds, and wood, roots, and stumps. (Topsoil may contain small amounts of native vegetative matter such as untreated wood from felled trees if these materials have been ground to a fine consistency; however, these materials may not be used for fill under structures or pavement under any circumstances.) Unless otherwise specified in the Contract, final stabilization of excavated areas shall not be paid for directly but will be considered subsidiary to other bid items.

10. The Engineer and the Owner are not responsible for any inaccuracies in the soils report(s) and/or any other assessments of subsurface conditions prepared by others. It shall be the responsibility of the Contractor to ascertain the existence of any unexpected subsurface conditions that may affect the work performed. The Engineer is not responsible for interpretation of subsurface report data by the Contractor, such as underground rock profiles, soil bearing values, soils stability and/or the presence, level and extent of underground water.

11. In the event that pre-existing contaminated soils or other toxic and/or hazardous materials are found within the construction area, and the existence, extent, nature, and/or location of these materials was not accurately known prior to construction, the Contractor shall immediately cease work in the affected area(s) and notify the Engineer and Owner. The Contractor shall not take any steps to relocate, remove, or otherwise mitigate the contaminated materials before consulting with the Owner to determine the proper course of action and identify who may be liable for any additional work that may be required.

12. Where necessary, the Contractor shall be responsible for trench safety plans and implementation. Plans shall be prepared and sealed by a professional engineer, licensed in the State of Texas, for the implementation of safety control measures, and shall meet the requirements of the governing authorities in effect during the period of construction of the project.

13. The Contractor shall protect all property corner markers, monuments, and benchmarks. If any such items are in danger of being disturbed, they shall be properly referenced, and if disturbed, they shall be reset by a State of Texas registered professional land surveyor at the sole expense of the Contractor. The Contractor is responsible for coordinating with the Engineer and Surveyor at the appropriate time to set any new property corner markers or monuments required prior to acceptance of the project. The Contractor shall bear the entire cost of setting additional corner markers that are not addressed in the original contract documents.

14. It is the responsibility of the Contractor to maintain existing access routes to adjacent properties, or to provide alternate access routes to the satisfaction of the Owner, adjacent property owners and/or any applicable governing authorities. Public roads, alleys and/or other public access routes shall not be blocked or obstructed in any way unless permission is obtained from the Owner and the governing authorities. Furthermore, unless properly directed by all governing authorities, the Contractor shall not perform any action that may obstruct or impede the normal operation of public or private vehicles or transportation facilities located near the site, including but not limited to rail transportation and aircraft.

15. Unless otherwise indicated in the plans, specifications, or contract documents, the Contractor shall be responsible for providing traffic control and construction layout and staking. The cost of implementing these items, including materials and labor, shall be borne by the Contractor and shall be subsidiary to the associated bid items. Coordination with government agencies and/or private property owners as necessary to implement these items shall be the sole responsibility of the Contractor unless otherwise instructed by the Owner and/or the Engineer. Any necessary traffic control plans not included in the plans or bid documents shall be provided by the Contractor.

16. It is the responsibility of the Contractor and/or the Owner to bear the cost of any required bonds, and/or any other miscellaneous fees or certifications required for successful completion of this project.

17. Soil Fill Under Proposed Structures & Pavement: Unless otherwise specified, all fill to be placed under structures or pavement shall be compacted in 8-inch maximum lifts to 95% Standard Proctor density per ASTM D698 at -1 TO 3% points within optimum moisture. All excavation for utility placement shall be compacted in 6-inch lifts to 95% Standard Proctor density at -1 TO 3% points within optimum moisture as the utilities are backfilled. All other fill shall be compacted to 95% Standard Proctor density at -1 TO 3% points within optimum moisture. Refer to the soils report for more details. Refer to detail sheets for sub-grade preparation under pavements.
Cut Under Proposed Structures & Pavement where Underlying Material is Soil: Unless otherwise specified, where existing native soils will directly underlie proposed structures or pavement, a top layer of 6" (0.50') minimum and 8" (0.67') nominal thickness shall be scarified and compacted to 95% Standard Proctor density per ASTM D698 at optimum moisture. Refer to the soils report for

18. Cut Under Proposed Pavement where Underlying Material is Rock: In areas where exposed bedrock directly underlies proposed pavement, the Contractor shall not bring excessively cut-down areas up to grade using compacted native soil backfill unless this practice is specifically authorized by the Engineer. Excessively cut-down areas shall be brought up to grade using crushed rock flexible base material per TxDOT Item 247, Type A, Grade 1 or 2. Recycled crushed concrete (TxDOT Type D) may be used only when specifically authorized by the Engineer. The Contractor may alternately use a thickened paving section to compensate for the excessive cut. Refer to the soils report for more details and for backfill specifications where bedrock will directly underlie structures.

19. Pavement Subgrade Disclaimer: The above notes are not intended to supercede detailed pavement subgrade stabilization specifications as shown elsewhere in the plans and/or local codes. Lime or cement subgrade treatment may be required where shown, in addition to the required compaction.

20. Miscellaneous Backfill in Confined Areas: In utility trenches, irrigation trenches, and/or tightly confined areas where it is impractical to attain adequate soil compaction, the Contractor may use flowable sand and Portland cement backfill per TxDOT Item 401 or NCTCOG Item 504.2.3.4 in place of native soil materials.

21. Topographic contours, existing ground profile lines, and locations of existing above-ground improvements shown on the Plans are based on an on the ground survey. This information and any excavation quantities provided prior to construction are for informational purposes only. The Contractor shall be responsible for performing an independent quantity takeoff of excavation required for this project, and for verifying the accuracy and completeness of any topographical information or quantities shown on the plans or contract documents.

GRADING NOTES

1. Prior to commencing construction activities, the Contractor shall consult with the Engineer and/or the Developer to determine if any portions of the site are to be left undisturbed. The Contractor shall be entirely responsible for the protection of existing structures, trees, vegetation, and other items designated to remain. The Contractor shall comply with all provisions of the tree mitigation plan(s) or local tree preservation requirements, where applicable. The Contractor shall bear the entire cost of restoring, replacing, or otherwise compensating the Developer for any protected facilities or vegetation that are damaged or destroyed during earthwork or clearing operations.
2. All earthwork under buildings or pavement shall be free of organic materials, including stumps, roots, and other vegetation. The Contractor shall be reponsible for stripping organic material from the ground surface and disposing of it as specified in Note #9 in the General Notes, (ON THIS SHEET).
3. Landscaped areas shall receive 6" of topsoil unless otherwise noted elsewhere in the landscape or civil engineering plans. Stripped topsoil shall be stockpiled onsite at a location approved by the Developer. At the conclusion of construction, excess topsoil shall be considered waste material, and the Contractor is responsible for disposing of it as specified in Note #9 in the General Notes, (ON THIS SHEET).
4. Earthwork shall be inspected and tested on a continuing basis by the Geotechnical Engineer or an independent testing firm. The Contractor shall follow the Geotechnical Engineer's recommendations, and shall obtain approval before placement of fill containing significant numbers of rocks in excess of 4" in diameter.
5. All fill to be placed under structures or pavement shall consist of onsite soils compacted per Note #18, in the General Notes (ON THIS SHEET), and/or the geotechnical report.
6. All subgrade shall be proof-rolled prior to the placement of paving with a loaded truck.
7. Final paving, curb, sidewalk and building pad elevations will be placed with an elevation tolerance of plus or minus 0.03 feet. Grades in landscaped areas will be placed with an elevation tolerance of plus or minus 0.10 feet.
8. Grades in paved areas are top of finished pavement unless noted. Grades along curb lines are to base of curb (gutter) unless denoted with "TC" to signify Top of Curb. All curbs are 0.50' (6") high unless noted otherwise on the plans. Finished floor elevations are to top of floor including thickness of flooring materials; consult architectural and/or structural plans for depth of excavation under building(s).
9. Landscaped areas designated as "Grade to Drain" shall have an absolute minimum slope of 1.5% unless otherwise indicated on the plans, and shall be sloped at 2% or greater whenever possible. Unless otherwise indicated, maximum slope of landscaped areas shall be 3:1 (H:V).
10. Unless otherwise indicated, grading of areas subject to pedestrian access shall comply with the latest revision of the Texas Accessibility Standards (T.A.S.) enacted by the Texas Department of Licensing and Regulation.
11. Ramps in excess of 0.50' (6") vertical rise require handrails per T.A.S. regulations. Refer to architectural plans for detail of handrails on ramps and stairs, where applicable.
12. All areas not covered by buildings, pavement or other erosion-resistant surfaces shall be stabilized in compliance with the SWPPP and/or landscape plan, where applicable. In areas where no such document applies or no stabilization method is specified, the Contractor shall, at a minimum, broadcast seed the area with grass per TxDOT Item 164. Other stabilization methods must be approved by the Developer or the Engineer.
13. Refer to street paving plans for proposed grades within proposed right-of-way.
14. Units of length are feet unless otherwise marked as inches ("), centimeters (cm), meters (m) or yards (yd).

BENCHMARKS

Benchmark #1:
SQ. CUT ON TOP OF CONC. HEADWALL

ELEV.= 733.12'

PROGRESS PLOTS
FOR INTERIM DESIGN
REVIEW ONLY
NOT FOR CONSTRUCTION
DATE: 12/20/18

!!CAUTION!!
THERE MAY BE UNDERGROUND GAS LINES, TELEPHONE CABLES AND ELECTRICAL LINES WITHIN VICINITY OF SITE. EXACT LOCATIONS ARE UNKNOWN. CALL BEFORE DIGGING!

NO.	DATE	BY	DESCRIPTION
1	12.20.18	VA	ADDRESSED CITY COMMENTS

VILBIG & ASSOCIATES, INC
CONSULTING ENGINEERS & SURVEYORS
517 W WOODARD STREET DENISON, TX 75020

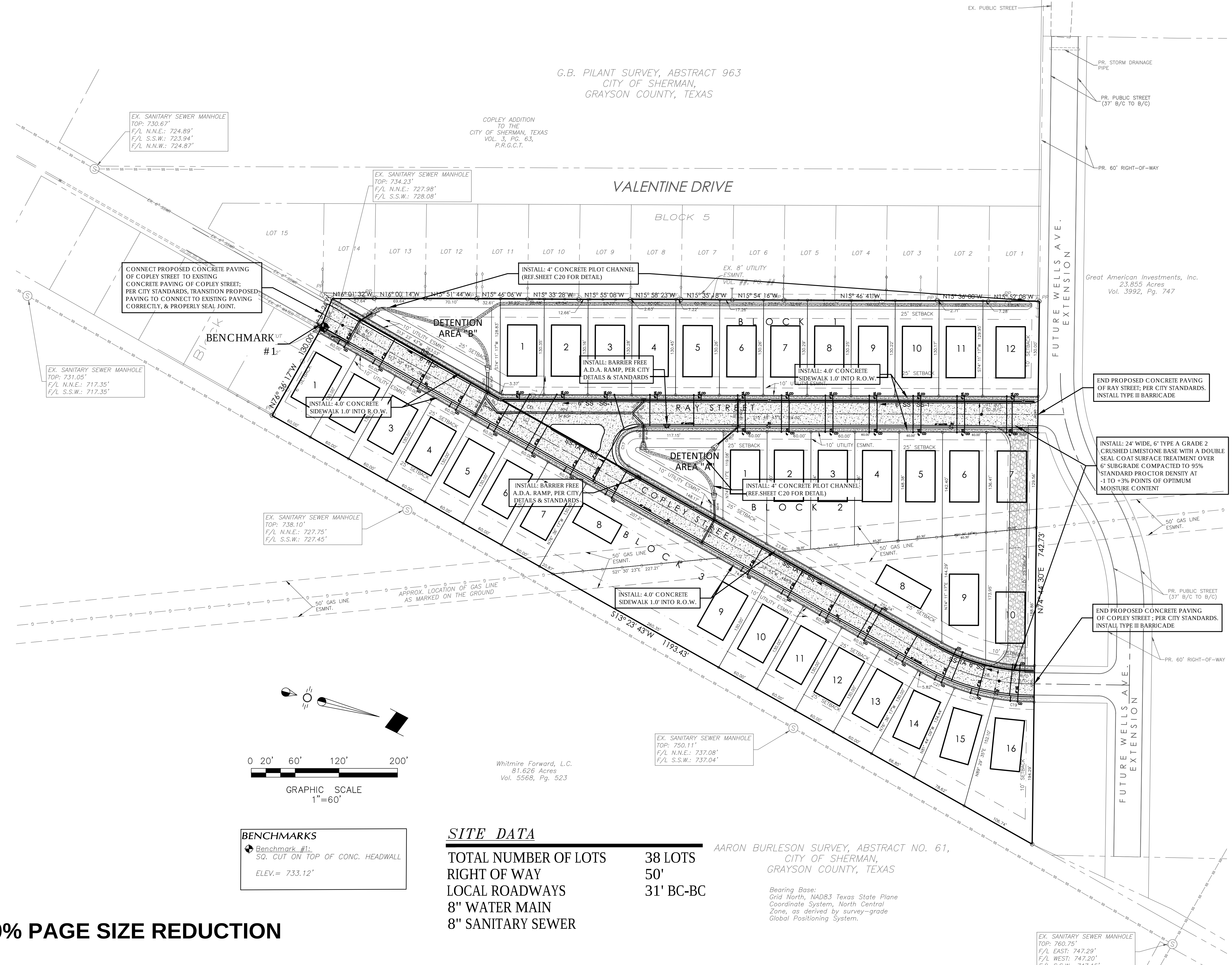
THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF BIDDING ONLY UNDER THE AUTHORITY OF DAVID A. VILBIG, P.E., 67207 ON

COPLEY ADDITION

GENERAL NOTES & LEGEND

SUBMITTAL #1: --/--/--
SUBMITTAL #2: --/--/--
SUBMITTAL #3: --/--/--
SUBMITTAL #4: --/--/--
DESIGN: VA DRAWN: VA

SHEET C


G.B. PILANT SURVEY, ABSTRACT 963
CITY OF SHERMAN,
GRAYSON COUNTY, TEXAS
COPLEY ADDITION TO THE CITY OF SHERMAN, TEXAS VOL. 3, PG. 63, P.R.G.C.T.
VALENTINE DRIVE
BLOCK 5
EX. PUBLIC STREET
PR. STORM DRAINAGE PIPE
PR. PUBLIC STREET (37' B/C TO B/C)
PR. 60' RIGHT-OF-WAY
EX. SANITARY SEWER MANHOLE TOP: 730.67' F/L N.N.E.: 724.89' F/L S.S.W.: 723.94' F/L N.N.W.: 724.87'
EX. SANITARY SEWER MANHOLE TOP: 734.23' F/L N.N.E.: 727.98' F/L S.S.W.: 728.08'
EX. SANITARY SEWER MANHOLE TOP: 731.05' F/L N.N.E.: 717.35' F/L S.S.W.: 717.35'
EX. SANITARY SEWER MANHOLE TOP: 738.10' F/L N.N.E.: 727.75' F/L S.S.W.: 727.45'
EX. SANITARY SEWER MANHOLE TOP: 750.11' F/L N.N.E.: 737.08' F/L S.S.W.: 737.04'
EX. SANITARY SEWER MANHOLE TOP: 760.75' F/L EAST: 747.29' F/L WEST: 747.20'
CONNECT PROPOSED CONCRETE PAVING OF COPLEY STREET TO EXISTING CONCRETE PAVING OF COPLEY STREET; PER CITY STANDARDS, TRANSITION PROPOSED PAVING TO CONNECT TO EXISTING PAVING CORRECTLY, & PROPERLY SEAL JOINT.
INSTALL: 4" CONCRETE PILOT CHANNEL (REF.SHEET C20 FOR DETAIL)
INSTALL: BARRIER FREE A.D.A. RAMP, PER CITY DETAILS & STANDARDS
INSTALL: 4.0' CONCRETE SIDEWALK 1.0' INTO R.O.W.
END PROPOSED CONCRETE PAVING OF RAY STREET; PER CITY STANDARDS. INSTALL TYPE III BARRICADE
INSTALL: 24' WIDE, 6" TYPE A GRADE 2 CRUSHED LIMESTONE BASE WITH A DOUBLE SEAL COAT SURFACE TREATMENT OVER 6" SUBGRADE COMPACTED TO 95% STANDARD PROCTOR DENSITY AT -1 TO +3% POINTS OF OPTIMUM MOISTURE CONTENT
END PROPOSED CONCRETE PAVING OF COPLEY STREET ; PER CITY STANDARDS. INSTALL TYPE III BARRICADE
DETENTION AREA "B"
DETENTION AREA "A"
BENCHMARK #1
RAY STREET
COPLEY STREET
BLOCK 1
BLOCK 2
BLOCK 3
FUTURE WELLS AVE. EXTENSION
Great American Investments, Inc. 23.855 Acres Vol. 3992, Pg. 747
Whitmire Forward, L.C. 81.626 Acres Vol. 5568, Pg. 523
APPROX. LOCATION OF GAS LINE AS MARKED ON THE GROUND
50' GAS LINE ESMNT.
10' UTILITY ESMNT.
25' SETBACK
S13° 23' 43"W 1193.43'
N74° 44' 30"E 742.73'
N76° 36' 17"W 130.00'
0 20' 60' 120' 200'
GRAPHIC SCALE 1"=60'

BENCHMARKS

Benchmark #1:
SQ. CUT ON TOP OF CONC. HEADWALL
ELEV.= 733.12'

SITE DATA

TOTAL NUMBER OF LOTS	38 LOTS
RIGHT OF WAY	50'
LOCAL ROADWAYS	31' BC-BC
8" WATER MAIN	
8" SANITARY SEWER	

AARON BURLESON SURVEY, ABSTRACT NO. 61,
CITY OF SHERMAN,
GRAYSON COUNTY, TEXAS

Bearing Base:
Grid North, NAD83 Texas State Plane Coordinate System, North Central Zone, as derived by survey-grade Global Positioning System.

50% PAGE SIZE REDUCTION

!!CAUTION!!
THERE MAY BE UNDERGROUND GAS LINES, TELEPHONE CABLES AND ELECTRICAL LINES WITHIN VICINITY OF SITE. EXACT LOCATIONS ARE UNKNOWN. CALL BEFORE DIGGING!

Texas811

PROGRESS PLOTS
FOR INTERIM DESIGN REVIEW ONLY
NOT FOR CONSTRUCTION
DATE: 12/20/18

NO.	DATE	BY	DESCRIPTION
1	12.20.18	VA	ADDRESSED CITY COMMENTS

VILBIG & ASSOCIATES, INC.
CONSULTING ENGINEERS & SURVEYORS
517 W WOODARD STREET DENISON, TX 75020

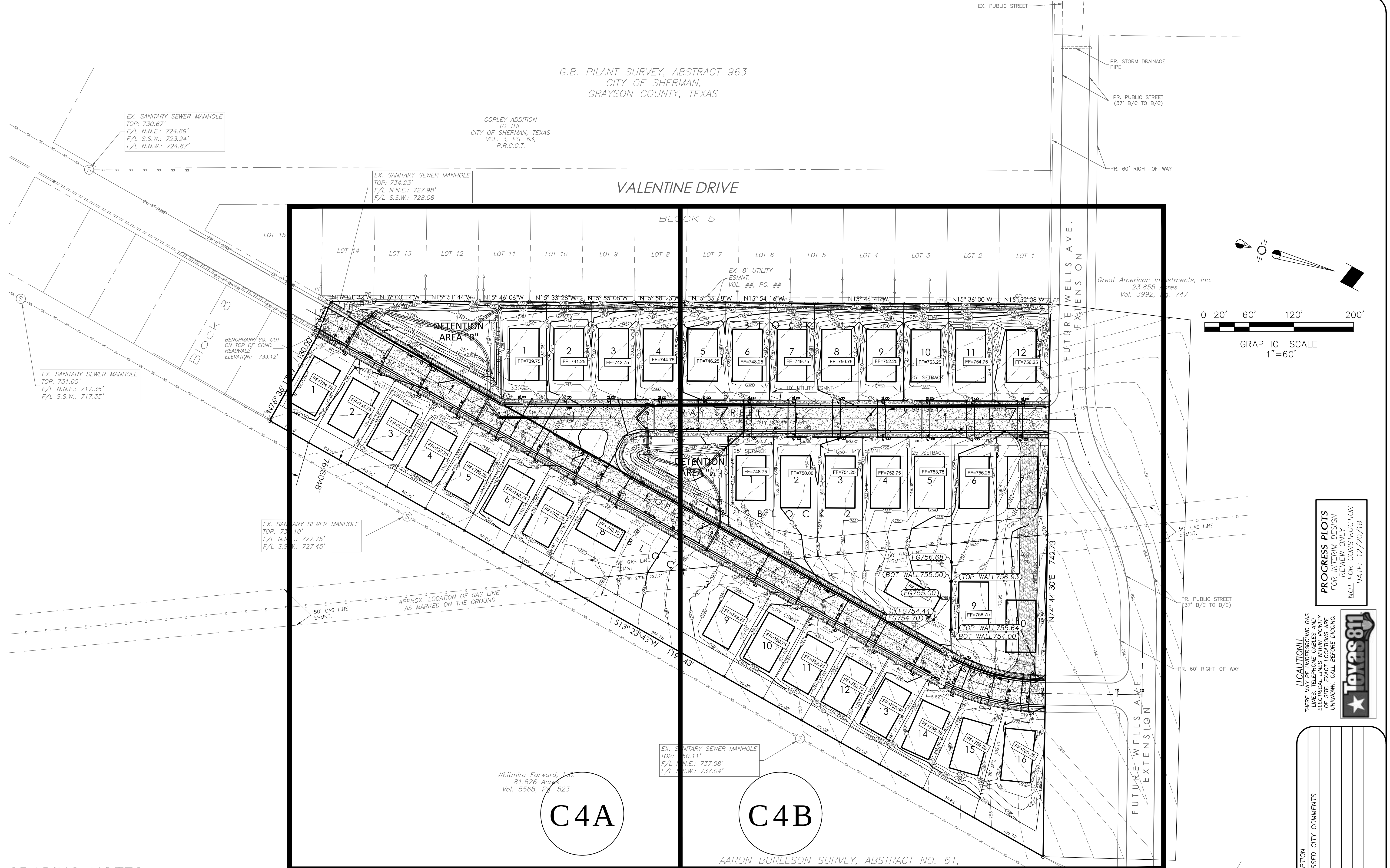
THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF BIDDING ONLY UNDER THE AUTHORITY OF DAVID A. VILBIG, P.E., 67207 ON

COPLEY ADDITION

OVERALL SITE PLAN

SUBMITTAL #1: --/--/--
SUBMITTAL #2: --/--/--
SUBMITTAL #3: --/--/--
SUBMITTAL #4: --/--/--
DESIGN: VA DRAWN: VA

SHEET C3



GRADING NOTES

1. Prior to commencing construction activities, the Contractor shall consult with the Engineer and/or the Developer to determine if any portions of the site are to be left undisturbed. The Contractor shall be entirely responsible for the protection of existing structures, trees, vegetation, and other items designated to remain. The Contractor shall comply with all provisions of the tree mitigation plan(s) or local tree preservation requirements, where applicable. The Contractor shall bear the entire cost of restoring, replacing, or otherwise compensating the Developer for any protected facilities or vegetation that are damaged or destroyed during earthwork or clearing operations.

2. All earthwork under buildings or pavement shall be free of organic materials, including stumps, roots, and other vegetation. The Contractor shall be responsible for stripping organic material from the ground surface and disposal of it as specified in Note #[illegible] in the General Notes, Sheet C2.

50% PAGE SIZE REDUCTION

3. Landscaped areas shall receive 6" of topsoil unless otherwise noted elsewhere in the landscape or civil engineering plans. Stripped topsoil shall be stockpiled onsite at a location approved by the Developer. At the conclusion of construction, excess topsoil shall be considered waste material, and the Contractor is responsible

4. Earthwork shall be inspected and tested on a continuing basis by the Geotechnical Engineer or an independent testing firm. The Contractor shall follow the Geotechnical Engineer's recommendations, and shall obtain approval before placement of fill containing significant numbers of rocks in excess of 4" in diameter.

5. All fill to be placed under structures or pavement shall consist of onsite soils compacted per Note #18, Sheet C2 and/or the geotechnical report.

6. All subgrade shall be proof-rolled prior to the placement of paving.

7. Final paving, curb, sidewalk and building pad elevations will be placed with an elevation tolerance of plus or minus 0.03 feet. Grades in landscaped areas will be placed with an elevation tolerance of plus or minus 0.10 feet.

8. Grades in paved areas are top of finished pavement unless noted. Grades along curb lines are to base of curb (gutter) unless denoted with "TC" to signify Top of Curb. All curbs are 0.50' (6") high unless noted otherwise on the plans. Finished floor elevations are to top of floor including thickness of flooring materials; consult

9. Landscaped areas designated as "Grade to Drain" shall have an absolute minimum slope of 1.5% unless otherwise indicated on the plans, and shall be sloped at 2% or greater whenever possible. Unless otherwise indicated, maximum slope of landscaped areas shall be 3:1 (H:V).

10. Unless otherwise indicated, grading of areas subject to pedestrian access shall comply with the latest revision of the Texas Accessibility Standards (T.A.S.) enacted by the Texas Department of Licensing and Regulation.

11. Ramps in excess of 0.50' (6") vertical rise require handrails per T.A.S. regulations. Refer to architectural plans for detail of handrails on ramps and stairs, where applicable.

12. All areas not covered by buildings, pavement or other erosion-resistant surfaces shall be stabilized in compliance with the SWPPP and/or landscape plan, where applicable. In areas where no such document applies or no stabilization method is specified, the Contractor shall, at a minimum, broadcast seed the area with grass per TxDOT Item 164. Other stabilization methods must be approved by the Developer or the Engineer.

11. Units of length are feet unless otherwise marked as inches ("), centimeters (cm), meters (m) or yards (yd).

12. Refer to Sheet C2 for other general notes applicable to grading.

PROGRESS PLOTS
FOR INTERIM DESIGN REVIEW ONLY
NOT FOR CONSTRUCTION
DATE: 12/20/18

!!CAUTION!!
THERE MAY BE UNDERGROUND GAS LINES, TELEPHONE CABLES AND ELECTRICAL LINES WITHIN VICINITY OF SITE. EXACT LOCATIONS ARE UNKNOWN. CALL BEFORE DIGGING!

NO.	DATE	BY	DESCRIPTION
1	12.20.18	VA	ADDRESSED CITY COMMENTS

VILBIG & ASSOCIATES, INC.
CONSULTING ENGINEERS & SURVEYORS
517 W WOODARD STREET DENISON, TX 75020

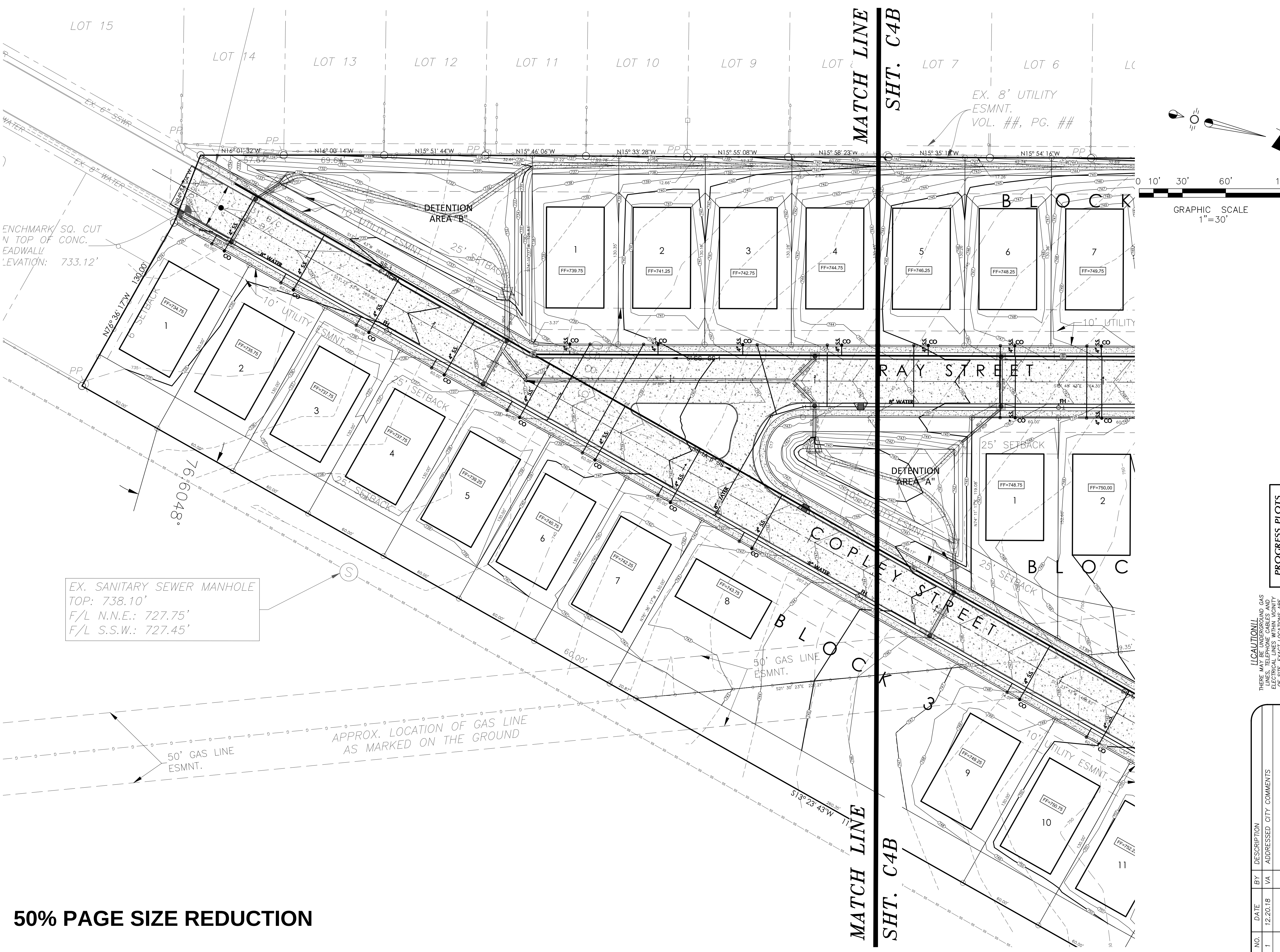
THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF BIDDING ONLY UNDER THE AUTHORITY OF DAVID A. VILBIG, P.E., 67207 ON

COPLEY ADDITION

OVERALL GRADING PLAN

SUBMITTAL #1: --/--/--
SUBMITTAL #2: --/--/--
SUBMITTAL #3: --/--/--
SUBMITTAL #4: --/--/--
DESIGN: VA DRAWN: VA

SHEET C4



50% PAGE SIZE REDUCTION

PROGRESS PLOTS
FOR INTERIM DESIGN REVIEW ONLY
NOT FOR CONSTRUCTION
DATE: 12/20/18

!!CAUTION!!
THERE MAY BE UNDERGROUND GAS LINES, TELEPHONE CABLES AND ELECTRICAL LINES WITHIN VICINITY OF SITE. EXACT LOCATIONS ARE UNKNOWN. CALL BEFORE DIGGING!

Texas811

NO.	DATE	BY	DESCRIPTION
1	12.20.18	VA	ADDRESSED CITY COMMENTS

SUBMITTAL #1: --/--/--
SUBMITTAL #2: --/--/--
SUBMITTAL #3: --/--/--
SUBMITTAL #4: --/--/--
DESIGN: VA DRAWN: VA

VILBIG & ASSOCIATES, INC.
CONSULTING ENGINEERS & SURVEYORS
517 W WOODARD STREET DENISON, TX 75020

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF BIDDING ONLY UNDER THE AUTHORITY OF DAVID A. VILBIG, P.E., 67207 ON

COPLEY ADDITION

ENLARGED GRADING PLAN

SHEET C4

PROGRESS PLOTS
FOR INTERIM DESIGN REVIEW ONLY
NOT FOR CONSTRUCTION
DATE: 12/20/18

!! CAUTION!!
THERE MAY BE UNDERGROUND GAS LINES, TELEPHONE CABLES AND ELECTRICAL LINES WITHIN VICINITY OF SITE. EXACT LOCATIONS ARE UNKNOWN. CALL BEFORE DIGGING!

Texas811

NO.	DATE	BY	DESCRIPTION
1	12.20.18	VA	ADDRESSED CITY COMMENTS

SUBMITTAL #1: --/--/--
SUBMITTAL #2: --/--/--
SUBMITTAL #3: --/--/--
SUBMITTAL #4: --/--/--
DESIGN: VA DRAWN: VA

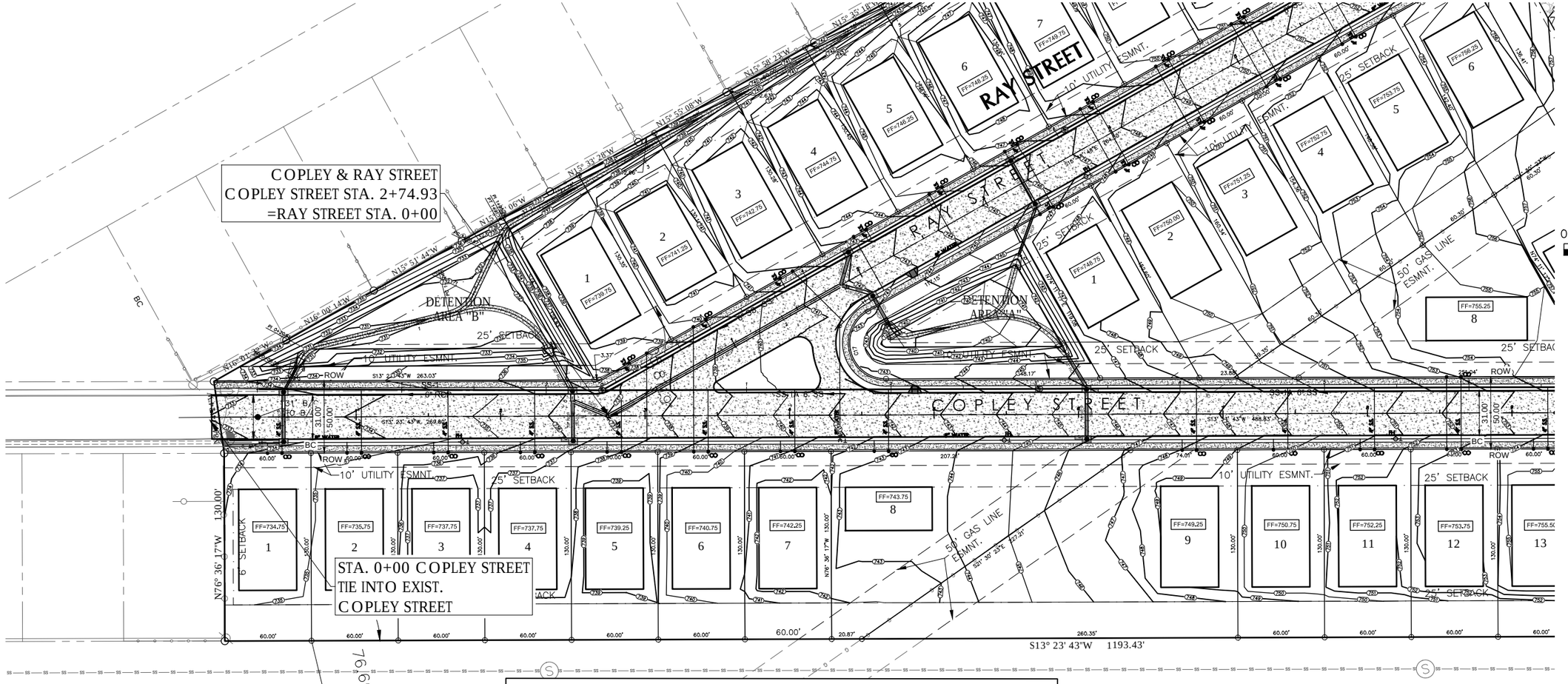
ENLARGED GRADING PLAN

COPLEY ADDITION

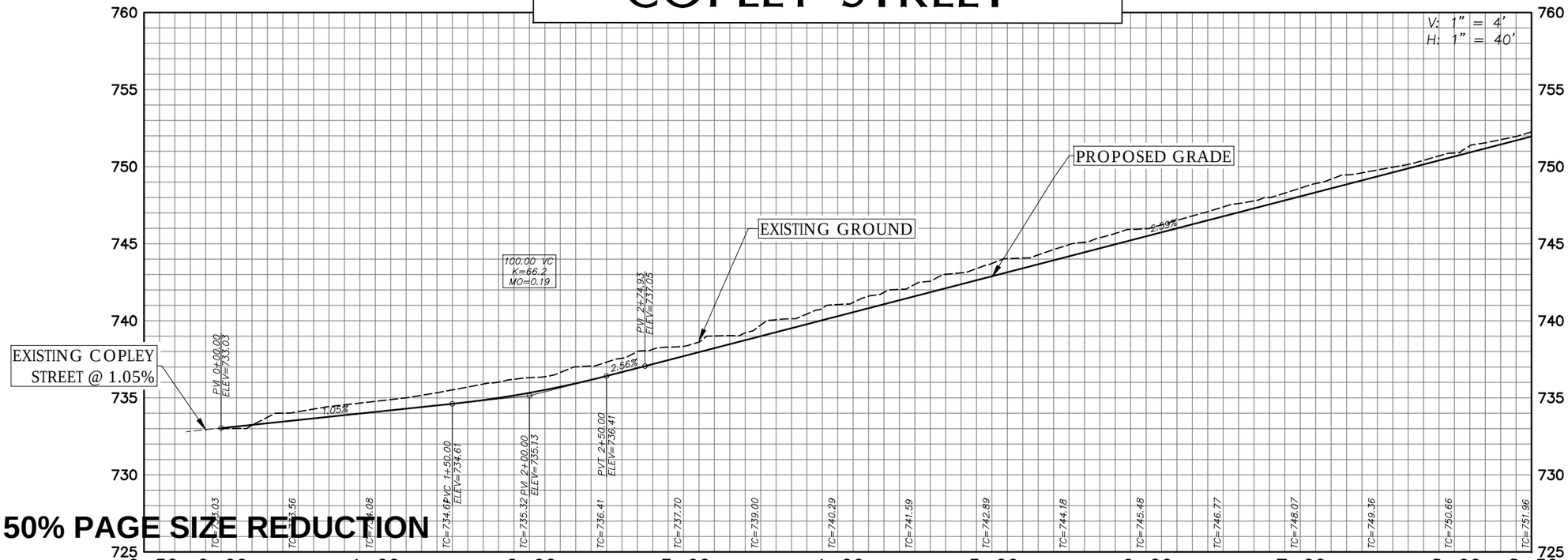
THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF BIDDING ONLY UNDER THE AUTHORITY OF DAVID A. VILBIG, P.E., 67207 ON

VILBIG & ASSOCIATES, INC.
CONSULTING ENGINEERS & SURVEYORS
517 W WOODARD STREET DENISON, TX 75020

SHEET
C4



COPLEY STREET



50% PAGE SIZE REDUCTION

VILBIG & ASSOCIATES, INC.
CONSULTING ENGINEERS & SURVEYORS
517 W WOODARD STREET DENISON, TX 75020

PROGRESS PLOTS
FOR INTERIM DESIGN REVIEW ONLY
NOT FOR CONSTRUCTION
DATE: 12/20/18

!CAUTION!!
THERE MAY BE UNDERGROUND GAS LINES, TELEPHONE CABLES AND ELECTRICAL LINES WITHIN VICINITY OF THESE CONSTRUCTIONS. IF UNKNOWN, CALL BEFORE DIGGING!
Texas811

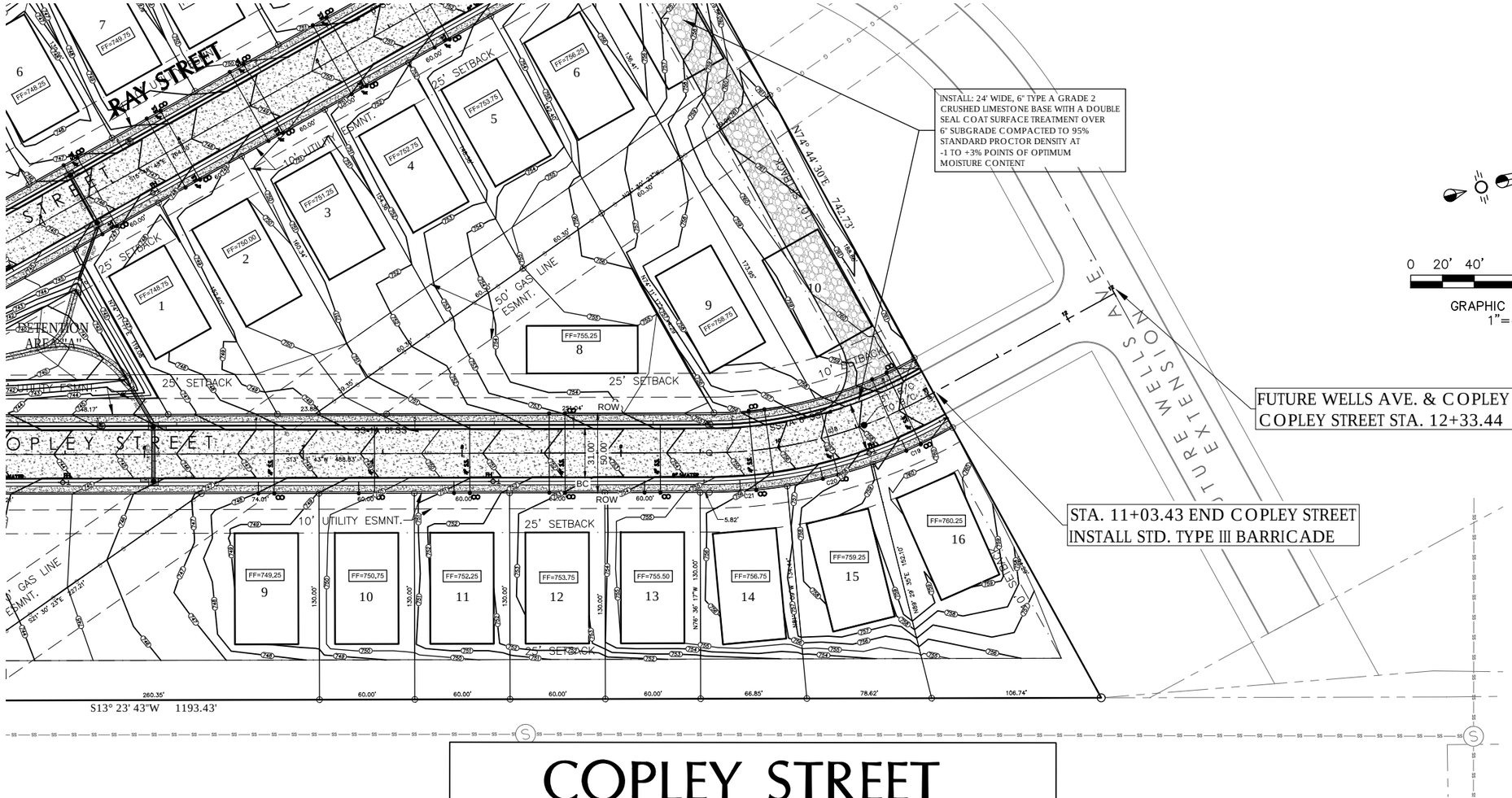
NO.	DATE	BY	DESCRIPTION
1	12.20.18	VA	ADDRESSED CITY COMMENTS

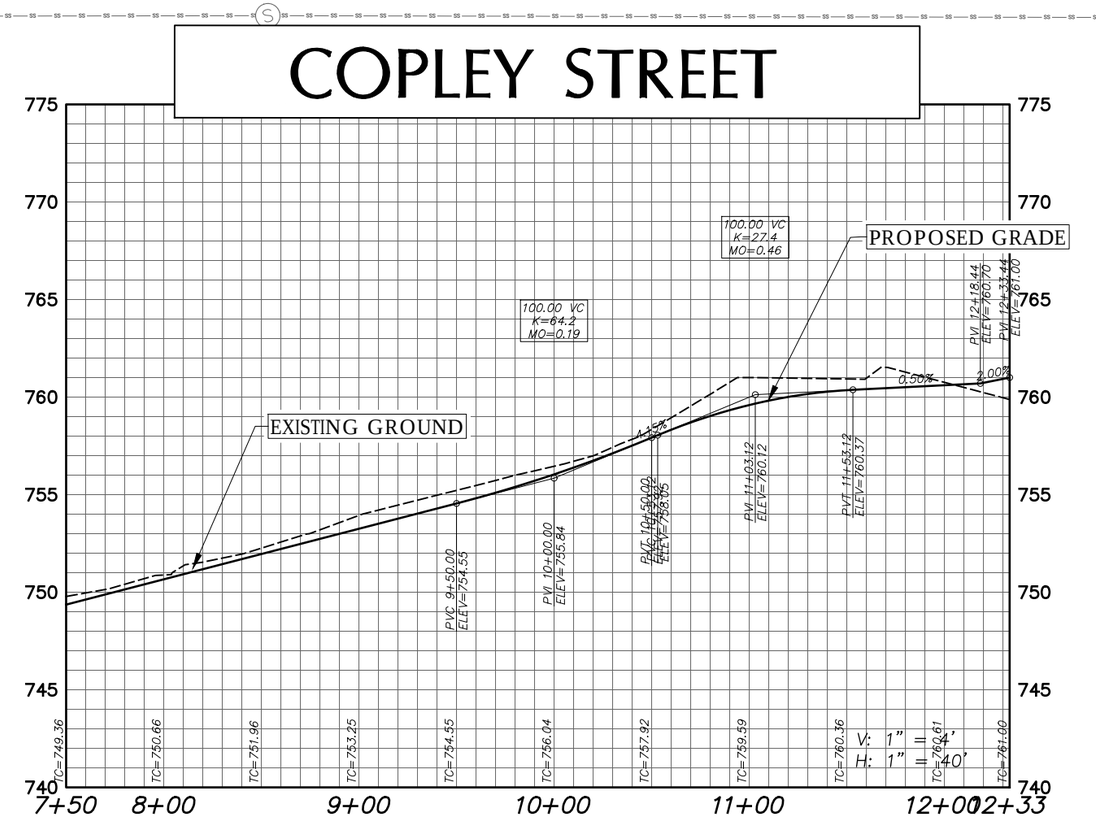
SUBMITTAL #1: --/--/--
SUBMITTAL #2: --/--/--
SUBMITTAL #3: --/--/--
SUBMITTAL #4: --/--/--
DESIGN: VA DRAWN: VA

COPLEY ADDITION

COPLEY STREET
PLAN - PROFILE

SHEET
C5





50% PAGE SIZE REDUCTION

VILBIG & ASSOCIATES, INC.
CONSULTING ENGINEERS & SURVEYORS
517 W WOODARD STREET DENISON, TX 75020

PROGRESS PLOTS
FOR INTERIM DESIGN REVIEW ONLY
NOT FOR CONSTRUCTION
DATE: 12/20/18

LICAUTION!! THERE MAY BE UNDERGROUND GAS LINES, TELEPHONE CABLES AND ELECTRICAL LINES WITHIN VICINITY OF STREET CONSTRUCTION. IF UNKNOWN, CALL BEFORE DIGGING! Texas811

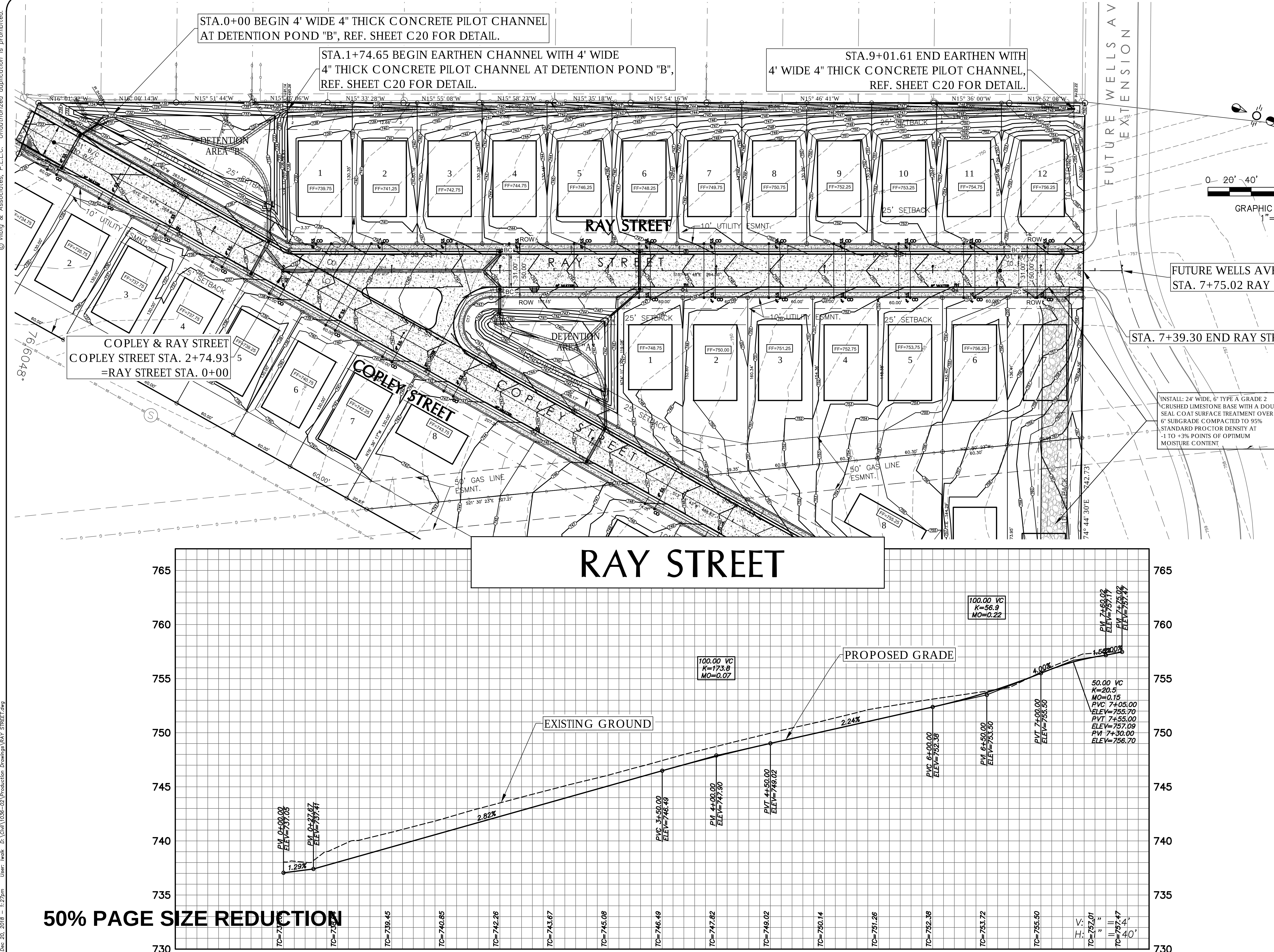
COPLEY STREET PLAN - PROFILE

COPLEY ADDITION

NO.	DATE	BY	DESCRIPTION
1	12.20.18	VA	ADDRESSED CITY COMMENTS

SUBMITTAL #1: --/--/--
SUBMITTAL #2: --/--/--
SUBMITTAL #3: --/--/--
SUBMITTAL #4: --/--/--
DESIGN: VA DRAWN: VA

SHEET C6



50% PAGE SIZE REDUCTION

PROGRESS PLOTS FOR INTERIM DESIGN REVIEW ONLY NOT FOR CONSTRUCTION DATE: 12/20/18

!!CAUTION!! THERE MAY BE UNDERGROUND GAS LINES, TELEPHONE CABLES AND ELECTRICAL LINES WITHIN VICINITY OF SITE. EXACT LOCATIONS ARE UNKNOWN. CALL BEFORE DIGGING!

NO.	DATE	BY	DESCRIPTION
1	12.20.18	VA	ADDRESSED CITY COMMENTS

SUBMITTAL #1: --/--/--
SUBMITTAL #2: --/--/--
SUBMITTAL #3: --/--/--
SUBMITTAL #4: --/--/--
DESIGN: VA DRAWN: VA

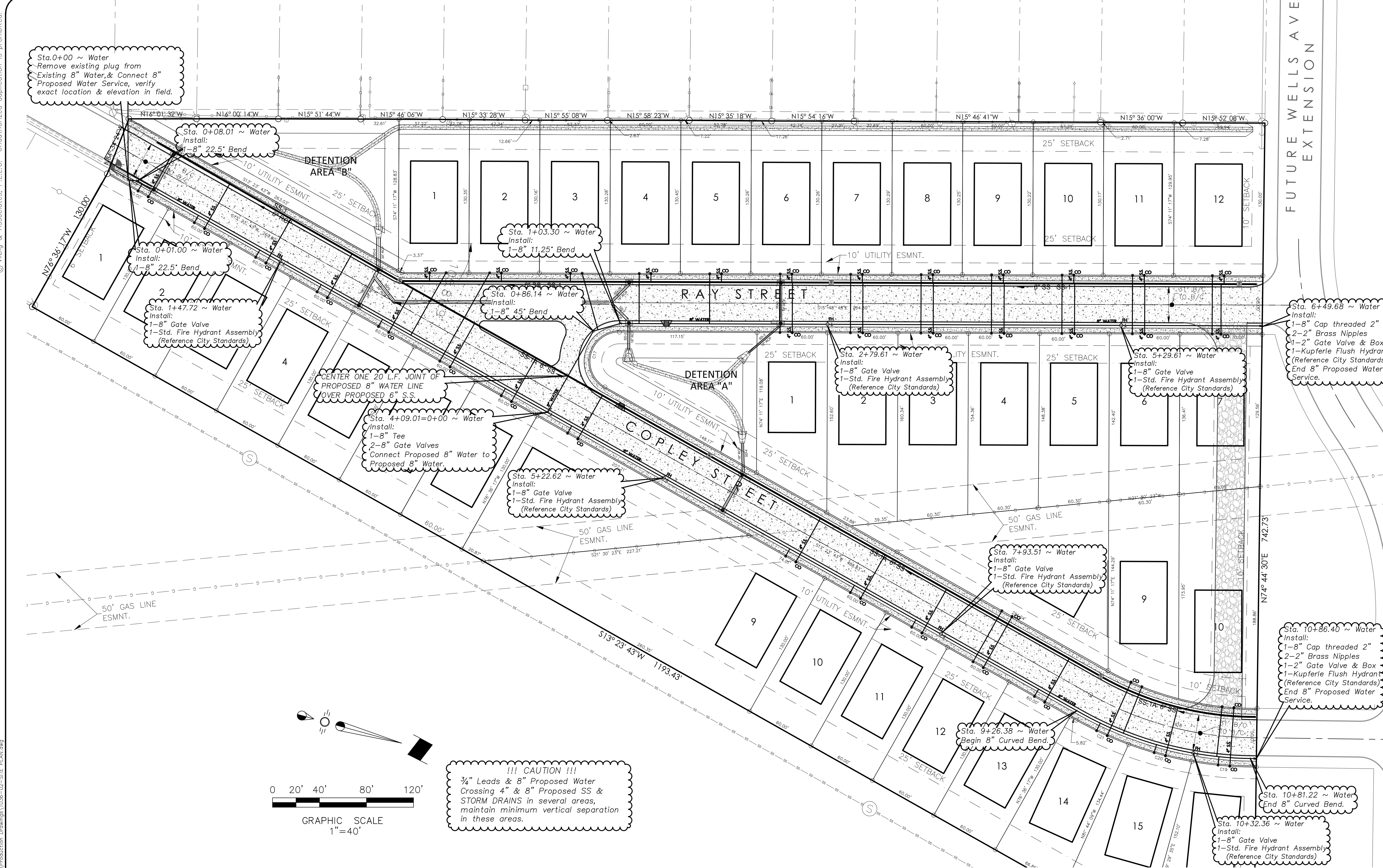
VILBIC & ASSOCIATES, INC
CONSULTING ENGINEERS & SURVEYORS
517 W WOODARD STREET DENISON, TX 75020

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF BIDDING ONLY UNDER THE AUTHORITY OF DAVID A. VILBIC, P.E., 67207 ON

COPLEY ADDITION

RAY STREET PLAN & PROFILE

SHEET C



WATER & SEWER NOTES

1. Unless otherwise noted in the plans, all water lines smaller than 20" diameter shall have minimum cover below proposed grade of 5.5 x Nominal Line Diameter or 4.0' (48"), whichever is greater. For water lines 20" diameter and larger, the Engineer's decision shall apply.
2. Unless otherwise noted in the plans, all sanitary sewer lines smaller than 18" diameter shall have minimum cover below proposed grade of 5.0 x Nominal Line Diameter or 4.0' (48"), whichever is greater. For sanitary sewer lines 18" diameter and larger, the Engineer's decision shall apply.
3. Prior to installation of proposed water and/or sanitary sewer lines, Contractor shall grade proposed ground surfaces in the installation area to within ±0.2' of final finished grade, pavement subgrade, or landscaping sub-base elevation, as appropriate, unless otherwise directed by the Engineer.
4. If any work under this project will result in a pre-existing water or sanitary sewer line having less cover than required under Notes #1 and #2 above, and this situation was not accurately known prior to construction or addressed in the plans, the Contractor shall immediately notify the Engineer to determine if corrective measures must be taken, and the Engineer's decision shall apply.
5. All work shall be performed in accordance with City standards. Unless otherwise specified in City standards, procedures for disinfection and flushing shall follow AWWA C651, and procedures for pressure testing shall follow AWWA C600 or C605 where appropriate.

50% PAGE SIZE REDUCTION

6. The following pipe materials shall be used unless otherwise noted on plans:
   - 6.1. Water Mains, 4" to 12": AWWA C900 Class 150 DR-18 PVC
   - 6.2. Water Lines for Fire Protection, 4" to 12": AWWA C900 Class 200 DR-18 PVC
   - 6.4. Water Mains, 4" to 20", Where Ductile Iron Pipe is Specified: ANSI/AWWA C151/A21.50, Class 52
   - 6.5. Water Mains Larger than 20": Engineer's Decision Shall Apply
   - 6.6 Water Service Laterals, 2" and Smaller: HDPE POLY SDR-9 or Type "K" copper per ASTM B88 or solvent-weld Schedule 40 PVC per ASTM D1785 & D2665 & NSF Standards 61 & 14
   - 6.7. Sanitary Sewer Mains, Not Pressure Rated, 6" to 15" Dia., 10.0' (120") of Cover or Less: SDR 35 PVC per ASTM D3034
   - 6.8. Sanitary Sewer Mains, Not Pressure Rated, 6" to 15" Dia., More Than 10.0' (120") of Cover: SDR 26 PVC per ASTM D3034
   - 6.9. Sanitary Sewer Mains, Pressure Rated, 6" to 15" Dia.: 160 psi pressure rated SDR 26 PVC per ASTM D2241
   - 6.10. Sanitary Sewer Mains Larger than 15": Engineer's Decision Shall Apply
   - 6.11. Sanitary Sewer Service Laterals: 160 psi pressure rated SDR 26 PVC per ASTM D2241 or solvent-weld Schedule 40 PVC per ASTM D1785 & D2665 & NSF Standards 61 & 14
7. Water and sewer lines that parallel or cross one another- or an existing water or sewer line- shall be installed in accordance with Texas Administrative Code § 217.53(d) or § 290.44(e), whichever is more restrictive. If the specified minimum separation distances cannot be attained, the Contractor shall immediately contact the Engineer to determine what corrective measures may be necessary.
8. Unless otherwise indicated on the plans, water and sanitary sewer lines shall clear storm sewer pipes by at least twelve inches (12") vertically.
9. Encasement pipes at water / sewer crossings, where specified, shall be centered on the line to be crossed, and shall be at least two nominal pipe diameters larger than the encased main or lateral. SDR 21 PVC encasement pipes per ASTM D2241 or an approved equal shall be used unless otherwise noted on the plans. The space around the carrier pipe shall be supported at five-foot (or less) intervals with spacers or be filled to the springline with washed sand. Each end of the casing shall be sealed with watertight non-shrink cement grout or a manufactured watertight seal. An absolute minimum separation distance of six inches (6" or 0.50') between the encasement pipe and the other line shall be provided.
10. The Contractor shall place a suitable marker at the point where lines are stubbed out so that these lines can be easily located for connection by the City &/or County. Where lines are stubbed out along a curbed street, a "V" cut in the curb and painted blue (for water) or green (for sewer) may be used.
11. Water valves in open terrain shall incorporate a concrete valve pad as shown in City standard details or the plan details, and shall be marked with a permanent sign or, at a minimum, a 4.0' (48") minimum height T-post painted blue.
12. Water service laterals shall be one inch (1") diameter unless noted otherwise and shall be provided with a corporation at the main and a curb stop located at least two feet (2') outside of curb with cover not to exceed one and one-half feet (1-1/2'). Water services are to be located as indicated on the plans at least ten feet (10') away from sanitary sewer services.
13. Sewer service laterals shall be FOUR inch (4") diameter unless noted otherwise, and shall be installed

Minimum cover shall be four feet (4') where possible, and pipes shall be installed at 2.0% or ¼" per ft. minimum slope. Sewer services are to be located at least ten feet (10') away from water services. Sewer services shall be embedded in cement stabilized sand at all water line crossings for the total length of one pipe segment plus 12 inches (12") beyond the joint on each end.

14. Unless connection methods are specifically addressed in the Plans, Contractor shall not replace sections of, or connect new sanitary sewers to, pre-existing unlined concrete or treated wood fiber (aka Orangeburg or Bermico) sanitary sewer lines without first consulting with the Engineer to determine proper connection methods. Contractor shall exercise caution and avoid using impact tools such as jackhammers and hydraulic breakers when working around existing lines known to be made of these materials, and shall not excavate underneath such lines without first consulting with the Engineer.
15. Dimensions, percent grades, and flowlines in the profile are calculated to the center of manholes, where applicable. Units of length are feet unless otherwise marked as inches ("), centimeters (cm), meters (m) or yards (yd).
16. Unless otherwise noted, all PVC pipe used for sanitary sewer construction shall be green in color, and all PVC pipe used for water construction shall be blue in color.
17. Unless otherwise noted, all parallel water and sanitary sewer lines shall be installed in separate trenches.
18. Refer to Sheet C2 for other general notes applicable to water and sewer installation.
19. All sanitary sewer manholes shall be eccentric in construction per City standards. City-approved

CAUTION!! THERE MAY BE UNDERGROUND GAS LINES, TELEPHONE CABLES AND ELECTRICAL LINES WITHIN VICINITY OF SITE. EXACT LOCATIONS ARE UNKNOWN. CALL BEFORE DIGGING!

Texas811

PROGRESS PLOTS
FOR INTERIM DESIGN REVIEW ONLY
NOT FOR CONSTRUCTION
DATE: 12/20/18

NO.	DATE	BY	DESCRIPTION
1	12.20.18	VA	ADDRESSED CITY COMMENTS

VILBIG & ASSOCIATES, INC.
CONSULTING ENGINEERS & SURVEYORS
517 W WOODARD STREET DENISON, TX 75020

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF BIDDING ONLY UNDER THE AUTHORITY OF DAVID A. VILBIG, P.E., 67207 ON

COPLEY ADDITION

WATER PLAN

SUBMITTAL #1: --/--/--
SUBMITTAL #2: --/--/--
SUBMITTAL #3: --/--/--
SUBMITTAL #4: --/--/--
DESIGN: VA DRAWN: VA

SHEET C8

EX. SANITARY SEWER MANHOLE
TOP: 734.23'
F/L N.N.E.: 727.98'
F/L S.S.W.: 728.08'

1
STA: 0+00.00
CONNECT NEW 6" SS TO EXIST. 6" STUB OUT (VERIFY)
NORTH: 167566.6519
EAST: 190950.5148
INV IN: 728.08

2
STA: 2+38.63
INSTALL 48"SSMH (REFER SSWR STD DETAILS)
NORTH: 167798.4319
EAST: 191007.2728
RIM: 737.27
DEPTH=8.00
INV 6" IN: 729.37
INV 6" IN: 729.37
INV 6" OUT: 729.27

3
STA: 6+06.05
INSTALL 48"SSMH (REFER SSWR STD DETAILS)
NORTH: 168151.9502
EAST: 190907.1580
RIM: 747.41
DEPTH=8.34
INV 6" IN: 739.07
INV 6" OUT: 739.07

5
STA: 9+53.47
INSTALL 48"SSMH (REFER SSWR STD DETAILS)
NORTH: 168486.2253
EAST: 190812.4927
RIM: 756.25
DEPTH=8.01
INV 6" IN: 748.24
INV 6" OUT: 748.24

6
STA: 9+68.47
INSTALL 6" SEWER CAP
NORTH: 168500.6491
EAST: 190808.3746
INV 6" OUT: 748.59

7
STA: 3+02.68
INSTALL 48"SSMH (REFER SSWR STD DETAILS)
NORTH: 168092.8784
EAST: 191077.3936
RIM: 745.01
DEPTH=8.00
INV 6" IN: 737.11
INV 6" OUT: 737.01

8
STA: 6+85.36
INSTALL 48"SSMH (REFER SSWR STD DETAILS)
NORTH: 168465.1485
EAST: 191166.0477
RIM: 754.82
DEPTH=8.00
INV 6" IN: 746.92
INV 6" OUT: 746.82

9
STA: 8+23.61
INSTALL 6" SEWER CAP
NORTH: 168601.8547
EAST: 191162.7035
INV 6" OUT: 753.44

RAY STREET
COPLEY STREET
DETENTION AREA "A"
DETENTION AREA "B"
FUTURE WELLS AVE EXTENSION
10' UTILITY ESMNT.
25' SETBACK
10' SETBACK
50' GAS LINE ESMNT.
S13° 23' 43"W 1193.43'
N74° 44' 30"E 742.73'

0 20' 40' 80' 120'
GRAPHIC SCALE
1"=40'

!!! CAUTION !!!
¾" Leads & 8" Proposed Water Crossing 4" & 8" Proposed SS & STORM DRAINS in several areas, maintain minimum vertical separation in these areas.

REFER SHEET C8 FOR WATER & SEWER NOTES

REFER SHEET C9A–C9B FOR SANITARY SEWER PROFILES

50% PAGE SIZE REDUCTION

PROGRESS PLOTS
FOR INTERIM DESIGN REVIEW ONLY
NOT FOR CONSTRUCTION
DATE: 12/20/18

!!CAUTION!!
THERE MAY BE UNDERGROUND GAS LINES, TELEPHONE CABLES AND ELECTRICAL LINES WITHIN VICINITY OF SITE. EXACT LOCATIONS ARE UNKNOWN. CALL BEFORE DIGGING!
Texas811

NO.	DATE	BY	DESCRIPTION
1	12.20.18	VA	ADDRESSED CITY COMMENTS

SUBMITTAL #1: --/--/--
SUBMITTAL #2: --/--/--
SUBMITTAL #3: --/--/--
SUBMITTAL #4: --/--/--
DESIGN: VA
DRAWN: VA

SHEET
C9

VILBIG & ASSOCIATES, INC.
CONSULTING ENGINEERS & SURVEYORS
517 W WOODARD STREET DENISON, TX 75020

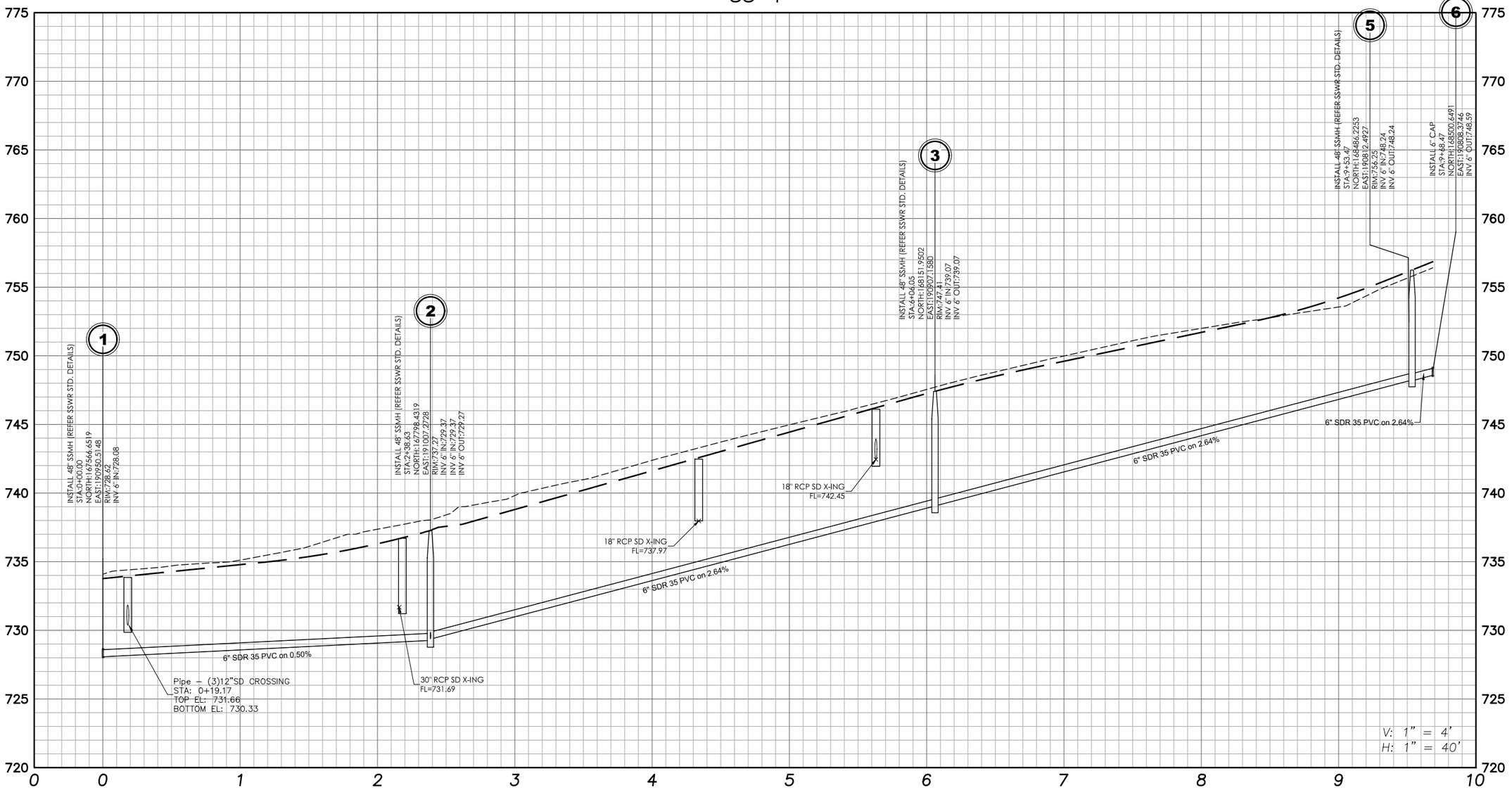
THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF BIDDING ONLY UNDER THE AUTHORITY OF DAVID A. VILBIG; P.E., 67207 ON

COPLEY ADDITION

SANITARY SEWER PLAN

Date: Dec 20, 2018 - 1:12pm User: vwalk P:\Civil\1036-02\Production Drawings\1036-02-SITE PLAN.dwg

SS–1



50% PAGE SIZE REDUCTION

VILBIG & ASSOCIATES, INC.
CONSULTING ENGINEERS & SURVEYORS
517 W WOODARD STREET DENISON, TX 75020

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF BIDDING ONLY UNDER THE AUTHORITY OF DAVID A. VILBIG,P.E., 67207 ON

PROGRESS PLOTS
FOR INTERIM DESIGN REVIEW ONLY
NOT FOR CONSTRUCTION
DATE: 12/20/18

!!CAUTION!!
THERE MAY BE UNDERGROUND GAS LINES, TELEPHONE CABLES AND ELECTRICAL LINES WITHIN THE VICINITY OF SITE. EXACT LOCATIONS ARE UNKNOWN. CALL BEFORE DIGGING!

Texas811

NO.	DATE	BY	DESCRIPTION
1	12.20.18	VA	ADDRESSED CITY COMMENTS

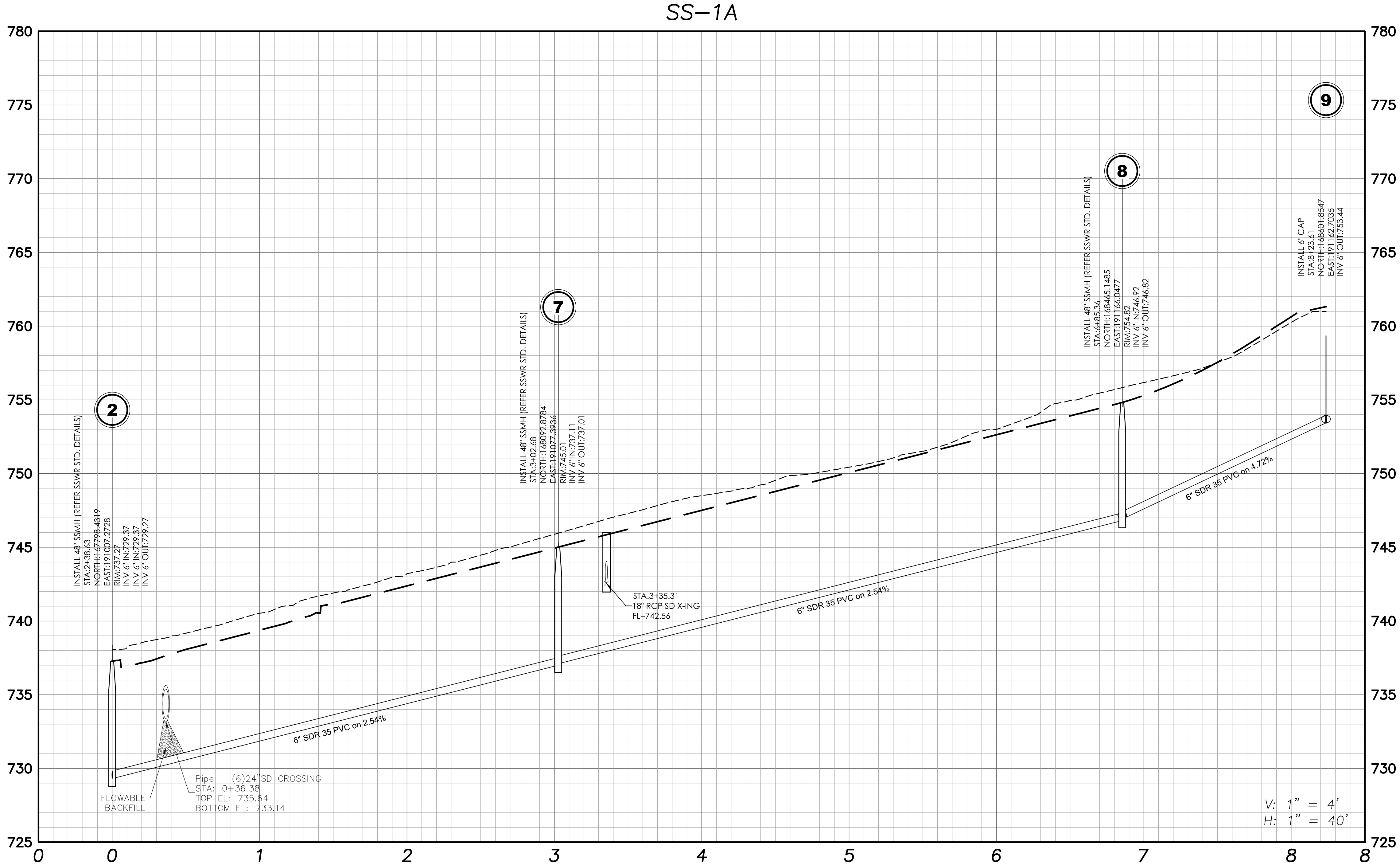
SUBMITTAL #1: --/--/--
SUBMITTAL #2: --/--/--
SUBMITTAL #3: --/--/--
SUBMITTAL #4: --/--/--
DESIGN: VA DRAWN: VA

COPLEY ADDITION

SANITARY SEWER
SS1 PROFILE

SHEET
C9.

SS–1A



50% PAGE SIZE REDUCTION

NO.	DATE	BY	DESCRIPTION
1	12.20.18	VA	ADDRESSED CITY COMMENTS

!!CAUTION!!
THERE MAY BE UNDERGROUND GAS LINES, TELEPHONE CABLES AND ELECTRICAL LINES WITHIN VICINITY OF SITE. EXACT LOCATIONS ARE UNKNOWN. CALL BEFORE DIGGING!

PROGRESS PLOTS
FOR INTERIM DESIGN REVIEW ONLY
NOT FOR CONSTRUCTION
DATE: 12/20/18

VILBIG & ASSOCIATES, INC.
CONSULTING ENGINEERS & SURVEYORS
517 W WOODARD STREET DENISON, TX 75020

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF BIDDING ONLY UNDER THE AUTHORITY OF DAVID A. VILBIG,P.E., 67207 ON

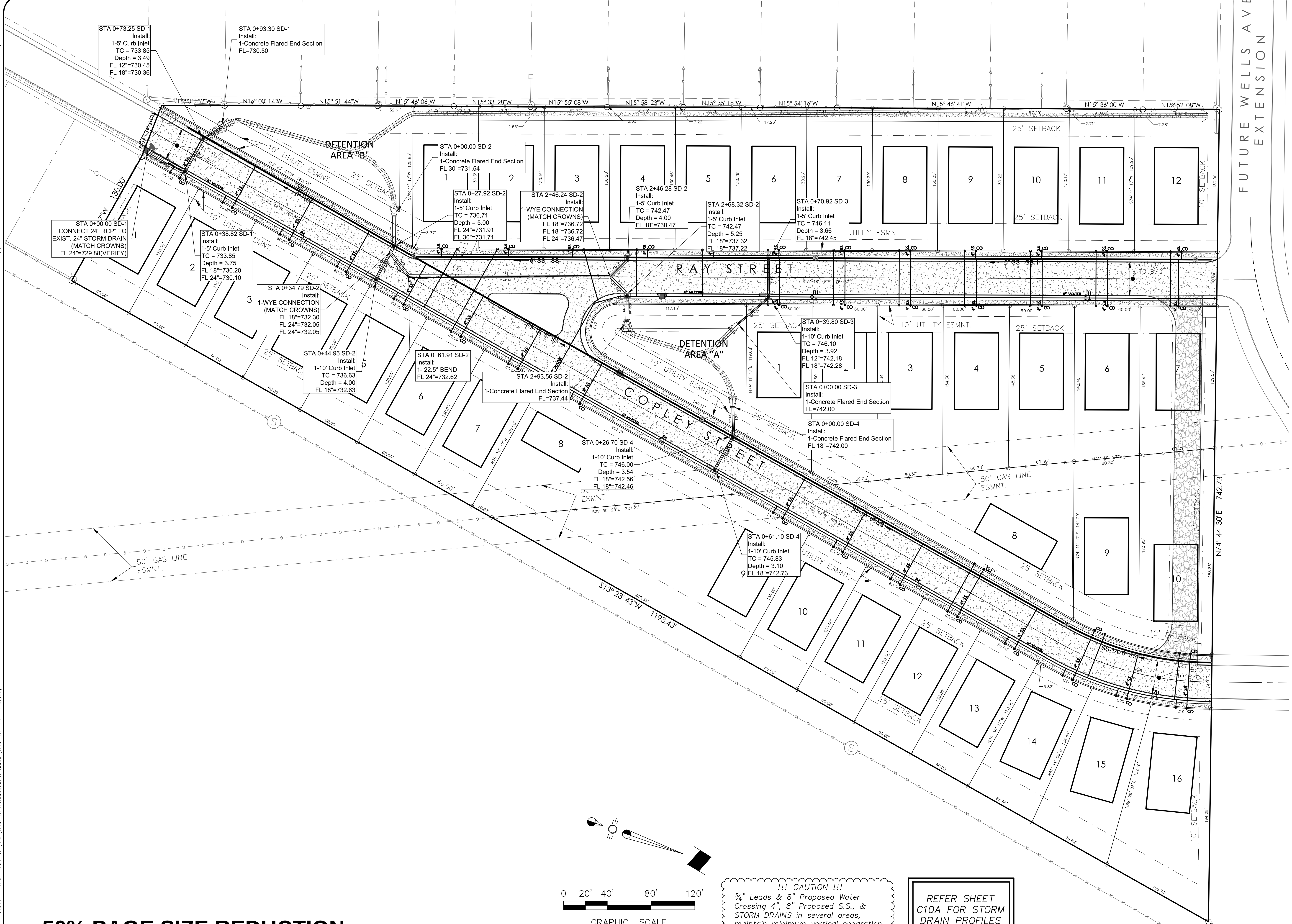
COPLEY ADDITION

SANITARY SEWER SS1-A PROFILE

SUBMITTAL #1: --/--/--
SUBMITTAL #2: --/--/--
SUBMITTAL #3: --/--/--
SUBMITTAL #4: --/--/--
DESIGN: VA DRAWN: VA

SHEET
C9

Dec 20, 2018 – 1:28pm User: rwalk D:\Civil\1036-02\Production Drawings\1036-02-SITE PLAN.dwg



!!! CAUTION !!!
¾" Leads & 8" Proposed Water Crossing 4", 8" Proposed S.S., & STORM DRAINS in several areas, maintain minimum vertical separation in these areas.

REFER SHEET C10A FOR STORM DRAIN PROFILES

50% PAGE SIZE REDUCTION

PROGRESS PLOTS
FOR INTERIM DESIGN REVIEW ONLY
NOT FOR CONSTRUCTION
DATE: 12/20/18

!!CAUTION!!
THERE MAY BE UNDERGROUND GAS LINES, TELEPHONE CABLES AND ELECTRICAL LINES WITHIN VICINITY OF SITE. EXACT LOCATIONS ARE UNKNOWN. CALL BEFORE DIGGING!

Texas 811

NO.	DATE	BY	DESCRIPTION
1	12.20.18	VA	ADDRESSED CITY COMMENTS

VILBIG & ASSOCIATES, INC.
CONSULTING ENGINEERS & SURVEYORS
517 W WOODARD STREET DENISON, TX 75020

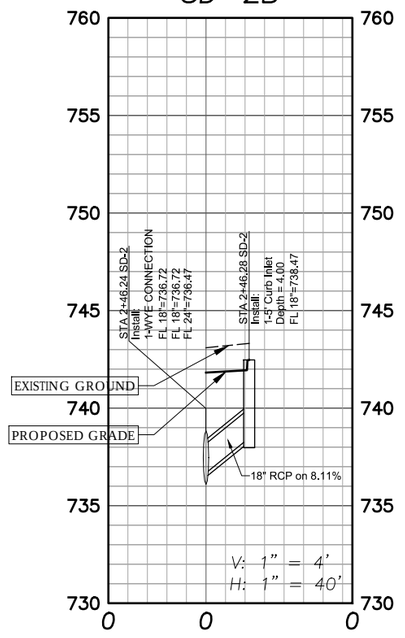
THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF BIDDING ONLY UNDER THE AUTHORITY OF DAVID A. VILBIG, P.E., 67207 ON

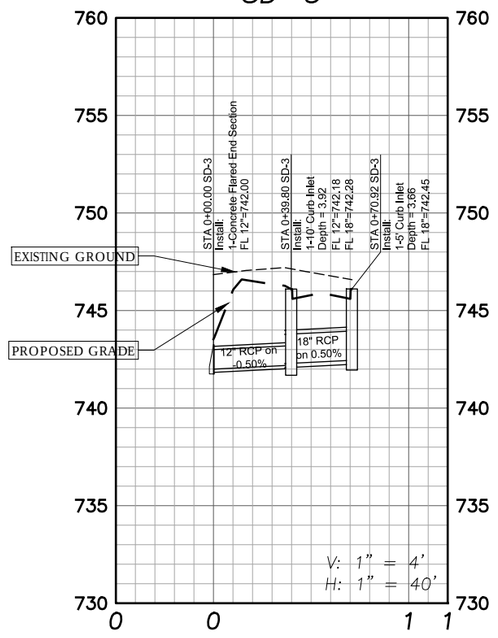
COPLEY ADDITION

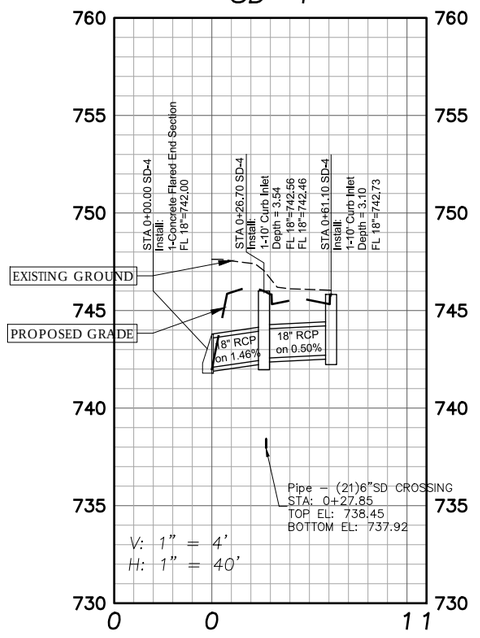
STORM DRAIN PLAN

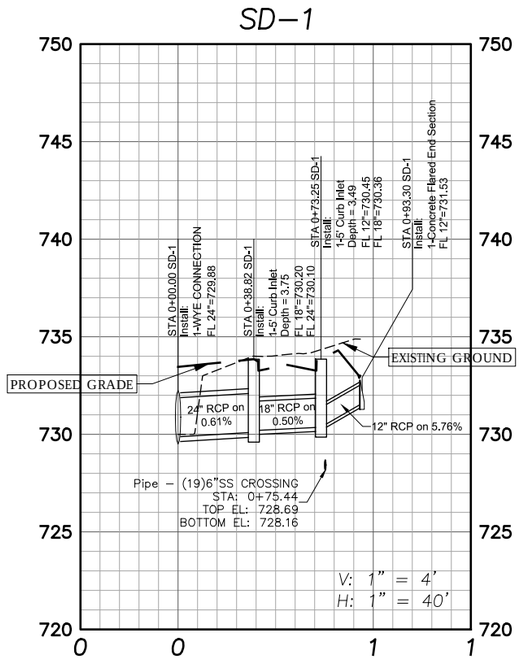
SUBMITTAL #1: --/--/--
SUBMITTAL #2: --/--/--
SUBMITTAL #3: --/--/--
SUBMITTAL #4: --/--/--
DESIGN: VA DRAWN: VA

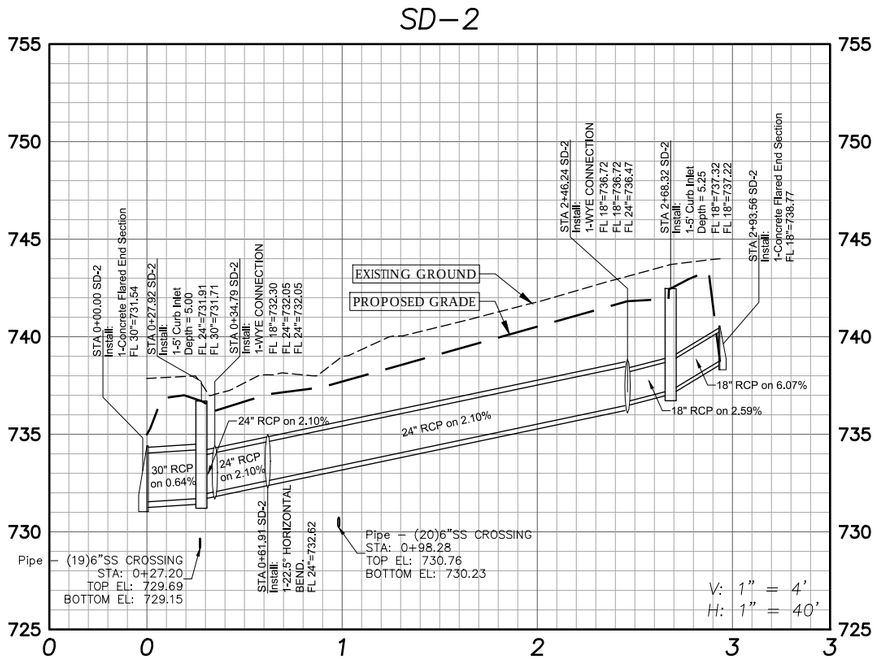
SHEET
C1

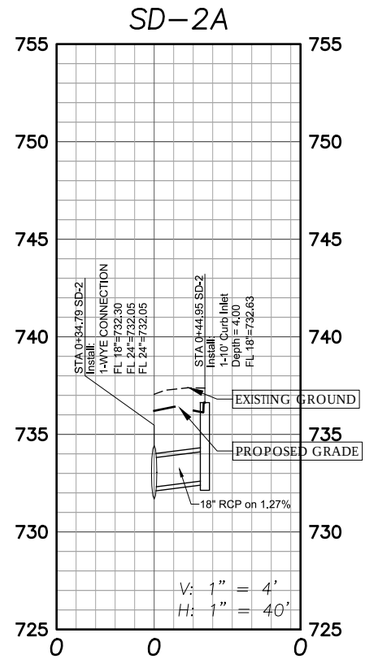












50% PAGE SIZE REDUCTION

VILBIG & ASSOCIATES, INC.
CONSULTING ENGINEERS & SURVEYORS
517 W WOODARD STREET DENISON, TX 75020

PROGRESS PLOTS
FOR INTERIM DESIGN REVIEW ONLY
NOT FOR CONSTRUCTION
DATE: 12/20/18

!!CAUTION!!
THERE MAY BE UNDERGROUND GAS LINES, TELEPHONE CABLES AND ELECTRICAL LINES WITHIN VICINITY OF SITE. EXACT LOCATIONS ARE UNKNOWN. CALL BEFORE DIGGING!

Texas811

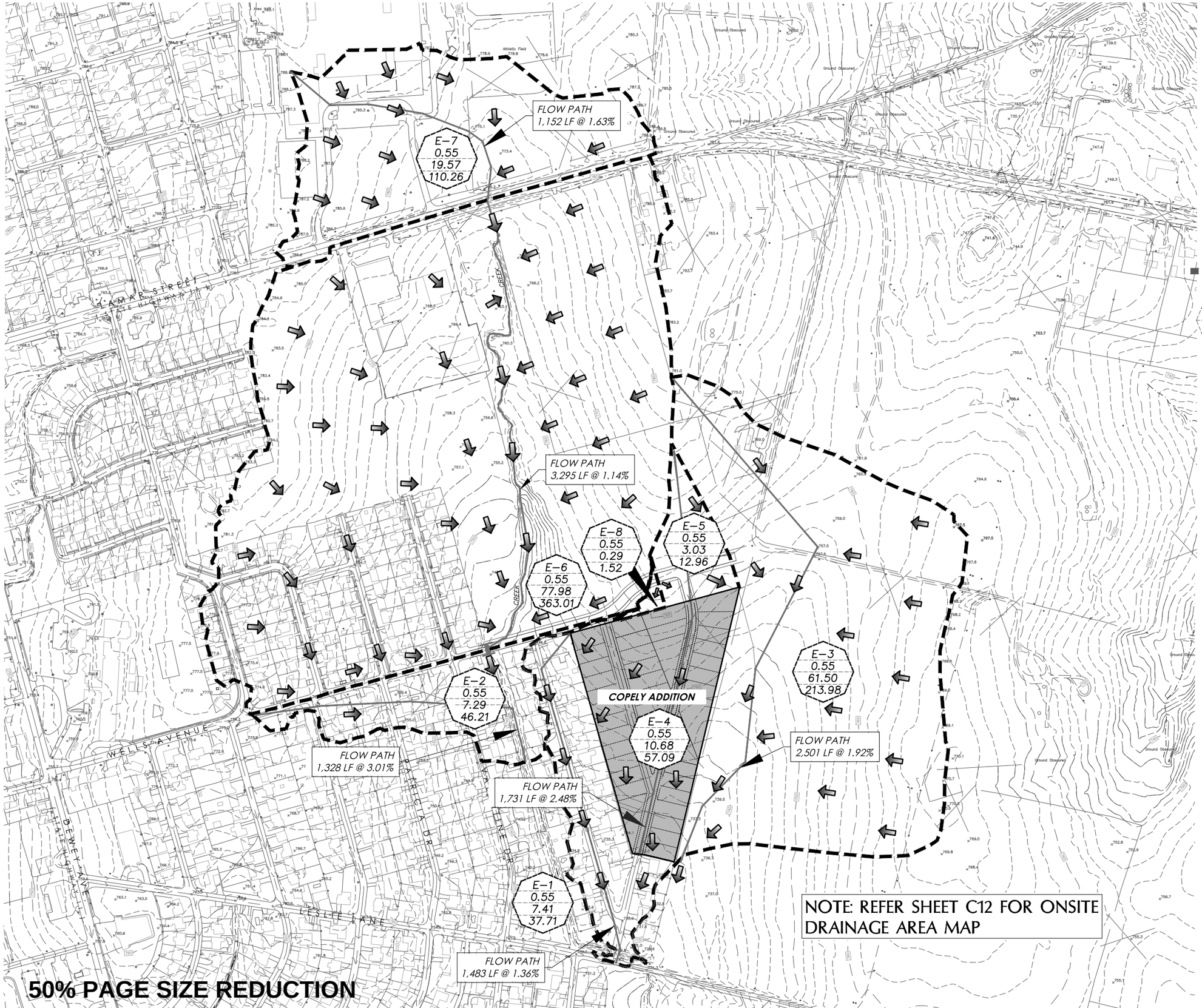
COPLEY ADDITION

STORM DRAIN PROFILES

NO.	DATE	BY	DESCRIPTION
1	12.20.18	VA	ADDRESSED CITY COMMENTS

SUBMITTAL #1: --/--/--
SUBMITTAL #2: --/--/--
SUBMITTAL #3: --/--/--
SUBMITTAL #4: --/--/--
DESIGN: VA DRAWN: VA

SHEET
C10



NOTE: REFER SHEET C12 FOR ONSITE DRAINAGE AREA MAP

50% PAGE SIZE REDUCTION

0 200' 400' 600'

GRAPHIC SCALE
1"=200'

DRAINAGE AREA LEGEND

DRAINAGE AREA BOUNDARIES

E–1 — DRAINAGE AREA
0.55 — DRAINAGE COEFFICIENT
7.41 — AREA (ACRES)
37.71 — Q_{100} – RUNOFF FOR 100–YEAR STORM (CFS)

NOTE: CALCULATIONS FOR EXISTING RUN–OFFS ARE SHOWN ON SHEET 12A. THE TIME OF CONCENTRATION [TC] HAS BEEN CALCULATED BASED ON TRAVEL TIMES FOR EXISTING CONDITIONS.

FLOW ARROW

VILBIG & ASSOCIATES, INC.
CONSULTING ENGINEERS & SURVEYORS
517 W WOODARD STREET DENISON, TX 75020

PROGRESS PLOTS
FOR INTERIM DESIGN REVIEW ONLY
NOT FOR CONSTRUCTION
DATE: 12/20/18

!CAUTION!! THERE MAY BE UNDERGROUND GAS LINES, TELEPHONE CABLES AND ELECTRICAL LINES WITHIN THE LIMITS OF SITE; EXACT LOCATIONS ARE UNKNOWN. CALL BEFORE DIGGING!

Texas811

NO.	DATE	BY	DESCRIPTION
1	12.20.18	VA	ADDRESSED CITY COMMENTS

SUBMITTAL #1: --/--/--
SUBMITTAL #2: --/--/--
SUBMITTAL #3: --/--/--
SUBMITTAL #4: --/--/--
DESIGN: VA DRAWN: VA

COPLEY ADDITION

EXISTING OVERALL DRAINAGE PLAN

SHEET
C11

G.B. PILANT SURVEY, ABSTRACT 963
CITY OF SHERMAN,
GRAYSON COUNTY, TEXAS

COPLEY ADDITION
TO THE
CITY OF SHERMAN, TEXAS
VOL. 3, PG. 63,
P.R.G.C.T.

EX. PUBLIC STREET

PR. STORM DRAINAGE PIPE

PR. PUBLIC STREET (37' B/C TO B/C)

PR. 60' RIGHT-OF-WAY

VALENTINE DRIVE

BLOCK 5

LOT 15 LOT 14 LOT 13 LOT 12 LOT 11 LOT 10 LOT 9 LOT 8 LOT 7 LOT 6 LOT 5 LOT 4 LOT 3 LOT 2 LOT 1

Block 8

FUTURE WELLS AVE. EXTENSION

EX. 8' UTILITY ESMNT. VOL. ## PG. ##

Great American Investments, Inc.
23.855 Acres
Vol. 3992, Pg. 747

EX. SANITARY SEWER MANHOLE
TOP: 730.67'
F/L N.N.E.: 724.89'
F/L S.S.W.: 723.94'
F/L N.N.W.: 724.87'

EX. SANITARY SEWER MANHOLE
TOP: 734.23'
F/L N.N.E.: 727.98'
F/L S.S.W.: 728.08'

EX. SANITARY SEWER MANHOLE
TOP: 731.05'
F/L N.N.E.: 717.35'
F/L S.S.W.: 717.35'

BENCHMARK SQ. CUT ON TOP OF CONC. HEADWALL
ELEVATION: 733.12'

C-2 0.55 0.11 0.51

C-3 0.55 0.14 0.65

C-1 0.55 0.66 3.07

B-3 0.55 2.12 9.88

B-2 0.55 0.73 3.40

B-1 0.55 1.42 6.62

A-4 0.55 0.47 2.19

A-3 0.55 1.34 6.24

A-2 0.55 1.76 8.20

A-1 0.55 1.73 8.06

DETENTION AREA "B"

DETENTION AREA "A"

EX. SANITARY SEWER MANHOLE
TOP: 738.10'
F/L N.N.E.: 727.75'
F/L S.S.W.: 727.45'

EX. SANITARY SEWER MANHOLE
TOP: 750.11'
F/L N.N.E.: 737.08'
F/L S.S.W.: 737.04'

50' GAS LINE ESMNT.

APPROX. LOCATION OF GAS LINE AS MARKED ON THE GROUND

Whitmire Forward, L.C.
81.626 Acres
Vol. 5568, Pg. 523

0 20' 60' 120' 200'

GRAPHIC SCALE
1"=60'

DRAINAGE AREA LEGEND

DRAINAGE AREA BOUNDARIES

A-1 — DRAINAGE AREA
0.55 — DRAINAGE COEFFICIENT
3.32 — AREA (ACRES)
21.75 — Q_{25} – RUNOFF FOR 25-YEAR STORM (CFS)

NOTE: Q_{100} SHOWN INCLUDES THE ANTECEDENT FACTOR

(CITY OF SHERMAN, TEXAS CRITERIA)
I_{25} = 7.7, I_{100}=9.6 (15 MIN Tc)
Q=f*CIA (WHERE f=1.1 FOR 25 YR STORM AND f=1.25 FOR 100 YR STORM)

FLOW ARROW

NOTE: REFER SHEET C11 FOR OFFSITE DRAINAGE AREA MAP

AARON BURLESON SURVEY, ABSTRACT NO. 61,
CITY OF SHERMAN,
GRAYSON COUNTY, TEXAS

Bearing Base:
Grid North, NAD83 Texas State Plane Coordinate System, North Central Zone, as derived by survey-grade Global Positioning System.

50% PAGE SIZE REDUCTION

PROGRESS PLOTS
FOR INTERIM DESIGN REVIEW ONLY
NOT FOR CONSTRUCTION
DATE: 12/20/18

!!CAUTION!!
THERE MAY BE UNDERGROUND GAS LINES, TELEPHONE CABLES AND ELECTRICAL LINES WITHIN THE VICINITY OF SITE. EXACT LOCATIONS ARE UNKNOWN. CALL BEFORE DIGGING!

Texas811

NO.	DATE	BY	DESCRIPTION
1	12.20.18	VA	ADDRESSED CITY COMMENTS

SUBMITTAL #1: --/--/--
SUBMITTAL #2: --/--/--
SUBMITTAL #3: --/--/--
SUBMITTAL #4: --/--/--
DESIGN: VA DRAWN: VA

VILBIG & ASSOCIATES, INC.
CONSULTING ENGINEERS & SURVEYORS
517 W WOODARD STREET DENISON, TX 75020

COPLEY ADDITION

ON-SITE DRAINAGE AREA MAP

SHEET
C10

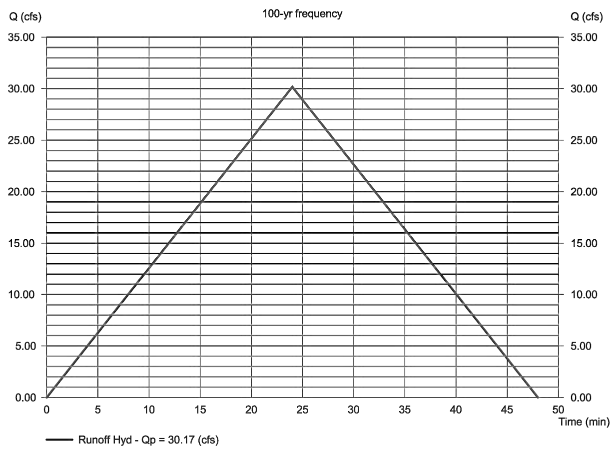
Hydrology Report
Hydraflow Express Extension for Autodesk® AutoCAD® Civil 3D® by Autodesk, Inc. — Thursday, Oct 4 2018

E-1-100 YEAR

Hydrograph type	= Rational	Peak discharge (cfs)	= 30.17
Storm frequency (yrs)	= 100	Time interval (min)	= 1
Drainage area (ac)	= 7.410	Runoff coeff. (C)	= 0.55
Rainfall Inten (in/hr)	= 7.403	Tc by TR55 (min)	= 24
IDF Curve	= SHERMAN.IDF	Rec limb factor	= 1.00

Hydrograph Volume = 43,448 (cuft); 0.997 (acft)

Runoff Hydrograph



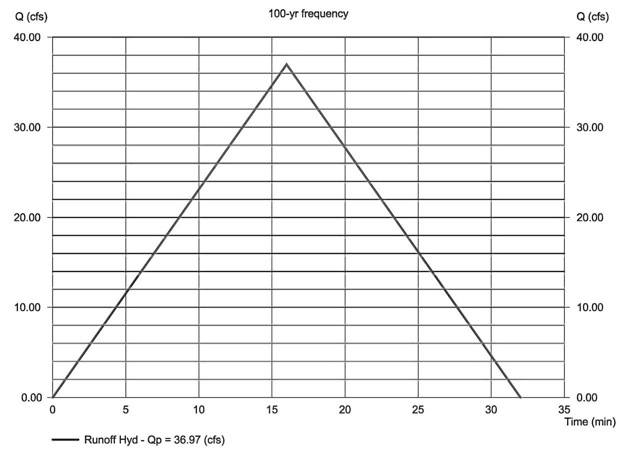
Hydrology Report
Hydraflow Express Extension for Autodesk® AutoCAD® Civil 3D® by Autodesk, Inc. — Thursday, Oct 4 2018

E-2-100 YEAR

Hydrograph type	= Rational	Peak discharge (cfs)	= 36.97
Storm frequency (yrs)	= 100	Time interval (min)	= 1
Drainage area (ac)	= 7.290	Runoff coeff. (C)	= 0.55
Rainfall Inten (in/hr)	= 9.221	Tc by TR55 (min)	= 16
IDF Curve	= SHERMAN.IDF	Rec limb factor	= 1.00

Hydrograph Volume = 35,492 (cuft); 0.815 (acft)

Runoff Hydrograph



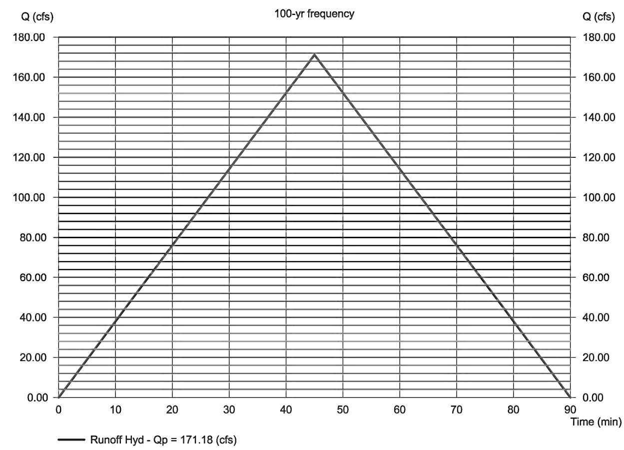
Hydrology Report
Hydraflow Express Extension for Autodesk® AutoCAD® Civil 3D® by Autodesk, Inc. — Thursday, Oct 4 2018

E-3-100 YEAR

Hydrograph type	= Rational	Peak discharge (cfs)	= 171.18
Storm frequency (yrs)	= 100	Time interval (min)	= 1
Drainage area (ac)	= 61.500	Runoff coeff. (C)	= 0.55
Rainfall Inten (in/hr)	= 5.061	Tc by TR55 (min)	= 45
IDF Curve	= SHERMAN.IDF	Rec limb factor	= 1.00

Hydrograph Volume = 462,176 (cuft); 10.610 (acft)

Runoff Hydrograph



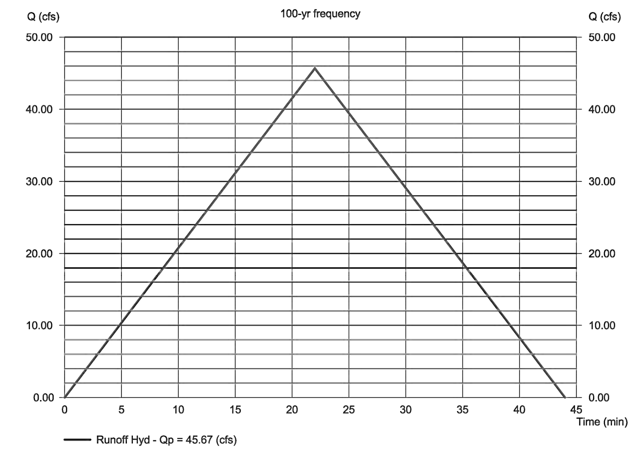
Hydrology Report
Hydraflow Express Extension for Autodesk® AutoCAD® Civil 3D® by Autodesk, Inc. — Thursday, Oct 4 2018

E-4-100 YEAR

Hydrograph type	= Rational	Peak discharge (cfs)	= 45.67
Storm frequency (yrs)	= 100	Time interval (min)	= 1
Drainage area (ac)	= 10.680	Runoff coeff. (C)	= 0.55
Rainfall Inten (in/hr)	= 7.776	Tc by TR55 (min)	= 22
IDF Curve	= SHERMAN.IDF	Rec limb factor	= 1.00

Hydrograph Volume = 60,289 (cuft); 1.384 (acft)

Runoff Hydrograph



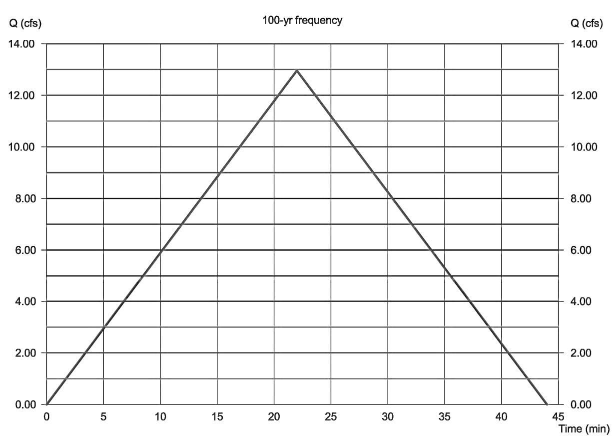
Hydrology Report
Hydraflow Express Extension for Autodesk® AutoCAD® Civil 3D® by Autodesk, Inc. — Tuesday, Nov 6 2018

E-5-100 YEAR

Hydrograph type	= Rational	Peak discharge (cfs)	= 12.96
Storm frequency (yrs)	= 100	Time interval (min)	= 1
Drainage area (ac)	= 3.030	Runoff coeff. (C)	= 0.55
Rainfall Inten (in/hr)	= 7.776	Tc by TR55 (min)	= 22
IDF Curve	= SHERMAN.IDF	Rec limb factor	= 1.00

Hydrograph Volume = 17,105 (cuft); 0.393 (acft)

Runoff Hydrograph



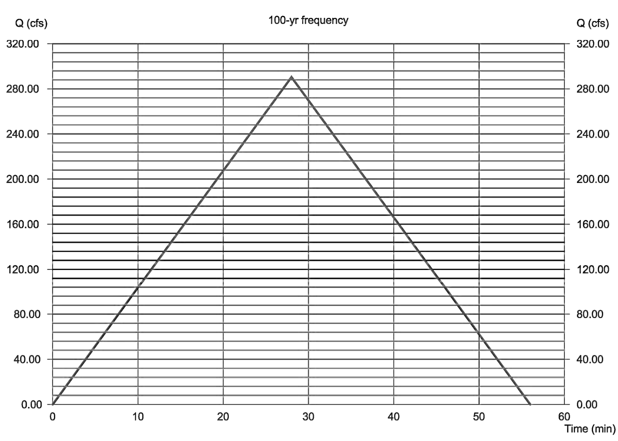
Hydrology Report
Hydraflow Express Extension for Autodesk® AutoCAD® Civil 3D® by Autodesk, Inc. — Thursday, Oct 4 2018

E-6-100 YEAR

Hydrograph type	= Rational	Peak discharge (cfs)	= 290.41
Storm frequency (yrs)	= 100	Time interval (min)	= 1
Drainage area (ac)	= 77.980	Runoff coeff. (C)	= 0.55
Rainfall Inten (in/hr)	= 6.771	Tc by TR55 (min)	= 28
IDF Curve	= SHERMAN.IDF	Rec limb factor	= 1.00

Hydrograph Volume = 487,887 (cuft); 11.200 (acft)

Runoff Hydrograph



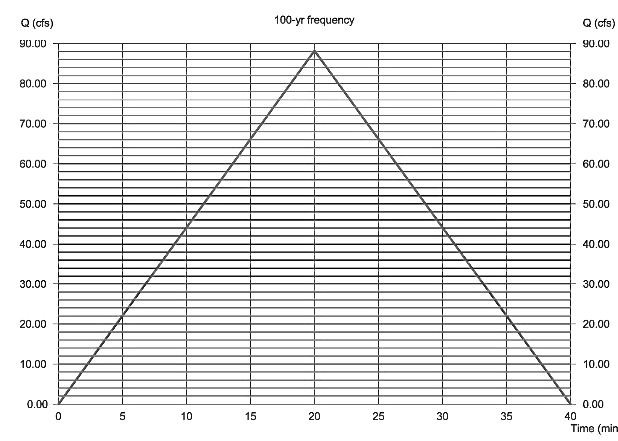
Hydrology Report
Hydraflow Express Extension for Autodesk® AutoCAD® Civil 3D® by Autodesk, Inc. — Thursday, Oct 4 2018

E-7-100 YEAR

Hydrograph type	= Rational	Peak discharge (cfs)	= 88.21
Storm frequency (yrs)	= 100	Time interval (min)	= 1
Drainage area (ac)	= 19.570	Runoff coeff. (C)	= 0.55
Rainfall Inten (in/hr)	= 8.195	Tc by TR55 (min)	= 20
IDF Curve	= SHERMAN.IDF	Rec limb factor	= 1.00

Hydrograph Volume = 105,850 (cuft); 2.430 (acft)

Runoff Hydrograph



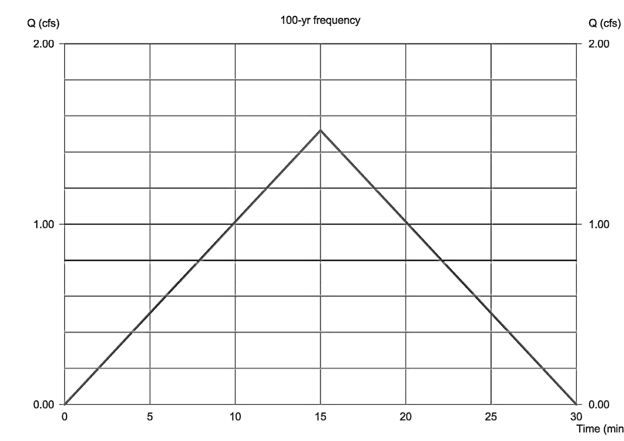
Hydrology Report
Hydraflow Express Extension for Autodesk® AutoCAD® Civil 3D® by Autodesk, Inc. — Tuesday, Nov 6 2018

E-8-100 YEAR

Hydrograph type	= Rational	Peak discharge (cfs)	= 1.520
Storm frequency (yrs)	= 100	Time interval (min)	= 1
Drainage area (ac)	= 0.290	Runoff coeff. (C)	= 0.55
Rainfall Inten (in/hr)	= 9.527	Tc by User (min)	= 15
IDF Curve	= SHERMAN.IDF	Rec limb factor	= 1.00

Hydrograph Volume = 1,368 (cuft); 0.031 (acft)

Runoff Hydrograph



50% PAGE SIZE REDUCTION

NO.	DATE	BY	DESCRIPTION
1	12.20.18	VA	ADDRESSED CITY COMMENTS

!!CAUTION!! THERE MAY BE UNDERGROUND GAS LINES, TELEPHONE CABLES AND ELECTRICAL LINES WITHIN VICINITY OF SITE. EXACT LOCATIONS ARE UNKNOWN. CALL BEFORE DIGGING!

PROGRESS PLOTS
FOR INTERIM DESIGN REVIEW ONLY
NOT FOR CONSTRUCTION
DATE: 12/20/18

VILBIG & ASSOCIATES, INC.
CONSULTING ENGINEERS & SURVEYORS
517 W WOODARD STREET DENISON, TX 75020

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF BIDDING ONLY UNDER THE AUTHORITY OF DAVID A. VILBIG, P.E., 67207 ON

COPLEY ADDITION

OVERALL EXISTING RUNOFF

SUBMITTAL #1: --/--/--
SUBMITTAL #2: --/--/--
SUBMITTAL #3: --/--/--
SUBMITTAL #4: --/--/--
DESIGN: VA DRAWN: VA

SHEET C12

Hydrograph Report — DETENTION AREA A
2

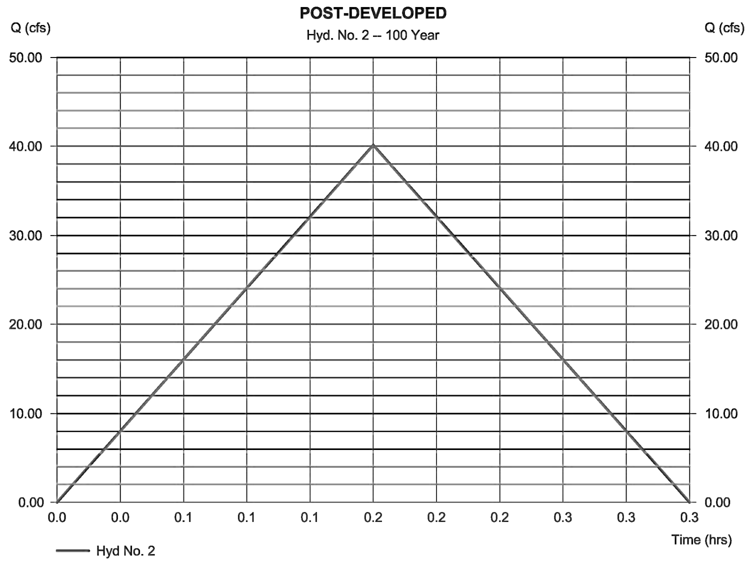
Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2018 by Autodesk, Inc. v12 — Wednesday, 12 / 19 / 2018

Hyd. No. 2

POST-DEVELOPED

Hydrograph type	= Rational	Peak discharge	= 40.12 cfs
Storm frequency	= 100 yrs	Time to peak	= 0.17 hrs
Time interval	= 1 min	Hyd. volume	= 24,074 cuft
Drainage area	= 7.110 ac	Runoff coeff.	= 0.49*
Intensity	= 11.517 in/hr	Tc by User	= 10.00 min
IDF Curve	= SHERMAN.IDF	Asc/Rec limb fact	= 1/1

* Composite (Area/C) = [(5.300 x 0.55) + (1.810 x 0.30)] / 7.110



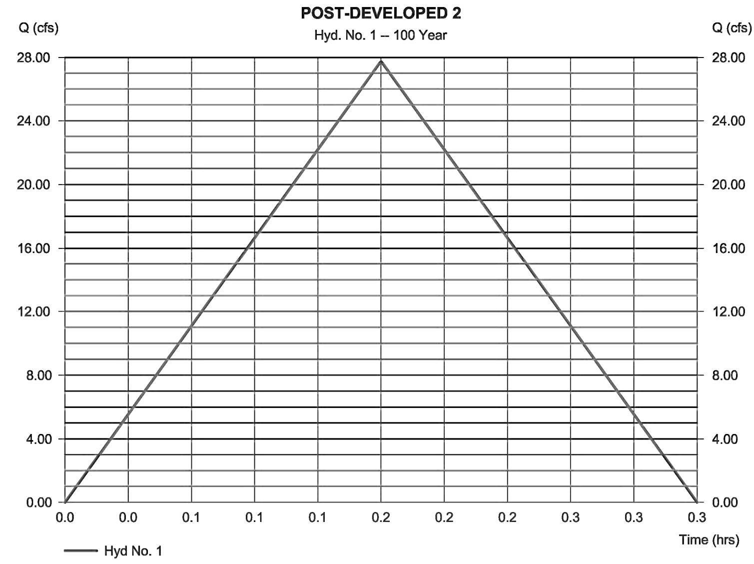
Hydrograph Report — DETENTION AREA B
1

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2018 by Autodesk, Inc. v12 — Wednesday, 12 / 19 / 2018

Hyd. No. 1

POST-DEVELOPED 2

Hydrograph type	= Rational	Peak discharge	= 27.74 cfs
Storm frequency	= 100 yrs	Time to peak	= 0.17 hrs
Time interval	= 1 min	Hyd. volume	= 16,646 cuft
Drainage area	= 4.380 ac	Runoff coeff.	= 0.55
Intensity	= 11.517 in/hr	Tc by User	= 10.00 min
IDF Curve	= SHERMAN.IDF	Asc/Rec limb fact	= 1/1



Hydrograph Report — INTERCONNECTED POND ROUTING
3

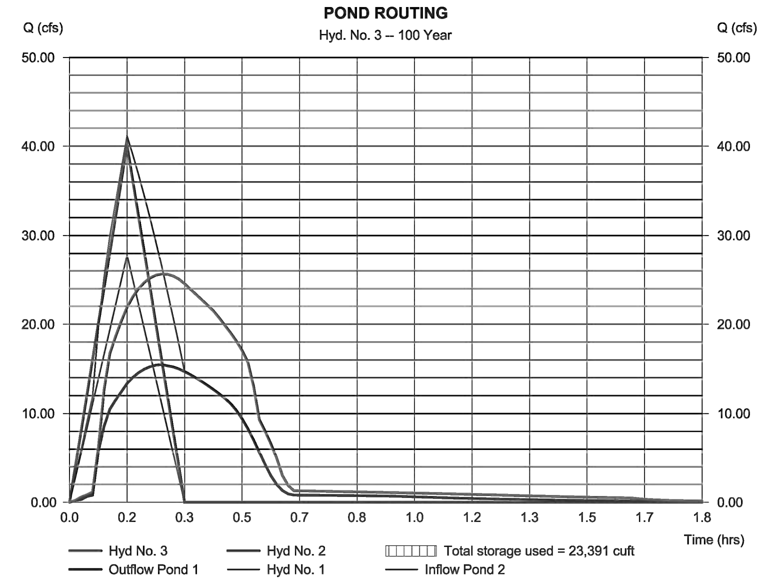
Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2018 by Autodesk, Inc. v12 — Wednesday, 12 / 19 / 2018

Hyd. No. 3

POND ROUTING

Hydrograph type	= Reservoir (Interconnected)	Peak discharge	= 25.64 cfs
Storm frequency	= 100 yrs	Time to peak	= 0.27 hrs
Time interval	= 1 min	Hyd. volume	= 40,720 cuft
Upper Pond	= POND 1	Lower Pond	= POND 2
Inflow hyd.	= 2 - POST-DEVELOPED	Other Inflow hyd.	= 1 - POST-DEVELO
Max. Elevation	= 742.86 ft	Max. Elevation	= 732.97 ft
Max. Storage	= 13,383 cuft	Max. Storage	= 10,008 cuft

Interconnected Pond Routing. Storage Indication method used.



Pond Report
4

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2018 by Autodesk, Inc. v12 — Wednesday, 12 / 19 / 2018

Pond No. 1 - POND 1

Pond Data

Contours -User-defined contour areas. Conic method used for volume calculation. Begining Elevation = 738.80 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	738.80	10	0	0
0.20	739.00	326	26	26
1.20	740.00	2,150	1,104	1,130
2.20	741.00	3,750	2,913	4,043
3.20	742.00	5,179	4,445	8,488
4.20	743.00	6,191	5,677	14,165

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 18.00	0.00	0.00	0.00
Span (in)	= 18.00	0.00	0.00	0.00
No. Barrels	= 1	0	0	0
Invert El. (ft)	= 738.80	0.00	0.00	0.00
Length (ft)	= 1.00	0.00	0.00	0.00
Slope (%)	= 0.50	0.00	0.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	No	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 0.00	0.00	0.00	0.00
Crest El. (ft)	= 0.00	0.00	0.00	0.00
Weir Coeff.	= 3.33	3.33	3.33	3.33
Weir Type	= Rect	---	---	---
Multi-Stage	= Yes	Yes	Yes	Yes
Exfil.(in/hr)	= 0.000 (by Contour)			
TW Elev. (ft)	= 0.00			

Note: Culvert/Orifice outflows are analyzed under inlet (ic) and outlet (oc) control. Weir risers checked for orifice conditions (ic) and submergence (s).

Stage / Storage / Discharge Table

Stage ft	Storage cuft	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PrfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	User cfs	Total cfs
0.00	0	738.80	0.00	---	---	---	---	---	---	---	---	---	0.000
0.02	3	738.82	0.00 oc	---	---	---	---	---	---	---	---	---	0.003
0.04	5	738.84	0.01 oc	---	---	---	---	---	---	---	---	---	0.010
0.06	8	738.86	0.01 oc	---	---	---	---	---	---	---	---	---	0.021
0.08	10	738.88	0.02 oc	---	---	---	---	---	---	---	---	---	0.032
0.10	13	738.90	0.02 oc	---	---	---	---	---	---	---	---	---	0.047
0.12	16	738.92	0.03 oc	---	---	---	---	---	---	---	---	---	0.061
0.14	18	738.94	0.04 oc	---	---	---	---	---	---	---	---	---	0.077
0.16	21	738.96	0.05 oc	---	---	---	---	---	---	---	---	---	0.095
0.18	24	738.98	0.06 oc	---	---	---	---	---	---	---	---	---	0.115
0.20	26	739.00	0.06 oc	---	---	---	---	---	---	---	---	---	0.130
0.30	137	739.10	0.12 oc	---	---	---	---	---	---	---	---	---	0.240
0.40	247	739.20	0.18 oc	---	---	---	---	---	---	---	---	---	0.358
0.50	357	739.30	0.24 oc	---	---	---	---	---	---	---	---	---	0.483
0.60	468	739.40	0.31 oc	---	---	---	---	---	---	---	---	---	0.620
0.70	578	739.50	0.37 oc	---	---	---	---	---	---	---	---	---	0.749
0.80	689	739.60	0.45 oc	---	---	---	---	---	---	---	---	---	0.895
0.90	799	739.70	0.51 oc	---	---	---	---	---	---	---	---	---	1.023
1.00	910	739.80	0.58 oc	---	---	---	---	---	---	---	---	---	1.159
1.10	1,020	739.90	0.64 oc	---	---	---	---	---	---	---	---	---	1.282
1.20	1,130	740.00	0.70 oc	---	---	---	---	---	---	---	---	---	1.398
1.30	1,422	740.10	0.75 oc	---	---	---	---	---	---	---	---	---	1.505
1.40	1,713	740.20	0.79 oc	---	---	---	---	---	---	---	---	---	1.584
1.50	2,004	740.30	0.81 oc	---	---	---	---	---	---	---	---	---	1.628
1.60	2,296	740.40	3.73 oc	---	---	---	---	---	---	---	---	---	7.455
1.70	2,587	740.50	5.21 oc	---	---	---	---	---	---	---	---	---	10.42
1.80	2,878	740.60	6.35 oc	---	---	---	---	---	---	---	---	---	12.71
1.90	3,169	740.70	7.32 oc	---	---	---	---	---	---	---	---	---	14.64
2.00	3,461	740.80	8.18 oc	---	---	---	---	---	---	---	---	---	16.35
2.10	3,752	740.90	8.95 oc	---	---	---	---	---	---	---	---	---	17.90
2.20	4,043	741.00	9.66 oc	---	---	---	---	---	---	---	---	---	19.33
2.30	4,488	741.10	10.33 oc	---	---	---	---	---	---	---	---	---	20.65
2.40	4,9[illegible]	741.20	10.93 ic	---	---	---	---	---	---	---	---	---	21.86
2.50	5,[illegible]77	741.[illegible]0	11.[illegible]5 ic	---	---	---	---	---	---	---	---	---	22.51
2.60	5,[illegible]21	741.[illegible]0	11.[illegible]7 ic	---	---	---	---	---	---	---	---	---	23.14
2.70	6,266	741.50	11.88 ic	---	---	---	---	---	---	---	---	---	23.76
2.80	6,710	741.60	12.18 ic	---	---	---	---	---	---	---	---	---	24.36

Continues on next page...

Pond Report
6

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2018 by Autodesk, Inc. v12 — Wednesday, 12 / 19 / 2018

Pond No. 2 - POND 2

Pond Data

Contours -User-defined contour areas. Conic method used for volume calculation. Begining Elevation = 730.50 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	730.50	20	0	0
0.50	731.00	754	150	150
1.50	732.00	6,025	2,970	3,120
2.50	733.00	8,361	7,161	10,280
3.50	734.00	14,462	11,272	21,552

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 12.00	0.00	0.00	0.00
Span (in)	= 12.00	0.00	0.00	0.00
No. Barrels	= 1	0	0	0
Invert El. (ft)	= 730.50	0.00	0.00	0.00
Length (ft)	= 1.00	0.00	0.00	0.00
Slope (%)	= 0.20	0.00	0.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	No	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	Inactive	Inactive	Inactive	Inactive
Crest El. (ft)	= 0.00	0.00	0.00	0.00
Weir Coeff.	= 3.33	3.33	3.33	3.33
Weir Type	= Rect	---	---	---
Multi-Stage	= Yes	Yes	Yes	Yes
Exfil.(in/hr)	= 0.000 (by Contour)			
TW Elev. (ft)	= 0.00			

Note: Culvert/Orifice outflows are analyzed under inlet (ic) and outlet (oc) control. Weir risers checked for orifice conditions (ic) and submergence (s).

Stage / Storage / Discharge Table

Stage ft	Storage cuft	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PrfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	User cfs	Total cfs
0.00	0	730.50	0.00	---	---	---	---	---	---	---	---	---	0.000
0.05	15	730.55	0.00 oc	---	---	---	---	---	---	---	---	---	0.016
0.10	30	730.60	0.01 oc	---	---	---	---	---	---	---	---	---	0.046
0.15	45	730.65	0.02 oc	---	---	---	---	---	---	---	---	---	0.088
0.20	60	730.70	0.04 oc	---	---	---	---	---	---	---	---	---	0.137
0.25	75	730.75	0.05 oc	---	---	---	---	---	---	---	---	---	0.184
0.30	90	730.80	0.07 oc	---	---	---	---	---	---	---	---	---	0.241
0.35	105	730.85	0.08 oc	---	---	---	---	---	---	---	---	---	0.298
0.40	120	730.90	0.10 oc	---	---	---	---	---	---	---	---	---	0.363
0.45	135	730.95	0.12 oc	---	---	---	---	---	---	---	---	---	0.420
0.50	150	731.00	0.13 oc	---	---	---	---	---	---	---	---	---	0.484
0.60	447	731.10	0.17 oc	---	---	---	---	---	---	---	---	---	0.658
0.70	744	731.20	0.20 oc	---	---	---	---	---	---	---	---	---	0.847
0.80	1,041	731.30	0.23 oc	---	---	---	---	---	---	---	---	---	1.011
0.90	1,338	731.40	0.25 oc	---	---	---	---	---	---	---	---	---	1.175
1.00	1,635	731.50	0.26 oc	---	---	---	---	---	---	---	---	---	1.302
1.10	1,932	731.60	1.63 oc	---	---	---	---	---	---	---	---	---	5.507
1.20	2,229	731.70	2.29 oc	---	---	---	---	---	---	---	---	---	7.557
1.30	2,526	731.80	2.80 oc	---	---	---	---	---	---	---	---	---	9.121
1.40	2,823	731.90	3.23 oc	---	---	---	---	---	---	---	---	---	12.99
1.50	3,120	732.00	3.61 oc	---	---	---	---	---	---	---	---	---	15.44
1.60	3,836	732.10	3.95 oc	---	---	---	---	---	---	---	---	---	17.49
1.70	4,552	732.20	4.14 ic	---	---	---	---	---	---	---	---	---	18.91
1.80	5,268	732.30	4.31 ic	---	---	---	---	---	---	---	---	---	20.17
1.90	5,984	732.40	4.47 ic	---	---	---	---	---	---	---	---	---	21.34
2.00	6,700	732.50	4.63 ic	---	---	---	---	---	---	---	---	---	22.18
2.10	7,416	732.60	4.78 ic	---	---	---	---	---	---	---	---	---	22.97
2.20	8,132	732.70	4.93 ic	---	---	---	---	---	---	---	---	---	23.74
2.30	8,848	732.80	5.07 ic	---	---	---	---	---	---	---	---	---	24.48
2.40	9,564	732.90	5.21 ic	---	---	---	---	---	---	---	---	---	25.20
2.50	10,280	733.00	5.35 ic	---	---	---	---	---	---	---	---	---	25.90
2.60	11,408	733.10	5.48 ic	---	---	---	---	---	---	---	---	---	26.58
2.70	12,535	733.20	5.61 ic	---	---	---	---	---	---	---	---	---	27.25
2.80	13,662	733.30	5.73 ic	---	---	---	---	---	---	---	---	---	27.90
2.90	14,789	733.40	5.86 ic	---	---	---	---	---	---	---	---	---	28.53
3.00	15,916	733.50	5.98 ic	---	---	---	---	---	---	---	---	---	29.15
3.10	17,044	733.60	6.10 ic	---	---	---	---	---	---	---	---	---	29.76
3.20	18,171	733.70	6.21 ic	---	---	---	---	---	---	---	---	---	30.35

Continues on next page...

50% PAGE SIZE REDUCTION

NO.	DATE	BY	DESCRIPTION
1	12.20.18	VA	ADDRESSED CITY COMMENTS

!!CAUTION!!
THERE MAY BE UNDERGROUND GAS LINES, TELEPHONE CABLES AND ELECTRICAL LINES WITHIN VICINITY OF SITE. EXACT LOCATIONS ARE UNKNOWN. CALL BEFORE DIGGING!

PROGRESS PLOTS
FOR INTERIM DESIGN REVIEW ONLY
NOT FOR CONSTRUCTION
DATE: 12/20/18

VILBIG & ASSOCIATES, INC.
CONSULTING ENGINEERS & SURVEYORS
517 W WOODARD STREET DENISON, TX 75020

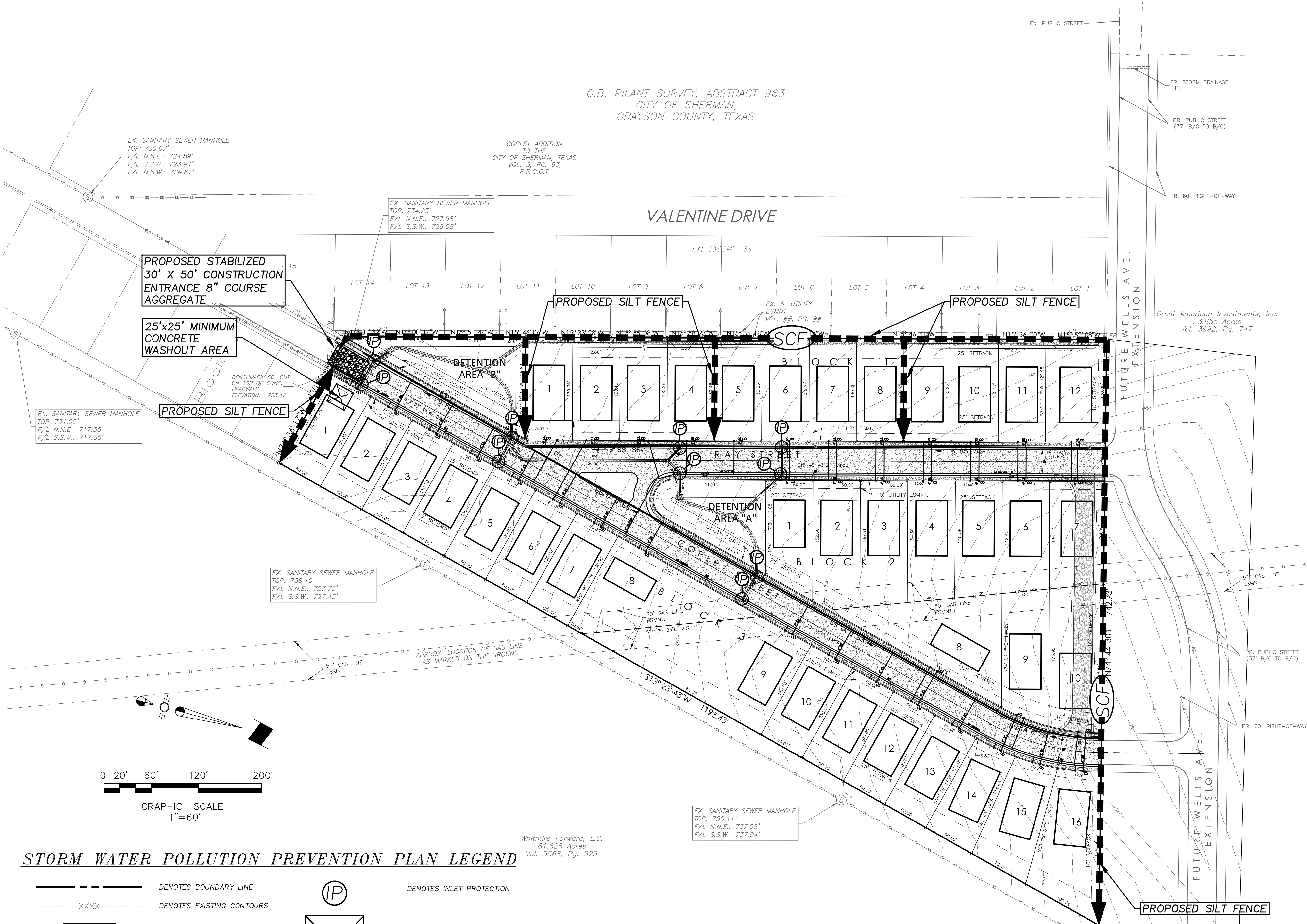
THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF BIDDING ONLY UNDER THE AUTHORITY OF DAVID A. VILBIG,P.E., 67207 ON

COPLEY ADDITION

STORM WATER PONDS

SUBMITTAL #1: --/--/--
SUBMITTAL #2: --/--/--
SUBMITTAL #3: --/--/--
SUBMITTAL #4: --/--/--
DESIGN: VA DRAWN: VA

SHEET
C12


G.B. PILANT SURVEY, ABSTRACT 963
CITY OF SHERMAN,
GRAYSON COUNTY, TEXAS
COPLEY ADDITION
TO THE
CITY OF SHERMAN, TEXAS
VOL. 3, PG. 63,
P.R.G.C.T.
VALENTINE DRIVE
BLOCK 5
EX. PUBLIC STREET
PR. STORM DRAINAGE PIPE
PR. PUBLIC STREET (37' B/C TO B/C)
PR. 60' RIGHT-OF-WAY
EX. SANITARY SEWER MANHOLE
TOP: 730.67'
F/L N.N.E.: 724.89'
F/L S.S.W.: 723.94'
F/L N.N.W.: 724.87'
EX. SANITARY SEWER MANHOLE
TOP: 734.23'
F/L N.N.E.: 727.98'
F/L S.S.W.: 728.08'
PROPOSED STABILIZED
30' X 50' CONSTRUCTION
ENTRANCE 8" COURSE
AGGREGATE
25'x25' MINIMUM
CONCRETE
WASHOUT AREA
PROPOSED SILT FENCE
PROPOSED SILT FENCE
PROPOSED SILT FENCE
PROPOSED SILT FENCE
PROPOSED SILT FENCE
EX. SANITARY SEWER MANHOLE
TOP: 731.05'
F/L N.N.E.: 717.35'
F/L S.S.W.: 717.35'
BENCHMARK: SQ. CUT ON TOP OF CONC. HEADWALL. ELEVATION: 733.12'
DETENTION AREA "B"
DETENTION AREA "A"
RAY STREET
COPLEY STREET
BLOCK 1
BLOCK 2
BLOCK 3
Great American Investments, Inc.
23.855 Acres
Vol. 3992, Pg. 747
FUTURE WELLS AVE. EXTENSION
EX. SANITARY SEWER MANHOLE
TOP: 738.10'
F/L N.N.E.: 727.75'
F/L S.S.W.: 727.45'
APPROX. LOCATION OF GAS LINE AS MARKED ON THE GROUND
50' GAS LINE ESMNT.
S13° 23' 43"W 1193.43'
N74° 44' 30"E 742.73'
50' GAS LINE ESMNT.
PR. PUBLIC STREET (37' B/C TO B/C)
PR. 60' RIGHT-OF-WAY
EX. SANITARY SEWER MANHOLE
TOP: 750.11'
F/L N.N.E.: 737.08'
F/L S.S.W.: 737.04'
Whitmire Forward, L.C.
81.626 Acres
Vol. 5568, Pg. 523
AARON BURLESON SURVEY, ABSTRACT NO. 61,
CITY OF SHERMAN,
GRAYSON COUNTY, TEXAS
Bearing Base:
Grid North, NAD83 Texas State Plane Coordinate System, North Central Zone, as derived by survey-grade Global Positioning System.
0 20' 60' 120' 200'
GRAPHIC SCALE
1"=60'

STORM WATER POLLUTION PREVENTION PLAN LEGEND

Symbol	Description	Symbol	Description
——— — — ———	DENOTES BOUNDARY LINE	(IP)	DENOTES INLET PROTECTION
——XXXX——	DENOTES EXISTING CONTOURS	☒	DENOTES 25' x 25' MINIMUM CONCRETE WASHOUT AREA
(hatched)	DENOTES PROPOSED STABILIZED CONSTRUCTION ENTRANCE		
◄ - - (SCF) - - ►	DENOTES PROPOSED SILT FENCE		

REFERENCE SHEET C1 FOR STORM WATER POLLUTION PREVENTION PLAN DETAILS.

TOTAL AREA = 10.70 ACRES

50% PAGE SIZE REDUCTION

!!CAUTION!! THERE MAY BE UNDERGROUND GAS LINES, TELEPHONE CABLES AND ELECTRICAL LINES WITHIN VICINITY OF SITE. EXACT LOCATIONS ARE UNKNOWN. CALL BEFORE DIGGING!

PROGRESS PLOTS
FOR INTERIM DESIGN
REVIEW ONLY
NOT FOR CONSTRUCTION
DATE: 12/20/18

NO.	DATE	BY	DESCRIPTION
1	12.20.18	VA	ADDRESSED CITY COMMENTS

VILBIG & ASSOCIATES, INC.
CONSULTING ENGINEERS & SURVEYORS
517 W WOODARD STREET DENISON, TX 75020

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF BIDDING ONLY UNDER THE AUTHORITY OF DAVID A. VILBIG, P.E., 67207 ON

COPLEY ADDITION

STORM WATER POLLUTION

SUBMITTAL #1: --/--/--
SUBMITTAL #2: --/--/--
SUBMITTAL #3: --/--/--
SUBMITTAL #4: --/--/--
DESIGN: VA DRAWN: VA

SHEET
C1

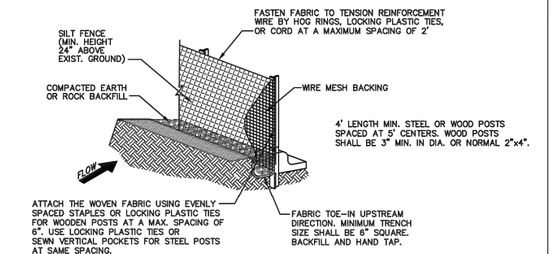
EROSION CONTROL PLAN NOTES

1. ALL OPERATORS AND/OR CONTRACTORS SHALL CONFORM TO THE TERMS AND CONDITIONS OF THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ), TPDES GENERAL PERMIT NO. TXR 040000 ISSUED AND DATED FEBRUARY 9, 2009.
2. THE NOTICE OF INTENT (NOI), AS REQUIRED BY THE GENERAL PERMIT, MUST BE PROPERLY DISPLAYED ON SITE AT ALL TIMES BY EACH OPERATOR OR CONSTRUCTION SITE NOTICE (CSN).
3. ALL RELEASES OF THE REPORTABLE QUANTITIES OF HAZARDOUS SUBSTANCES SHALL BE REPORTED IMMEDIATELY TO THE FACILITY OPERATOR, EPA AND TCEQ.
4. QUALIFIED OPERATOR PERSONNEL MUST INSPECT THE SITE AT LEAST ONCE EVERY 14 DAYS AND WITHIN 24 HOURS OF A STORM EVENT OF 0.5 INCHES OR GREATER. AS AN ALTERNATIVE, AN INSPECTION CAN BE CONDUCTED ONCE EVERY SEVEN (7) CALENDAR DAYS ON A DEFINED DAY. A DECISION ON WHICH METHOD TO USE MUST BE DECIDED BEFORE WORK BEGINS AND MUST BE FOLLOWED THROUGHOUT THE PROJECT.
5. MODIFICATIONS TO THE STORM WATER POLLUTION PREVENTION PLAN SHALL BE IMPLEMENTED AND BE IN-PLACE WITHIN A SEVEN CALENDAR DAY PERIOD.
6. IF ANY CONTRACTOR SEES A VIOLATION BY AN OPERATOR OR ANOTHER CONTRACTOR, THAT OPERATOR OR CONTRACTOR IN VIOLATION SHALL BE NOTIFIED AS WELL AS THE FACILITY OPERATOR.
7. EROSION CONTROL SHALL BE INSTALLED PRIOR TO GRADING.
8. ACCUMULATED SILT DEPOSITS SHALL BE REMOVED FROM SILT FENCES AND HAY BALE DIKES WHEN SILT DEPTH REACHES THREE INCHES OR 25%.
9. THE CONTRACTOR SHALL ADD OR DELETE EROSION PROTECTION AT THE REQUEST AND DIRECTION OF THE OPERATOR OR CITY, WITHIN 24 HOURS OF NOTICE.
10. AFTER INSTALLATION OF PAVEMENT, FINAL LOT BENCHING AND GENERAL CLEANUP, THE CONTRACTOR SHALL ESTABLISH GRASS GROUNDCOVER IN ALL STREET PARKWAYS, LOT AND ALL OTHER DISTURBED AREAS. SODDING SHALL BE DONE AS SPECIFIED BY SECTION 202.5 AND SEEDING AS SPECIFIED BY SECTION 202.6 OF THE OCTOBER 2004 OR LATEST EDITION OF NCTCOG STANDARD SPECIFICATION.
11. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO CONTROL AND LIMIT SILT AND SEDIMENT LEAVING THE SITE. SPECIFICALLY, THE CONTRACTOR SHALL PROTECT ALL PUBLIC STREETS, ALLEYS, STREAMS AND STORM DRAINAGE SYSTEMS FROM EROSION/SEDIMENT DEPOSITS.
12. A DRAINAGE AREA MAP WILL BE INCLUDED WITH THE EROSION CONTROL PLAN.
13. CONSTRUCTION WASTE DISPOSAL CONTAINERS SHALL BE PROVIDED ON THE SITE FOR DISPOSAL OF ALL NON-HAZARDOUS CONSTRUCTION WASTE MATERIALS.
14. ALL HAZARDOUS MATERIALS SHALL BE HANDLED AND DISPOSED OF BY THE CONTRACTOR IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL REGULATIONS.

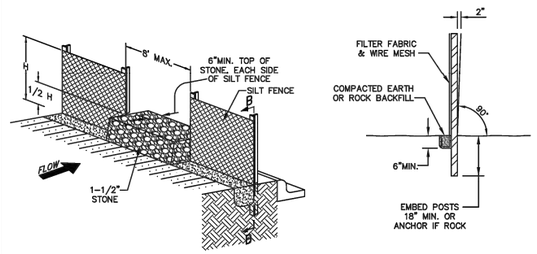
SILT FENCE NOTES

1. POSTS WHICH SUPPORT THE SILT FENCE SHALL BE INSTALLED ON A SLIGHT ANGLE TOWARD THE ANTICIPATED RUNOFF SOURCE. THE POST MUST BE EMBEDDED A MINIMUM OF 18 INCHES.
2. THE TOE OF THE SILT FENCE SHALL BE TRENCHED IN WITH A SPADE OR MECHANICAL TRENCHER, SO THAT THE DOWNSLOPE FACE OF THE TRENCH IS FLAT AND PERPENDICULAR TO THE LINE OF FLOW. WHERE FENCE CANNOT BE TRENCHED IN (E.G. PAVEMENT), WEIGHT FABRIC FLAP WITH WASHED GRAVEL ON THE UPHILL SIDE TO PREVENT FLOW UNDER FENCE.
3. 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.
4. SILT FENCE SHALL BE SECURELY FASTENED TO EACH SUPPORT POST OR TO WOVEN WIRE, WHICH IS IN TURN ATTACHED TO THE SUPPORT POST. THERE SHALL BE A 6 INCH DOUBLE OVERLAP, SECURELY FASTENED WHERE ENDS OF FABRIC MEET.
5. INSPECTION SHALL BE MADE EVERY TWO WEEKS OR AFTER EACH RAINFALL. REPAIR OR REPLACEMENT SHALL BE PROMPTLY AS NEEDED.
6. SILT FENCE SHALL BE REMOVED WHEN THE SITE IS COMPLETELY STABILIZED SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.
7. ACCUMULATED SILT SHALL BE REMOVED WHEN IT REACHES A DEPTH OF 3 INCHES. THE SILT SHALL BE DISPOSED OF AT AN APPROVED SITE AND IN SUCH A MANNER AS TO NOT CONTRIBUTE TO ADDITIONAL SILTATION.

Sherman CLASSIC TOWN. BROAD HORIZON. ENGINEERING DEPARTMENT	EROSION CONTROL & SILT FENCE NOTES	STANDARD CONSTRUCTION DETAILS EROSION CONTROL		
		DATE: OCT, 2013	REV DATE: –	SHEET : SD-EC01

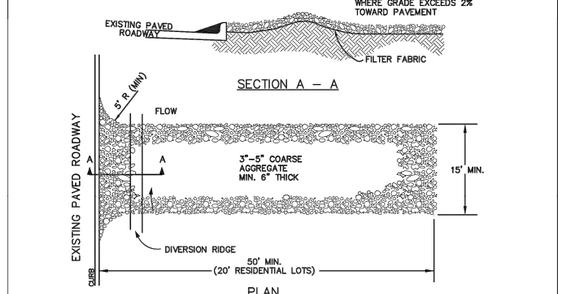


ISOMETRIC PLAN VIEW
N.T.S.



SILT FENCE
STONE OVERFLOW STRUCTURE
N.T.S.

Sherman CLASSIC TOWN. BROAD HORIZON. ENGINEERING DEPARTMENT	SILT FENCE DETAIL	STANDARD CONSTRUCTION DETAILS EROSION CONTROL		
		DATE: OCT, 2013	REV DATE: –	SHEET: SD-EC02

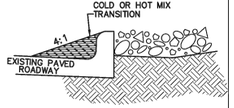


PLAN

TEMPORARY STONE CONSTRUCTION ENTRANCE/EXIT
N.T.S.

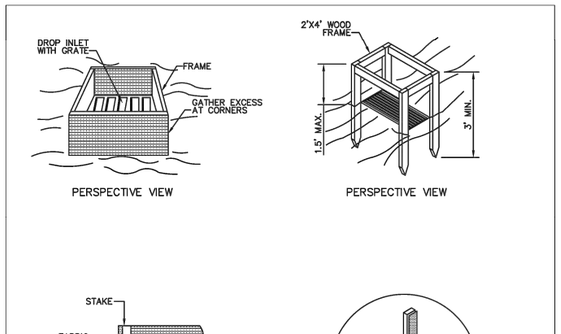
STABILIZED CONSTRUCTION ENTRANCE GENERAL NOTES:

1. WHEN NECESSARY, VEHICLES SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO A PUBLIC ROADWAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AREA STABILIZED WITH CRUSHED STONE WITH DRAINAGE FLOWING AWAY FROM BOTH THE STREET AND THE STABILIZED ENTRANCE. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING ANY STORM DRAIN, DITCH OR WATERCOURSE USING APPROVED METHODS.
2. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PAVED SURFACES. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND. ALL SEDIMENT SPILLED, DROPPED, WASHED, OR TRACKED ONTO PAVED SURFACES MUST BE REMOVED IMMEDIATELY.
3. THE ENTRANCE MUST BE PROPERLY GRADED OR INCORPORATE A DRAINAGE SWALE TO PREVENT RUNOFF FROM LEAVING THE CONSTRUCTION SITE.
4. WHEN SEDIMENT HAS SUBSTANTIALLY CLOGGED THE VOID AREA BETWEEN THE ROCKS, THE AGGREGATE MAT MUST BE WASHED DOWN OR REPLACED. PERIODIC RE-GRADING AND TOP DRESSING WITH ADDITIONAL STONE MUST BE DONE TO KEEP THE EFFICIENCY OF THE ENTRANCE FROM DIMINISHING.



TRANSITION

Sherman CLASSIC TOWN. BROAD HORIZON. ENGINEERING DEPARTMENT	TEMPORARY STONE CONSTRUCTION ENTRANCE/EXIT	STANDARD CONSTRUCTION DETAILS EROSION CONTROL		
		DATE: OCT, 2013	REV DATE: –	SHEET: SD-EC03



SPECIFIC APPLICATION
THIS METHOD OF INLET PROTECTION IS APPLICABLE WHERE THE INLET DRAINS A RELATIVELY FLAT AREA (SLOPE NO GREATER THAN 5%) WHERE THE INLET SHEET OR OVER-LAND FLOWS (NOT TO EXCEED 1 C.F.S.) ARE TYPICAL. THE METHOD SHALL NOT APPLY TO INLETS RECEIVING CONCENTRATED FLOWS SUCH AS IN STREETS OR HIGHWAY MEDIANS.

Sherman CLASSIC TOWN. BROAD HORIZON. ENGINEERING DEPARTMENT	GRATE AND WYE INLET PROTECTION	STANDARD CONSTRUCTION DETAILS EROSION CONTROL		
		DATE: OCT, 2013	REV DATE: –	SHEET : SD-EC04

CONCRETE WASHOUT AREAS DESIGN SPECIFICATION: [CWA]

CONCRETE WASHOUT AREAS SHOULD BE BELOW-GRADE, A MINIMUM OF 25.0'(FEET) x 25.0'(FEET), AND EXCAVATED 12.0"(INCHES) DEEP WITH AN ADDITIONAL12.0"(INCHES) OF BERM ENCLOSING THE PIT FOR A TOTAL PIT DEPTH OF 24"(INCHES). ENTIRE PIT, INCLUDING BERM, SHALL BE LINED WITH A SINGLE SHEET OF 10-MIL POLYETHYLENE SHEETING WHICH IS FREE OF HOLES, TEARS, OR OTHER DEFECTS WHICH MAY COMPROMISE THE IMPERMEABILITY OF THE MATERIAL. SAND BAGS ARE THEN USED TO HOLD THE SHEETING IN PLACE.

INSPECTION/MAINTENCE/REMOVAL:

TEMPORARY CONCRETE WASHOUT FACILITIES ARE TO BE INSPECTED BY THE RESIDENT ENGINEER DURING HIS/HER WEEKLY EROSION AND SEDIMENT CONTROL INSPECTION, AFTER A STORM EVENT OF 1/2"(INCH) OR GREATER AND AT THE END OF ANY DAY WHEN CONCRETE HAS BEEN POURED ON THE CONSTRUCTION SITE. THE INSPECTOR IS TO ENSURE THAT THERE ARE NO LEAKS, NO SPILLS, AND THAT THE FACILITIES CAPACITY HAS NOT YET BEEN COMPROMISED.

ANY OVERFLOWING OF THE WASHOUT FACILITIES ONTO THE GROUND MUST BE CLEANED UP, AND REMOVED WITHIN 24 HOURS OF DISCOVERY.

IF A RAIN OR SNOW EVENT IS FORECASTED, A NON-COLLAPSING, NON-WATER COLLECTING COVER SHALL BE PLACED OVER THE WASHOUT FACILITY, AND SECURED TO PREVENT ACCUMULATION AND OVERFLOW OF PRECIPITATION.

CONTENTS OF EACH CONCRETE WASHOUT FACILITY ARE NOT TO EXCEED 75% OF ITS DESIGNED CAPACITY. IF THE CONTENTS REACH 75% CAPACITY, DISCONTINUE POURING CONCRETE INTO THE FACILITY UNTIL IT HAS BEEN CLEANED OUT.

ALLOW SLURRY TO EVAPORATE OR REMOVE FROM THE SITE IN A SAFE MANNER (IE. VACUUM TRUCK). ALL HARDENED MATERIAL CAN THEN BE REMOVED AND DISPOSED OF PROPERLY.

IF A LINED BASIN IS USED, IMMEDIATELY REPLACE LINER IF IT BECOMES DAMAGED.

REMOVE TEMPORARY CONCRETE WASHOUT FACILITIES WHEN THEY ARE NO LONGER NEEDED AND RESTORE THE DISTURBED AREAS TO THEIR ORIGINAL CONDITION.

NOTE THE LOCATIONS OF TEMPORARY CONCRETE WASHOUT FACILITIES, AND CHANGES TO THESE FACILITIES ON THE SWPPP (STORM WATER POLLUTION PREVENTION).

GENERAL NOTES FOR STORM WATER POLLUTION PREVENTION PLAN (SWPPP):

1. All operators and/or contractors shall conform to the terms and conditions of the National Pollution Discharge Elimination Series (NPDES) General Permit as published in the Federal Register Vol. 57 No. 157, September 9, 1992 by the Environmental Protection Agency (EPA).
2. The Notice of Intent (NOI), as required by the General Permit, must be properly displayed on site at all times by each operator.
3. All releases of reportable hazardous substances shall be reported immediately to the facility operator and EPA.
4. Qualified operator personnel must inspect the site at least once every 14 days and within 24 hours of a 1/2 inch or greater rainfall event. The inspector shall document the events.
5. Modifications to the Storm Water Pollution Prevention Plan shall be implemented and be in place within a 7calendar day period.
6. If any contractor sees a violation by an operator or another contractor, he/she shall notify the operator and contractor in violation, as well as the facility operator.
7. Erosion control shall be installed prior to any grading.
8. Accumulated silt deposits shall be removed from silt fences and hay bale dikes when silt depth reaches six inches. Removal of silt deposits by the contractor shall be incidental to the performance of the contract and a separate bid item shall not be included.
9. The contractor shall add or delete erosion protection at the request and direction of the Operator.
10. After installation of pavement and general cleanup. The Paving Contractor shall establish grass groundcover in all disturbed areas. Materials shall be as specified in item 2.15 and seeding shall be in accordance with item 3.10 of the NCTCOG Standard Specifications.
11. It shall be the contractor's responsibility to control and limit silt and sediment leaving the site. Specifically, the contractor shall protect all public streets, alleys, streams, and storm drainage systems from erosion deposits.
12. It shall be the contractor's responsibility to provide a dumpster (or equal) to collect solid waste during construction.
13. The attached Drainage Area Map, as prepared by Vilbig Associates, Inc. specifically for this project, shall be made part of the Storm Water Pollution Prevention Plan (SWPPP).
14. It is anticipated that the following non-storm water discharges will be associated with this project. These discharges are authorized through the general construction permit.
    A. Fire Hydrant Flushings
    B. Water used to wash vehicles and to control dust
    C. Potable water sources including waterline flushings
    D. Irrigation drainage
    E. Pavement washed
    F. Uncontaminated ground water
    G. Construction water
15. Construction waste disposal containers shall be provided on the site for disposal of all non-hazardous construction waste materials. The containers shall be hauled to landfill by the Contractor.
16. All hazardous materials shall be handled and disposed of by the Contractor in accordance with Federal, State, and local regulations.
17. The TCEQ TPDES Storm Water General Permit requires all disturbed ground that will remain dormant for longer than 21 days to be seeded with temporary seed and/or protected with mulch. The seeding and/or mulching must take place within 14 days after construction ceases. Permanent stabilization must take place within 14 days after construction activity has ceased.
18. Seeded areas will be inspected to confirm a healthy stand of grass. Final stabilization will be achieved once all areas are covered with pavement, or have a stand of grass at least 70% density.

VILBIG & ASSOCIATES, INC.
CONSULTING ENGINEERS & SURVEYORS
517 W WOODARD STREET DENISON, TX 75020

COPLEY ADDITION

STORM WATER POLLUTION PREVENTION PLAN

PROGRESS PLOTS
FOR INTERIM DESIGN REVIEW ONLY
NOT FOR CONSTRUCTION
DATE: 12/20/18

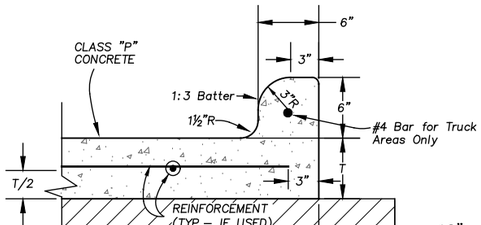
!! CAUTION !!
THERE MAY BE UNDERGROUND GAS LINES, TELEPHONE CABLES AND ELECTRICAL LINES WITHIN VICINITY OF SITE. EXACT LOCATIONS ARE UNKNOWN. CALL BEFORE DIGGING!
Texas811

NO.	DATE	BY	DESCRIPTION
1	12.20.18	VA	ADDRESSED CITY COMMENTS

SUBMITTAL #1: --/--/--
SUBMITTAL #2: --/--/--
SUBMITTAL #3: --/--/--
SUBMITTAL #4: --/--/--
DESIGN: VA DRAWN: VA

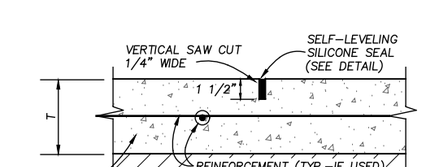
SHEET
C2

50% PAGE SIZE REDUCTION



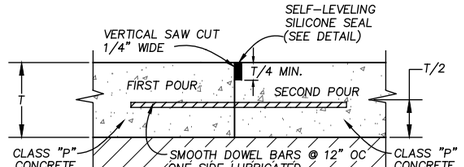
01 CONCRETE PAVEMENT AND CURB SECTION

NOT TO SCALE



02 LONGITUDINAL OR TRANSVERSE CONTRACTION JOINT

NOT TO SCALE



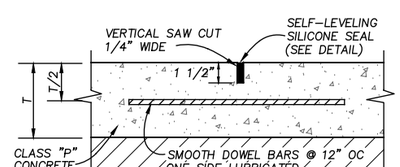
03 LONGITUDINAL OR TRANSVERSE DOWELED CONSTRUCTION JOINT

NOT TO SCALE

DOWEL BAR SCHEDULE

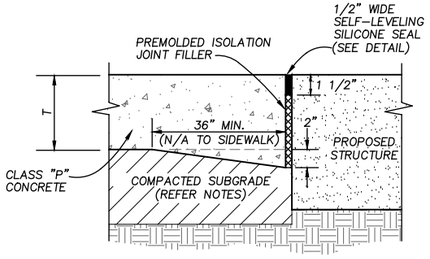
THICKNESS "T"	BAR DIA.	BAR LENGTH	MIN. EMBEDMENT (EACH SIDE)
5"	*REFER NOTE BELOW		
6"			
7"	1"	14"	6"
8"	1¼"	14"	6"
9"+	1¼"	14"	6"

*DOWELS SHALL NOT BE USED TO TIE 5" OR 6" PAVEMENTS TO ONE ANOTHER. WHEN TYING A 5" OR 6" PAVEMENT TO A 7"+ PAVEMENT, USE THICKENED TRANSITION ON 5"/6" SIDE PER DETAIL 07, & USE DOWEL BAR SCHEDULE AS APPROPRIATE FOR THICKER SIDE.



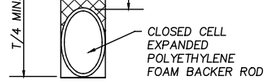
04 LONGITUDINAL OR TRANSVERSE DOWELED CONTRACTION JOINT

NOT TO SCALE



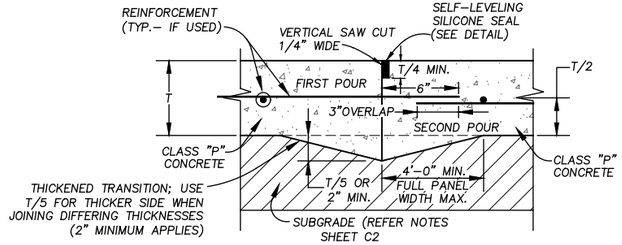
05 ISOLATION JOINT

NOT TO SCALE



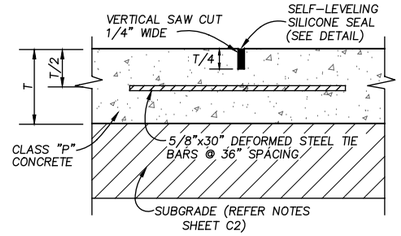
06 JOINT SEAL DETAIL

NOT TO SCALE



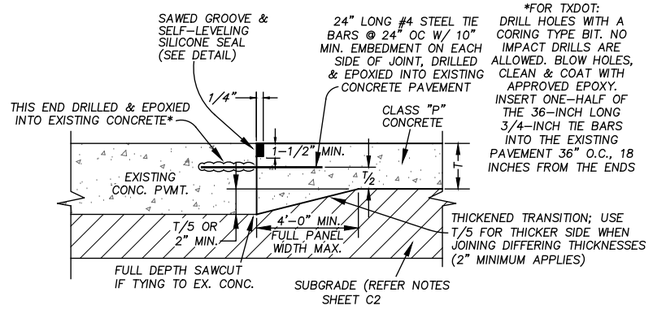
07 LONGITUDINAL OR TRANSVERSE BUTT–TYPE CONSTRUCTION JOINT

NOT TO SCALE



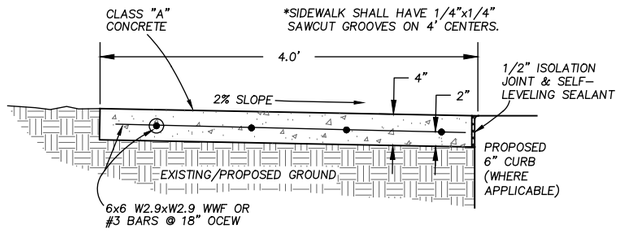
08 LONGITUDINAL OR TRANSVERSE TIED CONTRACTION JOINT

NOT TO SCALE



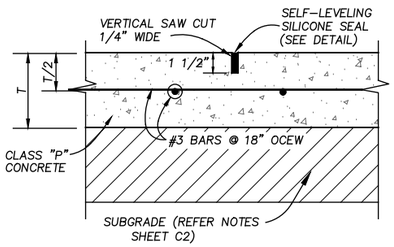
09 EX. CONC. CONNECTION TO NEW CONC.

NOT TO SCALE



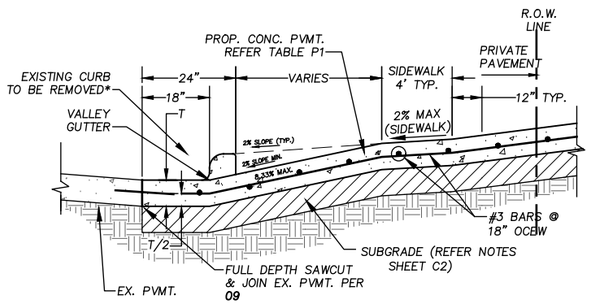
10 SIDEWALK DETAIL

NOT TO SCALE



11 REINFORCEMENT DETAIL

* FOR USE ONLY WHERE INDICATED ON PLAN
NOT TO SCALE

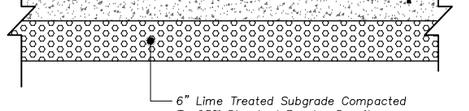


12 MAIN DRIVEWAY CONNECTION – CONCRETE PAVEMENT TO EX. CONCRETE

NOT TO SCALE

SAWING OF PAVING JOINTS SHOULD BEGIN AS SOON AS CONCRETE HAS ATTAINED ADEQUATE STRENGTH TO RESIST RAVELING OF THE JOINT EDGES, GENERALLY BETWEEN 4 AND 12 HOURS DEPENDING ON WEATHER CONDITIONS.

USE OF SAWCUT CONTROL JOINTS IN PLACE OF BUTT–TYPE CONSTRUCTION JOINTS MAY RESULT IN REFLECTIVE CRACKING WHERE SAWCUT PATTERN CHANGES. G.C. SHALL NOTIFY ENGINEER PRIOR TO MAKING CHANGES TO CONSTRUCTION JOINT PATTERN.

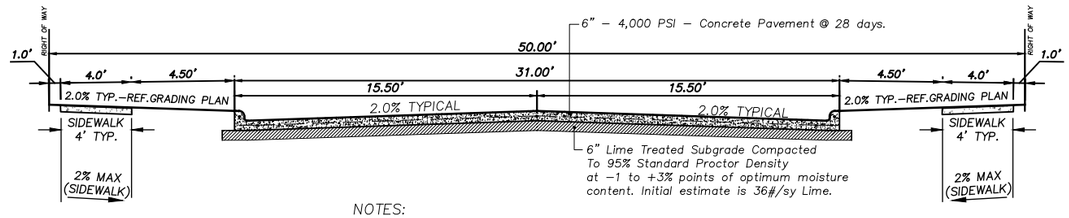


NOTES:

1. ALL MATERIALS AND CONSTRUCTION METHODS SHALL CONFORM TO THE CITY OF SHERMAN STANDARD CONSTRUCTION SPECIFICATIONS.

13 RECOMMENDED CONCRETE PAVEMENT SECTION

NOT TO SCALE



NOTES:

1. ALL MATERIALS AND CONSTRUCTION METHODS SHALL CONFORM TO THE CITY OF SHERMAN STANDARD CONSTRUCTION SPECIFICATIONS.

14 TYPICAL 31.0' BACK CURB – BACK CURB CONCRETE STREET SECTION

VILBIG & ASSOCIATES, INC.
CONSULTING ENGINEERS & SURVEYORS
517 W WOODARD STREET DENISON, TX 75020

COPLEY ADDITION

TYPICAL PAVING DETAILS

PROGRESS PLOTS
FOR INTERIM DESIGN REVIEW ONLY
NOT FOR CONSTRUCTION
DATE: 12/20/18

!!CAUTION!!
THERE MAY BE UNDERGROUND GAS LINES, TELEPHONE CABLES AND ELECTRICAL CABLES WITHIN VICINITY OF SITE. EXACT LOCATIONS ARE UNKNOWN. CALL BEFORE DIGGING!

811 Texas

NO.	DATE	BY	DESCRIPTION
1	12.20.18	VA	ADDRESSED CITY COMMENTS

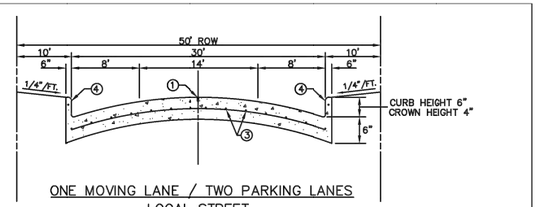
SUBMITTAL #1: --/--/--
SUBMITTAL #2: --/--/--
SUBMITTAL #3: --/--/--
SUBMITTAL #4: --/--/--
DESIGN: VA
DRAWN: VA

SHEET
C1

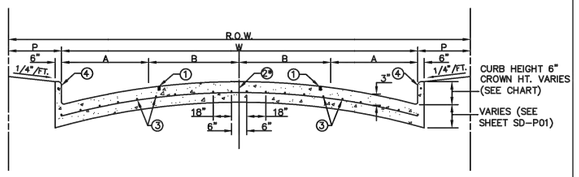
PAVING – GENERAL NOTES

1. GENERAL:
   PAVEMENT THICKNESS IS AS SHOWN IN ITEM 7. SUBGRADE DESIGN SHALL CONFORM TO THE REQUIREMENTS IN ITEM 3, AND SHALL EXTEND 12" MIN. BEHIND THE BACK OF CURB.
2. REINFORCED CONCRETE PAVEMENT:
   A. CONCRETE STRENGTH SHALL BE AS SHOWN IN ITEM 7 (NCTCOG LATEST EDITION).
   B. ALL CURBS SHALL BE INTEGRAL WITH PAVEMENT AND SHALL BE OF THE SAME STRENGTH AS CONCRETE PAVEMENT.
   C. DETAIL AND ARRANGEMENT OF PAVEMENT JOINTS, ALL TYPES, SHALL BE AS SHOWN ON THE CITY STANDARD CONSTRUCTION DETAILS.
   D. BAR LAPS SHALL BE THIRTY DIAMETERS.
   E. REINFORCING STEEL SHALL BE #3 REBAR (3/8") ON 18" CENTERS FOR 7" OR LESS. #4 ON 24" CENTERS FOR 8" OR ABOVE.
3. SUBGRADE:
   SUBGRADE UNDER ALL PAVEMENT SHALL BE 6" THICK AND SHALL BE STABILIZED WITH AT LEAST 30 LBS. PER SQ. YD. HYDRATED LIME, COMPACTED TO A DENSITY NOT LESS THAN 95 PERCENT. LABORATORY TESTS MUST BE SUBMITTED TO THE PUBLIC WORKS DEPARTMENT FOR APPROVAL TO DETERMINE AMOUNT OF LIME REQUIRED. LABORATORY TEST MAY BE WAIVED PROVIDED AT LEAST 36 LBS. OF LIME PER SQ. YD. IS USED. SEE NCTCOG ITEM 301.2 "LIME TREATMENT". FLEXIBLE BASE (CRUSHED STONE/CONCRETE) PER NCTCOG ITEM 301.5 MAY BE SUBSTITUTED FOR LIME TREATMENT WITH THE APPROVAL OF THE CITY ENGINEER.
4. REBAR SHALL BE SUPPORTED BY BAR CHAIRS OR OTHER DEVICES APPROVED BY CITY ENGINEER.
5. NO TRAFFIC ON FINISHED SUBGRADE SHALL BE PERMITTED AFTER REINFORCING STEEL IS INSTALLED ABOVE SUBGRAGE. NO TRAFFIC SHALL BE PERMITTED BEFORE OR DURING THE PLACING OF CONCRETE.
6. CROSS SLOPE OF STRAIGHT CROWN STREETS SHALL BE 1/4" PER FOOT UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER.
7. PAVEMENT THICKNESS AND STRENGTHS SHALL BE AS FOLLOWS:
   MAJOR ARTERIAL – 8" CLASS "P1" OR "P2."
   MINOR ARTERIAL – 8" CLASS "P1" OR "P2."
   COMMERCIAL/INDUSTRIAL COLLECTOR – 7" CLASS "P1" OR "P2."
   RESIDENTIAL COLLECTOR – 7" CLASS "P1" OR "P2."
   LOCAL STREET – 6" CLASS "P1" OR "P2."
   SIDEWALK AND BFR's–4"–CLASS "A"
   DRIVE APPROACH–6"–CLASS "P2"
   ALLEY–6" CLASS "P1" OR "P2."
8. CONCRETE MIX DESIGN SHALL BE AS DEFINED BY NCTCOG 303.3.
9. ALL MEDIANS AND PARKWAYS SHALL BE PROVIDED WITH BERMUDA GROUND COVER.
10. ONCE A CURB ABUTTING A THOROUGHFARE HAS BEEN SAWCUT AND REMOVED, THE CONTRACTOR MUST REPLACE THE CONCRETE WITH A NEW POUR (i.e. DRIVEWAY) WITHIN 14 CALENDAR DAYS. LIQUIDATED DAMAGES WILL BE ASSESSED AT $500 PER DAY FOR EACH CALENDAR DAY IN EXCESS OF 14 CALENDAR DAYS. PAYMENT SHALL BE MADE PRIOR TO ACCEPTANCE OR ISSUANCE OF A CERTIFICATE OF OCCUPANCY.
11. ALL SIDEWALKS AND ACCESSIBLE ROUTES SHALL HAVE A MAXIMUM LONGITUDINAL SLOPE OF 5% AND A MAXIMUM CROSS SLOPE OF 2%.
12. ALLEYS AND DRIVEWAYS
    A. CONCRETE FOR ALLEY RETURNS AND DRIVEWAYS SHALL HAVE A MINIMUM COPRESSIVE STRENGTH AT 28 DAYS IDENTICAL TO THAT SPECIFIED FOR THE STREET PAVEMENT OR BASE WHEN BUILT AS COMPONENTS OF A CONCRETE PAVING PROJECT. WHEN BUILT SEPARATELY, THE STRENGTH SHALL BE AS SPECIFIED ON THE CONSTRUCTION PLAN.
    B. SPACING AND CONSTRUCTION OF JOINTS SHALL CONFORM TO PARABOLIC STREET PAVEMENT.

Sherman CLASSIC TOWN. BROAD HORIZON. ENGINEERING DEPARTMENT	PAVING GENERAL NOTES	STANDARD CONSTRUCTION DETAILS PAVING		
		DATE: OCT, 2013	REV DATE: –	SHEET : SD–P01



ONE MOVING LANE / TWO PARKING LANES
LOCAL STREET
NTS



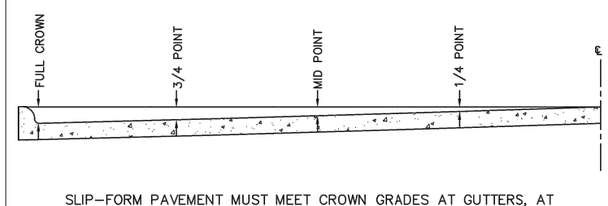
* FULL WIDTH PAVEMENT OF 36' WIDTH STREETS IS ALLOWED WHERE APPROVED BY THE CITY ENGINEER.

STREET TYPE	STREET WIDTH (W)	A	B	R.O.W. WIDTH	P	CROWN HT.
RESIDENTIAL COLLECTOR	36' *	7'–6"	10'–6"	60'	12'	5"
COMMERCIAL / INDUSTRIAL COLLECTOR	44'	11'	11'	65'	10'–6"	6"

FOUR MOVING LANES OR
TWO MOVING LANES / TWO PARKING LANES
NTS

① SAWED LONGITUDINAL DUMMY JOINT.
② CONSTRUCTION JOINT (FULL WIDTH PAVEMENT IS ALLOWED WHERE APPROVED BY THE CITY ENGINEER).
③ ALL REINFORCING BARS SHALL BE No. 3 TRANSVERSE BARS TO BE SPACED ON 18" CENTERS. LONGITUDINAL BARS SHALL BE PLACED ON 18" CENTERS EXCEPT WHERE NOTED.
④ CURB REINFORCEMENT SHALL BE CONTINUOUS No. 3 BAR.

Sherman CLASSIC TOWN. BROAD HORIZON. ENGINEERING DEPARTMENT	LOCAL STREET AND COLLECTOR SECTION	STANDARD CONSTRUCTION DETAILS PAVING		
		DATE: OCT, 2013	REV DATE: –	SHEET : SD–P02

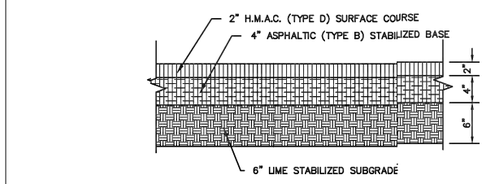


SLIP–FORM PAVEMENT MUST MEET CROWN GRADES AT GUTTERS, AT MID–POINTS AND CENTERLINE. WIDTHS OF PAVEMENT ARE FACE TO FACE.

ROADWAY WIDTH (W)	TOTAL CROWN HEIGHT	3/4 POINT	MID–POINT	1/4 POINT
31'	4"	2–3/16"	7/8"	1/4"
36'	5"	2–7/8"	1–1/4"	3/8"
44'	6"	3–3/8"	1–1/2"	1/2"

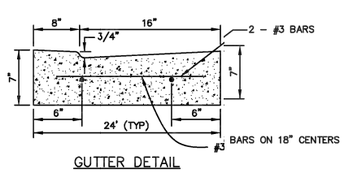
TABLE OF CROWN HEIGHTS AND ORDINATES
FOR VARIOUS PARABOLIC SECTIONS
NTS

Sherman CLASSIC TOWN. BROAD HORIZON. ENGINEERING DEPARTMENT	PARABOLIC PAVEMENT CROWN	STANDARD CONSTRUCTION DETAILS PAVING		
		DATE: OCT, 2013	REV DATE: –	SHEET : SD–P03

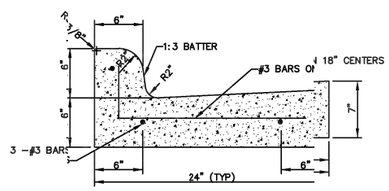


ASPHALT PAVING CROSS SECTION

NOTE:
CUT OF 6" INTO EXISTING PAVEMENT IS REQUIRED FOR CONSTRUCTION JOINT WITH NEW POURS TO GET A SMOOTH FINISH.

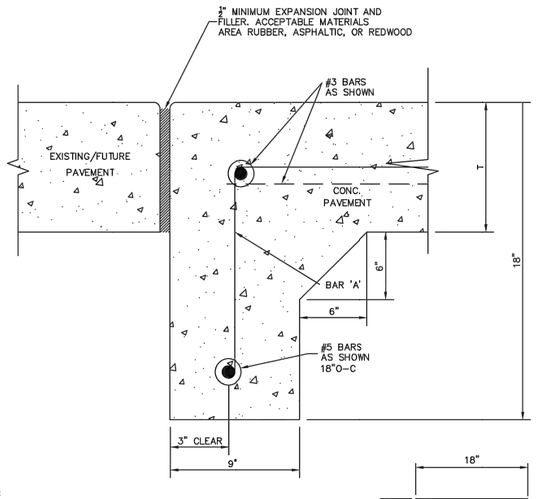


GUTTER DETAIL



CURB & GUTTER DETAIL

Sherman CLASSIC TOWN. BROAD HORIZON. ENGINEERING DEPARTMENT	CURB AND GUTTER & ASPHALT PAVING CROSS SECTION	STANDARD CONSTRUCTION DETAILS PAVING		
		DATE: OCT, 2013	REV DATE: –	SHEET : SD–P07

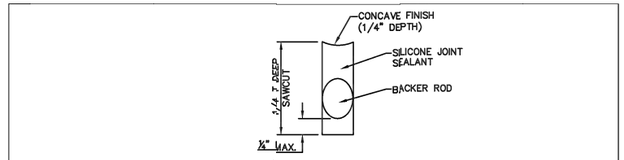


NOTES:
1. PAVEMENT BARS MAY BE SLAB STEEL BENT DOWN INTO HEADER OR BE BAR "A" #3 @ 18" O–C.
2. HEADER AND PAVEMENT TO BE MONOLITHIC.

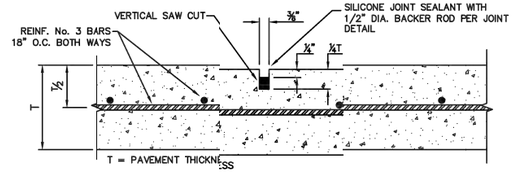
T=PAVEMENT THICKNESS

STREET HEADER
NTS

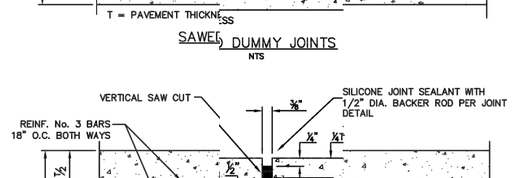
Sherman CLASSIC TOWN. BROAD HORIZON. ENGINEERING DEPARTMENT	STREET HEADER	STANDARD CONSTRUCTION DETAILS PAVING		
		DATE: OCT, 2013	REV DATE: MAR, 2018	SHEET : SD–P15



JOINT DETAIL
NTS



SAWED DUMMY JOINTS
NTS



NOTE: CONTRACTOR SHALL PR SECOND POUR. IF LONGITUDINAL KEYWAYTECT KEYWAY PRIOR TO POR SHALL REPAIR WITH THE USE OF IT IS DAMAGED, CONTRACINT. DRILL AND EPOXY DOWELS INTO FIDF LONGITUDINAL BUTT JO IST POUR.

CONSTRUCTION JOINTS FOR PAVEMENT
NTS

TRANSVERSE AND LONGITUDINAL JOINTS

Sherman CLASSIC TOWN. BROAD HORIZON. ENGINEERING DEPARTMENT	JOINT DETAILS	STANDARD CONSTRUCTION DETAILS PAVING		
		DATE: OCT, 2013	REV DATE: –	SHEET : SD–P16

50% PAGE SIZE REDUCTION

VILBIG & ASSOCIATES, INC.
CONSULTING ENGINEERS & SURVEYORS
517 W WOODARD STREET DENISON, TX 75020

COPLEY ADDITION

PROGRESS PLOTS
FOR INTERIM DESIGN REVIEW ONLY
NOT FOR CONSTRUCTION
DATE: 12/20/18

!!CAUTION!!
THERE MAY BE UNDERGROUND GAS LINES, TELEPHONE CABLES AND ELECTRIC LINES WITHIN THE VICINITY OF SITE. EXACT LOCATIONS ARE UNKNOWN. CALL BEFORE DIGGING!

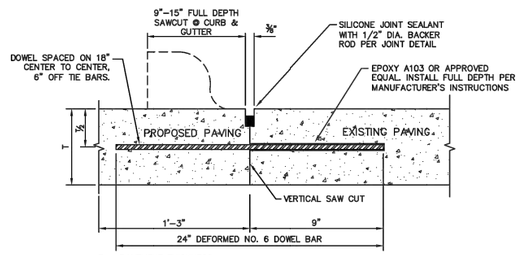
Texas811

CITY OF SHERMAN
PAVING DETAILS

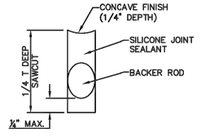
NO.	DATE	BY	DESCRIPTION
1	12.20.18	VA	ADDRESSED CITY COMMENTS

SUBMITTAL #1: --/--/--
SUBMITTAL #2: --/--/--
SUBMITTAL #3: --/--/--
SUBMITTAL #4: --/--/--
DESIGN: VA DRAWN: VA

SHEET
C1



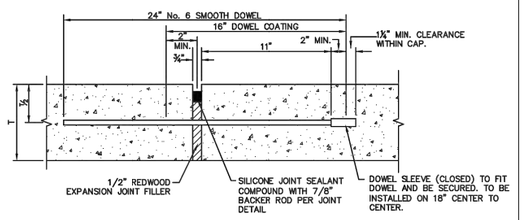
NOTES:
1. NO. 5 DEFORMED BAR MAY BE USED IN 6 INCH PAVEMENT.
2. LONGITUDINAL BUTT CONSTRUCTION MAY BE UTILIZED IN PLACE OF LONGITUDINAL HINGED (KEYWAY) JOINT AT CONTRACTORS OPTION.
3. DOWEL BARS SHALL BE DRILLED INTO PAVEMENT HORIZONTALLY BY USE OF A MECHANICAL RIG.
4. DRILLING BY HAND IS NOT ACCEPTABLE, PUSHING DOWEL BARS INTO GREEN CONCRETE IS NOT ACCEPTABLE.
5. SAWCUT WATER SHALL BE VACCUMED AND DISPOSED PROPERLY.
6. NO SAWCAT SHALL BE WITHIN 30" OF AN EXISTING JOINT, OTHERWISE REMOVE PAVEMENT TO NEAREST JOINT.



JOINT DETAIL
NTS

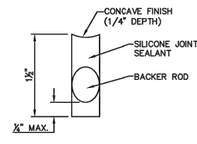
LONGITUDINAL BUTT JOINT
NTS

Sherman CLASSIC TOWN. BROAD HORIZON. ENGINEERING DEPARTMENT	LONGITUDINAL BUTT JOINT	STANDARD CONSTRUCTION DETAILS PAVING		
		DATE: OCT, 2013	REV DATE: –	SHEET : SD–P19



T=PAVEMENT THICKNESS

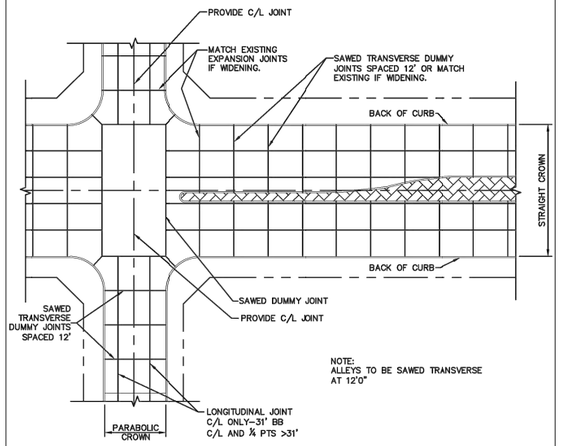
NOTES:
1. DOWELS AND REINFORCING BARS SHALL BE SUPPORTED BY AN APPROVED DEVICE AND MUST BE TIED OR CHAIRED ON EACH SIDE.
2. DOWELS MUST BE PERPENDICULAR TO FACE OF CONCRETE.
3. NO. 5 SMOOTH DOWEL BARS MAY BE USED IN 6" PAVEMENT.
4. TRANSVERSE EXPANSION JOINTS SHALL HAVE A MAXIMUM SPACING OF 600 FT.
5. TRANSVERSE EXPANSION JOINTS SHALL BE LOCATED AT INTERSECTIONS.



JOINT DETAIL
NTS

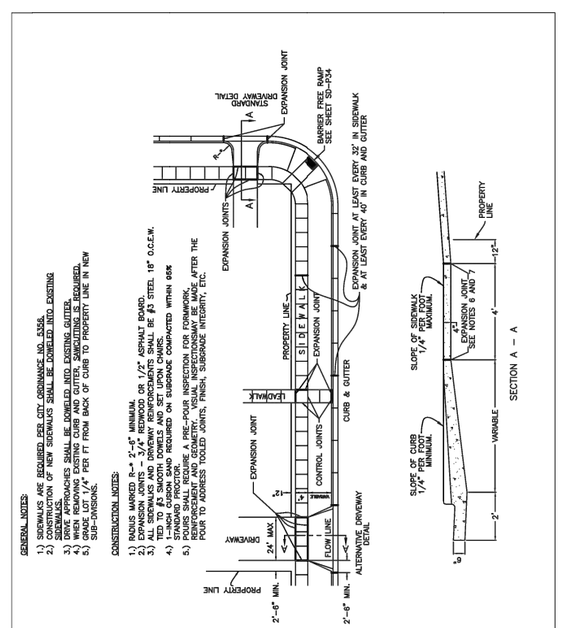
TRANSVERSE EXPANSION JOINT
N.T.S.

Sherman CLASSIC TOWN. BROAD HORIZON. ENGINEERING DEPARTMENT	TRANSVERSE EXPANSION JOINT	STANDARD CONSTRUCTION DETAILS PAVING		
		DATE: OCT, 2013	REV DATE: –	SHEET: SD–P20

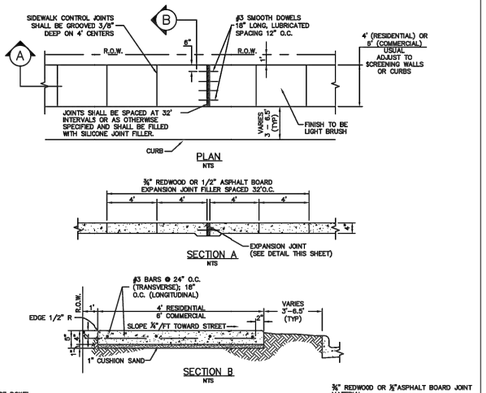


SPACING DIAGRAM FOR TRANSVERSE JOINTS
NTS

Sherman CLASSIC TOWN. BROAD HORIZON. ENGINEERING DEPARTMENT	SPACING DIAGRAM FOR TRANSVERSE JOINTS	STANDARD CONSTRUCTION DETAILS PAVING		
		DATE: OCT, 2013	REV DATE: –	SHEET: SD–P22



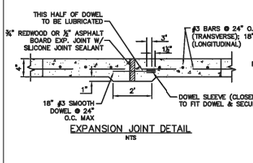
Sherman CLASSIC TOWN. BROAD HORIZON. ENGINEERING DEPARTMENT	RESIDENTIAL DRIVEWAY RETURN DETAIL	STANDARD CONSTRUCTION DETAILS PAVING		
		DATE: OCT, 2013	REV DATE: –	SHEET : SD–P26



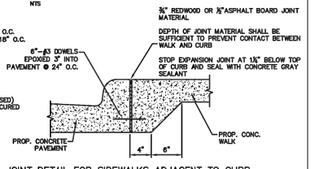
PLAN
NTS

SECTION A
NTS

SECTION B
NTS



EXPANSION JOINT DETAIL
NTS



JOINT DETAIL FOR SIDEWALKS ADJACENT TO CURB
NTS

NOTE:
1. SIDEWALK SHALL BE PLACED 1' INSIDE PUBLIC R.O.W. UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER.
2. WHEN CONCRETE SIDEWALK IS ADJACENT TO CURB, THE JOINT DETAIL FOR SIDEWALK ADJACENT TO CURB SHALL BE UTILIZED.

Sherman CLASSIC TOWN. BROAD HORIZON. ENGINEERING DEPARTMENT	CONCRETE SIDEWALK	STANDARD CONSTRUCTION DETAILS PAVING		
		DATE: OCT, 2013	REV DATE: –	SHEET: SD–P29

GENERAL NOTES FOR PEDESTRIAN FACILITIES

1. ALL SLOPES ARE MAXIMUM ALLOWABLE. THE LEAST POSSIBLE SLOPE THAT WILL STILL DRAIN PROPERLY SHOULD BE USED. ADJUST CURB RAMP LENGTH OR GRADE OF APPROACH SIDEWALKS AS DIRECTED.
2. LANDINGS SHALL BE 5'X5' MINIMUM WITH A MAXIMUM 2% SLOPE IN ANY DIRECTION.
3. MANEUVERING SPACE AT THE BOTTOM OF CURB RAMPS SHALL BE A MINIMUM OF 4'X4' WHOLLY CONTAINED WITHIN THE CROSSWALK AND WHOLLY OUTSIDE THE PARALLEL VEHICULAR TRAVEL PATH.
4. MAXIMUM ALLOWABLE CROSS SLOPE ON SIDEWALK AND CURB RAMP SURFACES IS 2%
5. CURB RAMPS WITH RETURNED CURBS MAY BE USED ONLY WHERE PEDESTRIANS WOULD NOT NORMALLY WALK ACROSS THE RAMP, EITHER BECAUSE THE ADJACENT SURFACE IS PLANTING OR OTHER NON–WALKING SURFACE OR BECAUSE THE SIDE APPROACH IS SUBSTANTIALLY OBSTRUCTED. OTHERWISE, PROVIDE FLARED SIDES.
6. ADDITIONAL INFORMATION ON CURB RAMP LOCATION, DESIGN, LIGHT REFLECTIVE VALUE AND TEXTURE MAY BE FOUND IN THE CURRENT EDITION OF THE TEXAS ACCESSIBILITY STANDARDS (TAS) AND 16 TAC §68.102.
7. CURB RAMPS SHALL BE ALIGNED WITH THEORETICAL CROSSWALKS, OR AS DIRECTED BY THE CITY ENGINEER.
8. HANDRAILS ARE NOT REQUIRED ON CURB RAMPS. PROVIDE CURB RAMPS WHEREVER AN ACCESSIBLE ROUTE CROSSES (PENETRATES) A CURB.
9. FLARE SLOPE SHALL NOT EXCEED 10% MEASURED ALONG CURB LINE.
10. BARRIER FREE RAMPS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT EDITION OF THE TEXAS ACCESSIBILITY STANDARDS (TAS).
11. ALL BARRIER FREE RAMPS MUST PASS AN INDEPENDENT INSPECTION. A LETTER OF COMPLIANCE ACCEPTANCE IS REQUIRED PRIOR TO FINAL ACCEPTANCE BY THE CITY OF SHERMAN.
12. STREETS ON STEEP GRADE WILL REQUIRE LONGER TRANSITION ON UPGRADE SIDE.
13. MAXIMUM SLOPE ON RAMP PORTION SHALL NOT EXCEED 1" PER FOOT AT ANY LOCATION. VERTICAL DISTANCE BETWEEN STREET AND RAMP SHALL NOT EXCEED ¼".

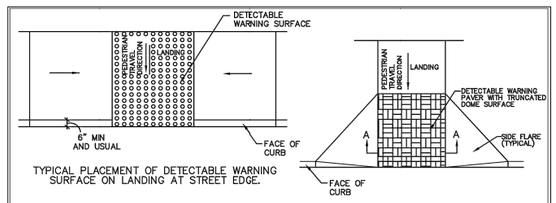
GENERAL NOTES FOR DETECTABLE WARNINGS

1. DETECTABLE WARNING MATERIAL SHALL CONSIST OF CONCRETE PAVERS, FIRED CLAY PAVERS, CAST IRON PLATES OR STAINLESS STEEL PLATES.
2. CURB RAMPS MUST CONTAIN A DETECTABLE WARNING SURFACE THAT CONSIST OF RAISED TRUNCATED DOMES COMPLYING WITH SECTION 4.29 OF THE TEXAS ACCESSIBILITY STANDARDS (TAS). THE SURFACE MUST CONTRAST VISUALLY WITH THE ADJOINING SURFACES, INCLUDING SIDE FLARES.
3. DETECTABLE WARNING SURFACES MUST BE SLIP RESISTANT AND NOT ALLOW WATER TO ACCUMULATE.
4. ALIGN TRUNCATED DOMES IN THE DIRECTION OF PEDESTRIAN TRAVEL WHEN ENTERING THE STREET.
5. DETECTABLE WARNING SURFACES SHALL BE A MINIMUM OF 24" IN DEPTH IN THE DIRECTION OF PEDESTRIAN TRAVEL, AND EXTEND THE FULL WIDTH OF THE CURB RAMP OR LANDING WHERE THE PEDESTRIAN ACCESS ROUTE ENTERS THE STREET.
6. DETECTABLE WARNING SURFACES SHALL BE LOCATED SO THAT THE EDGE NEAREST THE CURB LINE IS A MINIMUM OF 6" AND A MAXIMUM OF 8" FROM THE EXTENSION OF THE FACE OF CURB AND SHALL BE AN INTEGRAL PART OF THE WALKING SURFACE. DETECTABLE WARNING SURFACES MAY BE CURVED ALONG THE CORNER RADIUS.

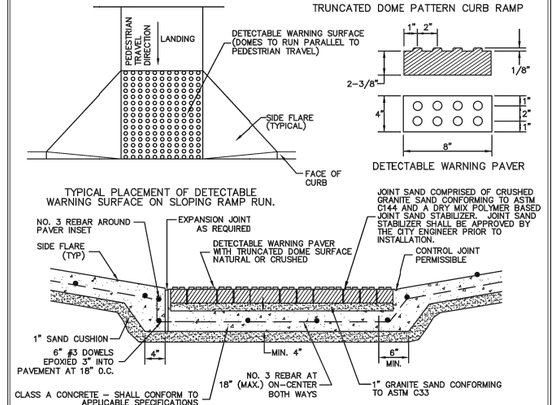
GENERAL NOTES FOR CONCRETE AND FIRED CLAY PAVER UNITS

1. CONCRETE PAVER UNITS SHALL MEET OR EXCEED ALL REQUIREMENTS OF ASTM C–936. FIRED CLAY PAVER UNITS SHALL MEET OR EXCEED ALL REQUIREMENTS OF ASTM C–1272.
2. PAVER UNITS SHALL BE LAID IN A TWO BY TWO UNIT BASKET WEAVE PATTERN OR AS DIRECTED.
3. LAY FULL–SIZE UNITS FIRST FOLLOWED BY CLOSURE UNITS CONSISTING OF AT LEAST 25 PERCENT OF A FULL UNIT. CUT PAVER UNITS USING A POWER SAW.

Sherman CLASSIC TOWN. BROAD HORIZON. ENGINEERING DEPARTMENT	PEDESTRIAN FACILITIES GENERAL NOTES	STANDARD CONSTRUCTION DETAILS PAVING		
		DATE: OCT, 2013	REV DATE: –	SHEET : SD–P34



TYPICAL PLACEMENT OF DETECTABLE WARNING SURFACE ON SLOPING RAMP RUN.



DETECTABLE WARNING PAVER (OPTION)

Sherman CLASSIC TOWN. BROAD HORIZON. ENGINEERING DEPARTMENT	DETECTABLE WARNING PAVER	STANDARD CONSTRUCTION DETAILS PAVING		
		DATE: OCT, 2013	REV DATE: –	SHEET: SD–P35

CITY OF SHERMAN DETAIL SD–P35 HAS BEEN UPDATED TO REFLECT THE MOST CURRENT ADA REGULATIONS CHANGES OF 2016. SPECIFICALLY THAT DETECTABLE WARNING SURFACE MUST BE FULL WIDTH AND DEPTH OF LANDING.

50% PAGE SIZE REDUCTION

VILBIG & ASSOCIATES, INC.
CONSULTING ENGINEERS & SURVEYORS
517 W WOODARD STREET DENISON, TX 75020

COPLEY ADDITION

PROGRESS PLOTS
FOR INTERIM DESIGN REVIEW ONLY
NOT FOR CONSTRUCTION
DATE: 12/20/18

!!CAUTION!!
THERE MAY BE UNDERGROUND GAS LINES, TELEPHONE CABLES AND ELECTRICAL LINES WITHIN VICINITY OF SITE. EXACT LOCATIONS ARE UNKNOWN. CALL BEFORE DIGGING!

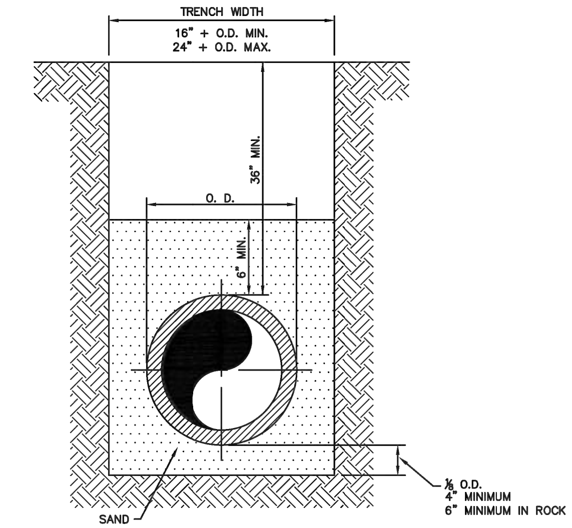
811 Texas One Call

CITY OF SHERMAN
PAVING DETAILS

NO.	DATE	BY	DESCRIPTION
1	12.20.18	VA	ADDRESSED CITY COMMENTS

SUBMITTAL #1: --/--/--
SUBMITTAL #2: --/--/--
SUBMITTAL #3: --/--/--
SUBMITTAL #4: --/--/--
DESIGN: VA DRAWN: VA

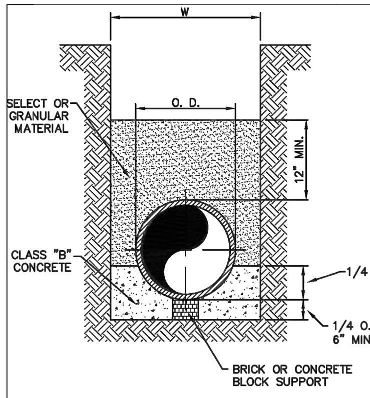
SHEET
C1



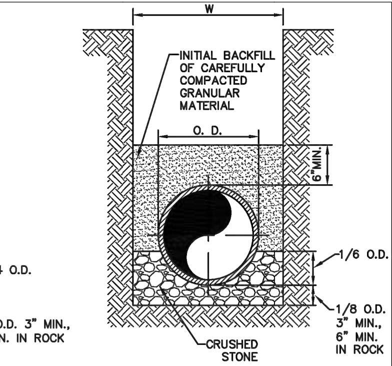
CLASS "B" EMBEDMENT

TYPICAL P.V.C. WATER MAIN
EMBEDMENT

Sherman — CLASSIC TOWN. BROAD HORIZON. ENGINEERING DEPARTMENT | P.V.C. WATER MAIN EMBEDMENT | STANDARD CONSTRUCTION DETAILS WATER | DATE: APRIL, 2012 | REV DATE: – | SHEET: SD-W01



CONCRETE CRADLE
CLASS "A" EMBEDMENT

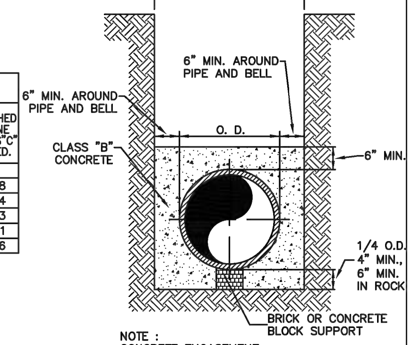


CLASS "C" EMBEDMENT

W = 16" + O.D. MIN.
24" + O.D. MAX.

TABLE OF QUANTITIES OF MATERIAL IN CUBIC YARDS PER 100 LINEAR FEET						
INSIDE DIAMETER OF PIPE	OUTSIDE DIAMETER OF PIPE	TRENCH WIDTH IN IN.	TRENCH WIDTH IN FEET	CONCRETE CLASS"A" EMBED.	CONCRETE CLASS"G" EMBED.	CRUSHED STONE CLASS"C" EMBED.
REINFORCED CONCRETE CYLINDER PIPE						
14"	17.25"	34"	2.83	6.37	10.59	4.48
16"	19.38"	36"	3.00	7.49	12.26	4.94
18"	21.78"	38"	3.17	8.77	14.33	5.43
20"	23.78"	40"	3.33	10.00	16.14	5.91
24"	27.75"	44"	3.67	12.66	20.02	7.46

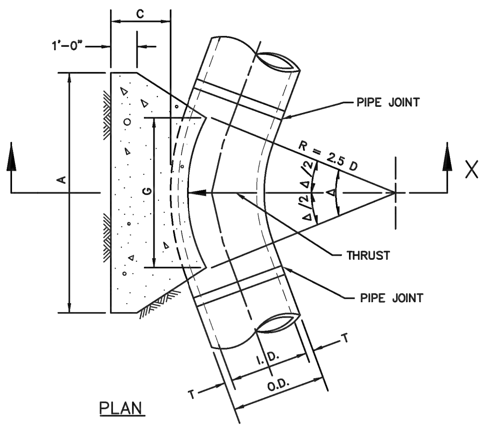
NOTE :
ALL COMPACTION SHALL BE IN ACCORDANCE WITH STANDARD SPECIFICATIONS AND / OR SPECIAL PROVISIONS.



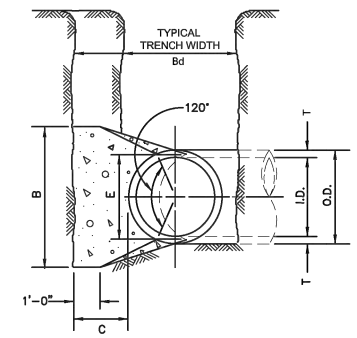
NOTE :
CONCRETE ENCASEMENT SHALL BEGIN AND END 6 INCHES FROM THE END OF JOINT

CLASS "G" EMBEDMENT

Sherman — CLASSIC TOWN. BROAD HORIZON. ENGINEERING DEPARTMENT | RCCP WATER MAIN EMBEDMENT | STANDARD CONSTRUCTION DETAILS WATER | DATE: APRIL, 2012 | REV DATE: – | SHEET: SD-W02



PLAN



SECTION X–X

Sherman — CLASSIC TOWN. BROAD HORIZON. ENGINEERING DEPARTMENT | HORIZONTAL THRUST BLOCK AT PIPE BEND | STANDARD CONSTRUCTION DETAILS WATER | DATE: OCTOBER, 2012 | REV DATE: – | SHEET: SD-W04

I.D. (IN.)	T (IN.)	Δ = 11.25° (FT.)	Δ ≥ 22.50° (FT.)	E (FT.)
4,6,8	0.4	1.5	1.5	0.9
10,12	0.5	1.5	1.5	1.2
16,18	0.6	1.5	1.5	1.6
20	0.7	1.5	1.5	1.8
24	0.9	1.5	1.5	2.1
30	2.9	1.5	1.9	2.6
36	4.5	1.5	2.3	3.3
42	5.0	1.8	2.6	3.8
48	5.5	2.0	3.0	4.3
54	6.0	2.3	3.4	4.8
60	6.5	2.5	3.8	5.3
66	6.8	2.8	4.1	5.7
72	7.5	3.0	4.5	6.3
78	7.5	3.3	4.9	6.7
84	8.0	3.5	5.3	7.2
90	8.5	3.8	5.6	7.7
96	9.0	4.0	6.0	8.2

I.D. (IN.)	Δ = 11.25° G (FT.)	THRUST (TONS)	EARTH A (FT.)	EARTH B (FT.)	EARTH VOL. (C.Y.)	ROCK A (FT.)	ROCK B (FT.)	ROCK VOL. (C.Y.)
4,6,8	0.4	1.0	1.0	1.5	0.1	1.0	1.0	0.1
10,12	0.6	2.2	1.5	1.5	0.1	1.0	1.5	0.1
16,18	0.8	5.0	2.0	2.5	0.3	1.5	2.0	0.2
20	0.9	6.2	2.0	3.5	0.4	1.5	3.0	0.3
24	1.1	8.9	3.0	3.5	0.5	1.5	3.0	0.3
30	1.4	10.4	3.0	3.5	0.6	2.0	3.5	0.4
36	1.7	15.0	3.5	4.5	0.9	2.0	4.0	0.5
42	1.9	20.4	4.5	5.0	1.5	2.5	5.0	0.8
48	2.2	26.6	4.5	6.0	2.0	2.5	6.0	1.1
54	2.5	33.7	6.0	6.0	3.0	3.0	6.0	1.4
60	2.7	41.6	6.0	7.0	3.8	3.0	7.0	1.8
66	3.0	50.3	6.5	8.0	5.1	3.5	8.0	2.7
72	3.3	59.9	7.5	8.0	6.3	4.0	8.0	3.3
78	3.6	70.2	8.0	9.0	8.1	4.0	9.0	3.9
84	3.8	81.5	8.5	10.0	10.3	4.5	10.0	5.3
90	4.1	93.5	9.5	10.0	12.2	5.0	10.0	6.3
96	4.4	106.4	0.0	11.0	15.0	5.0	11.0	7.4

I.D. (IN.)	Δ = 22.50° G (FT.)	THRUST (TONS)	EARTH A (FT.)	EARTH B (FT.)	EARTH VOL. (C.Y.)	ROCK A (FT.)	ROCK B (FT.)	ROCK VOL. (C.Y.)
4,6,8	0.8	2.	1.5	1.5	0.1	1.0	1.0	0.1
10,12	1.1	4.	2.0	2.5	0.3	1.5	1.5	0.1
16,18	1.6	9.	3.0	3.5	0.6	2.0	2.5	0.3
20	1.8	12.	3.5	3.5	0.7	2.0	3.0	0.4
24	2.2	17.	4.0	4.5	1.0	3.0	3.5	0.5
30	2.7	20.	5.0	4.5	1.5	3.0	4.0	0.8
36	3.3	29.	5.5	5.5	2.3	4.0	4.0	1.3
42	3.8	40.	7.0	6.0	3.9	4.5	5.0	2.1
48	4.4	52.	8.0	7.0	5.7	4.5	6.0	2.8
54	4.9	67.	9.0	8.0	8.0	6.0	6.0	4.1
60	5.5	82.	9.5	9.0	10.6	6.0	7.0	5.3
66	6.0	100.	10.5	10.0	14.1	6.5	8.0	7.2
72	6.6	119.	11.0	11.0	17.6	7.5	8.0	9.1
78	7.1	139.	12.0	12.0	22.5	8.0	9.0	11.7
84	7.6	162.	13.0	12.5	27.2	8.5	10.0	14.8
90	8.2	186.	14.0	13.5	33.7	9.5	10.0	17.7
96	8.7	211.	15.0	14.5	41.2	10.0	11.0	21.8

TABLES OF DIMENSIONS AND QUANTITIES

50% PAGE SIZE REDUCTION

Sherman — CLASSIC TOWN. BROAD HORIZON. ENGINEERING DEPARTMENT | HORIZONTAL THRUST BLOCK DIMENSIONS & QUANTITIES | STANDARD CONSTRUCTION DETAILS WATER | REV DATE: OCTOBER, 2012 | REV DATE: – | SHEET: SD-W05

I.D. (IN.)	Δ = 30° G (FT.)	THRUST (TONS)	EARTH A (FT.)	EARTH B (FT.)	EARTH VOL. (C.Y.)	ROCK A (FT.)	ROCK B (FT.)	ROCK VOL. (C.Y.)
4,6,8	1.0	2.6	2.0	1.5	0.2	1.0	1.5	0.1
10,12	1.5	5.9	2.5	2.5	0.3	2.0	1.5	0.2
16,18	2.2	13.2	3.5	4.0	0.8	2.5	3.0	0.4
20	2.4	16.3	4.5	4.0	1.0	3.0	3.0	0.5
24	2.9	23.4	6.0	4.0	1.4	3.5	3.5	0.7
30	3.6	27.5	6.5	5.0	1.9	3.5	4.0	0.9
36	4.4	39.5	7.0	6.0	3.4	4.5	4.5	1.6
42	5.1	53.8	8.0	7.0	5.1	5.5	5.0	2.5
48	5.8	70.3	9.0	8.0	7.4	6.0	6.0	3.7
54	6.5	89.0	10.0	9.0	10.3	7.0	6.5	5.3
60	7.3	110.0	11.0	10.0	13.9	7.5	7.5	7.3
66	8.0	132.9	12.5	11.0	18.9	8.5	8.0	9.6
72	8.7	158.2	13.5	12.0	24.0	9.0	9.0	12.3
78	9.4	185.6	14.5	13.0	30.0	10.0	9.5	15.6
84	10.1	215.3	15.5	14.0	37.1	10.5	10.5	19.5
90	10.9	247.1	16.5	15.0	45.0	11.5	11.0	23.9
96	11.6	281.2	18.0	16.0	55.5	12.5	11.5	28.9

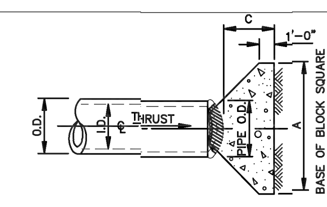
I.D. (IN.)	Δ = 45° G (FT.)	THRUST (TONS)	EARTH A (FT.)	EARTH B (FT.)	EARTH VOL. (C.Y.)	ROCK A (FT.)	ROCK B (FT.)	ROCK VOL. (C.Y.)
4,6,8	1.5	3.9	2.0	2.0	0.2	1.5	1.5	0.1
10,12	2.2	8.7	3.5	2.5	0.5	2.0	2.5	0.3
16,18	3.2	19.5	4.5	4.5	1.2	3.0	3.5	0.6
20	3.6	24.1	5.5	4.5	1.5	3.5	3.5	0.7
24	4.3	34.6	8.0	4.5	2.3	4.5	4.0	1.1
30	5.4	40.6	8.5	5.0	3.2	5.5	4.0	1.6
36	6.5	58.5	10.0	6.0	5.3	6.5	4.5	2.6
42	7.5	79.6	11.5	7.0	8.1	8.0	5.0	4.2
48	8.6	104.0	13.0	8.0	11.9	9.0	6.0	6.3
54	9.7	131.5	15.0	9.0	17.1	10.5	6.5	8.9
60	10.7	162.4	16.5	10.0	23.1	11.0	7.5	12.0
66	11.8	196.5	18.0	11.0	30.1	12.0	8.5	16.2
72	12.9	233.9	19.5	12.0	38.6	14.0	8.5	20.7
78	13.9	274.5	21.5	13.0	49.8	14.5	9.5	25.9
84	15.0	318.4	23.0	14.0	61.2	15.5	10.5	32.6
90	16.1	365.5	24.5	15.0	74.5	17.5	10.5	39.6
96	17.1	415.6	26.0	16.0	89.5	18.5	11.5	48.5

I.D. (IN.)	Δ = 67.50° G (FT.)	THRUST (TONS)	EARTH A (FT.)	EARTH B (FT.)	EARTH VOL. (C.Y.)	ROCK A (FT.)	ROCK B (FT.)	ROCK VOL. (C.Y.)
4,6,8	2.1	5.6	3.0	2.0	0.3	2.0	1.5	0.2
10,12	3.1	12.6	5.5	2.5	0.8	3.5	2.0	0.4
16,18	4.7	28.3	7.5	4.0	1.9	5.5	3.0	0.9
20	5.2	34.9	9.0	4.0	2.3	5.5	3.5	1.2
24	6.2	50.3	11.5	4.5	3.5	6.5	4.0	1.6
30	7.8	58.9	12.0	5.0	4.8	7.5	4.0	2.2
36	9.4	84.9	14.5	6.0	8.2	9.5	4.5	3.8
42	10.9	115.5	17.0	7.0	12.8	11.0	5.5	6.3
48	12.5	150.9	19.0	8.0	18.4	13.0	6.0	9.2
54	14.0	191.0	21.5	9.0	26.0	15.0	6.5	12.9
60	15.6	235.8	24.0	10.0	35.6	16.0	7.5	17.6
66	17.1	285.3	26.0	11.0	46.0	18.0	8.0	23.0
72	18.7	339.5	28.5	12.0	57.8	19.0	9.0	28.4
78	20.2	398.5	31.0	13.0	75.7	21.0	9.5	37.4
84	21.8	462.1	33.5	14.0	94.7	22.0	10.5	46.5
90	23.3	530.5	35.5	15.0	114.4	24.5	11.0	58.2
96	24.9	603.6	38.0	16.0	138.9	25.5	12.0	70.0

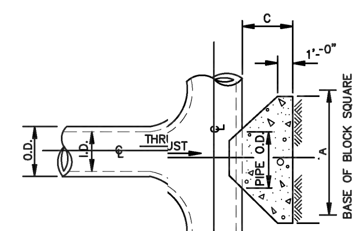
I.D. (IN.)	Δ = 90° G (FT.)	THRUST (TONS)	EARTH A (FT.)	EARTH B (FT.)	EARTH VOL. (C.Y.)	ROCK A (FT.)	ROCK B (FT.)	ROCK VOL. (C.Y.)
4,6,8	2.7	7.1	5.0	1.5	0.4	2.0	2.0	0.2
10,12	4.0	16.0	6.5	2.5	1.0	3.5	2.5	0.5
16,18	6.0	36.0	9.0	4.0	2.4	4.5	4.0	1.0
20	6.6	44.4	10.0	4.5	3.1	6.0	4.0	1.5
24	7.9	64.0	14.5	4.5	5.0	8.0	4.0	2.1
30	9.9	75.0	15.0	5.0	6.7	10.0	4.0	3.3
36	11.9	108.0	18.0	6.0	11.4	12.0	4.5	5.3
42	13.9	147.0	21.0	7.0	17.8	14.0	5.5	8.7
48	15.9	192.0	24.0	8.0	26.2	16.0	6.0	12.4
54	17.9	243.0	27.0	9.0	36.9	18.0	7.0	18.1
60	19.9	299.8	30.0	10.0	50.3	20.0	7.5	24.0
66	21.8	362.8	33.0	11.0	66.2	22.0	8.5	32.5
72	23.8	431.8	36.0	12.0	85.6	24.0	9.0	41.0
78	25.7	506.7	39.0	13.0	108.2	26.0	10.0	53.2
84	27.7	587.7	42.0	14.0	134.4	28.0	10.5	64.8
90	29.0	674.6	45.0	15.0	164.9	30.0	11.5	81.2
96	31.6	767.5	48.0	16.0	199.0	32.0	12.0	95.1

TABLES OF DIMENSIONS AND QUANTITIES

Sherman — CLASSIC TOWN. BROAD HORIZON. ENGINEERING DEPARTMENT | HORIZONTAL THRUST BLOCK DIMENSIONS & QUANTITIES | STANDARD CONSTRUCTION DETAILS WATER | DATE: APRIL, 2012 | REV DATE: – | SHEET: SD-W06



PLAN OF PLUG THRUST BLOCK



PLAN OF TEE THRUST BLOCK

I.D. (IN.)	THRUST (TONS)	C (FT.)	EARTH A (FT.)	EARTH VOL. (C.Y.)	ROCK A (FT.)	ROCK VOL. (C.Y.)
4,6,8	5.1	1.5	2.5	0.3	2.0	0.2
10,12	11.3	1.5	3.5	0.6	2.5	0.3
16,18	25.5	2.0	5.5	1.6	4.0	0.9
20	31.5	2.0	6.0	1.9	4.0	0.9
24	45.2	2.5	7.0	3.1	5.0	1.7
30	53.0	3.0	7.5	4.1	5.5	2.4
36	76.3	4.0	9.0	7.3	6.5	4.2
42	104.0	4.5	10.5	11.0	7.5	6.2
48	136.0	5.0	12.0	15.6	8.5	8.7

I.D. (IN.)	THRUST (TONS)	C (FT.)	EARTH A (FT.)	EARTH VOL. (C.Y.)	ROCK A (FT.)	ROCK VOL. (C.Y.)
54	172.0	5.5	13.5	21.4	9.5	11.9
60	212.0	6.0	15.0	28.4	10.5	15.7
66	257.0	6.5	16.5	36.8	11.5	20.5
72	305.0	7.5	17.5	47.2	12.5	27.2
78	358.0	8.0	19.0	58.9	13.5	33.7
84	416.0	8.5	20.5	72.3	14.5	41.2
90	477.0	9.0	22.0	87.7	15.5	49.7
96	543.0	9.5	23.5	104.8	16.5	61.0

TABLES OF DIMENSIONS AND QUANTITIES

Sherman — CLASSIC TOWN. BROAD HORIZON. ENGINEERING DEPARTMENT | HORIZONTAL THRUST BLOCK AT TEES & PLUGS | STANDARD CONSTRUCTION DETAILS WATER | DATE: APRIL, 2012 | REV DATE: – | SHEET: SD-W07

NO.	DATE	BY	DESCRIPTION
1	12.20.18	VA	ADDRESSED CITY COMMENTS

!!CAUTION!!
THERE MAY BE UNDERGROUND GAS LINES, TELEPHONE CABLES AND ELECTRICAL LINES WITHIN VICINITY OF SITE. EXACT LOCATIONS ARE UNKNOWN. CALL BEFORE DIGGING!

Texas811

PROGRESS PLOTS
FOR INTERIM DESIGN REVIEW ONLY
NOT FOR CONSTRUCTION
DATE: 12/20/18

SUBMITTAL #1: --/--/--
SUBMITTAL #2: --/--/--
SUBMITTAL #3: --/--/--
SUBMITTAL #4: --/--/--
DESIGN: VA DRAWN: VA

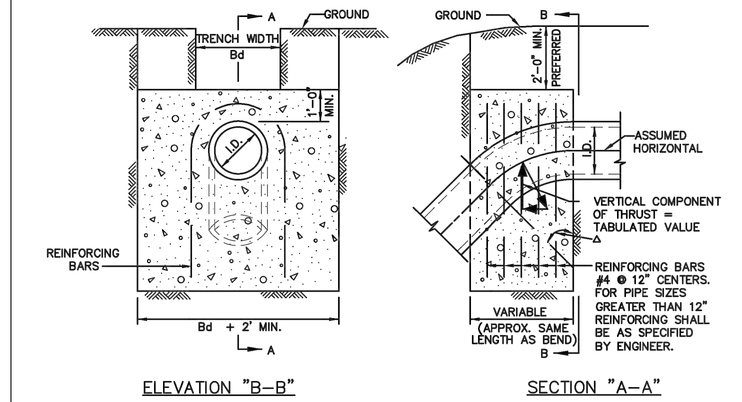
CITY OF SHERMAN
WATER DETAILS

COPLEY ADDITION

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF BIDDING ONLY UNDER THE AUTHORITY OF DAVID A. VILBIG, P.E., 67207 ON

VILBIG & ASSOCIATES, INC.
CONSULTING ENGINEERS & SURVEYORS
517 W WOODARD STREET DENISON, TX 75020

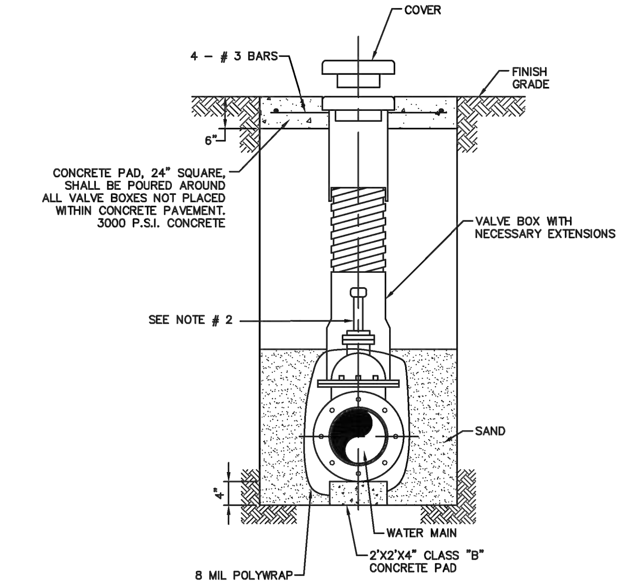
SHEET
C1



Δ →	11.25°		22.50°		30°		45°		67.50°		90°		← Δ
I.D. (IN.)	THRUST (TONS)	VOL. (C.Y.)	THRUST (TONS)	VOL. (C.Y.)	THRUST (TONS)	VOL. (C.Y.)	THRUST (TONS)	VOL. (C.Y.)	THRUST (TONS)	VOL. (C.Y.)	THRUST (TONS)	VOL. (C.Y.)	I.D. (IN.)
4,6,8	1.0	0.5	2.0	1.0	2.5	1.3	3.6	1.8	4.6	2.3	5.0	2.5	4,6,8
10,12	2.2	1.1	4.3	2.2	5.7	2.8	8.0	4.0	10.5	5.2	11.3	5.7	10,12
16,18	5.0	2.5	9.7	4.9	12.7	6.4	18.0	9.0	23.5	11.8	25.5	12.7	16,18
20	6.1	3.1	12.0	6.0	15.7	7.9	22.2	11.1	29.2	14.5	31.4	15.7	20
24	8.2	4.4	17.3	8.7	22.6	11.3	32.0	16.0	41.8	20.9	45.2	22.6	24
30	10.5	5.2	20.3	10.1	26.5	13.3	37.5	18.8	49.0	24.5	53.1	26.5	30
36	14.9	7.5	29.2	14.6	38.2	19.1	54.0	27.0	70.5	35.3	76.4	38.2	36
42	20.3	10.1	39.8	19.9	52.0	26.0	73.5	36.7	96.0	48.0	104.0	52.0	42
48	26.5	13.2	51.9	26.0	67.9	33.9	96.0	48.0	126.0	62.7	136.0	67.9	48
54	33.5	16.8	65.7	32.9	85.9	42.9	122.0	60.7	159.0	79.4	172.0	85.9	54
60	41.4	20.7	81.2	40.6	106.0	53.0	150.0	75.0	196.0	98.0	212.0	106.0	60
66	50.1	25.0	98.2	49.1	128.0	64.2	182.0	90.7	237.0	119.0	257.0	128.0	66
72	59.6	29.8	117.0	58.4	153.0	76.3	216.0	108.0	282.0	141.0	305.0	153.0	72
78	69.9	35.0	137.0	68.6	179.0	90.0	254.0	127.0	331.0	166.0	358.0	179.0	78
84	81.1	40.5	159.0	79.5	208.0	104.0	294.0	147.0	384.0	192.0	416.0	208.0	84
90	93.1	46.5	183.0	91.3	239.0	119.0	337.0	169.0	441.0	221.0	477.0	239.0	90
96	106.0	53.0	208.0	104.0	272.0	136.0	384.0	192.0	502.0	251.0	543.0	272.0	96

VERTICAL THRUST BLOCK

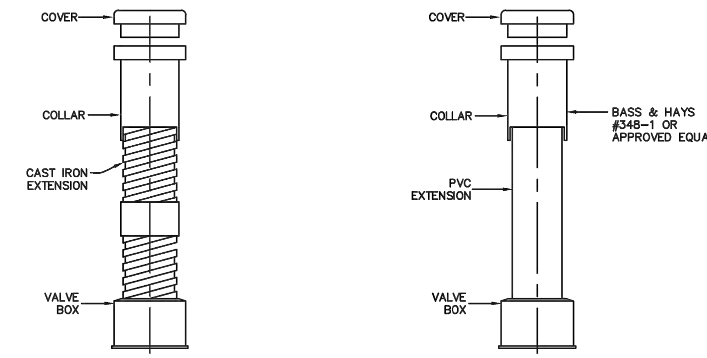
Sherman CLASSIC TOWN. BROAD HORIZON. ENGINEERING DEPARTMENT | VERTICAL THRUST BLOCK AT PIPE BEND | STANDARD CONSTRUCTION DETAILS WATER | DATE: APRIL, 2012 | REV DATE: - | SHEET: SD-W08



TYPICAL VALVE SETTING & BOX

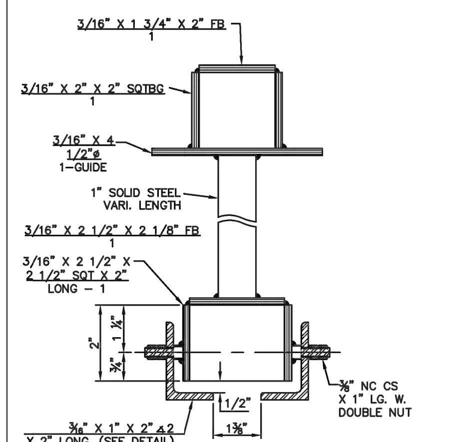
NOTE:
1. 4"-12" R.S. GATE VALVES SHALL BE IN ACCORDANCE WITH CITY OF SHERMAN WATER SYSTEM REQUIREMENTS.
2. A PERMANENTLY ATTACHED VALVE EXTENSION STEM SHALL BE REQUIRED FOR ANY VALVE WHERE THE OPERATING NUT IS LOCATED IN EXCESS OF 5 FEET BELOW THE TOP OF VALVE BOX. THIS EXTENSION SHALL BE OF SUFFICIENT LENGTH TO INSURE THAT ITS TOP IS WITHIN 5 FEET OF VALVE BOX LID.
3. BLUE "V" (3") CUT INTO FACE OF NEAREST CURB AND POINTING TOWARD THE VALVE.
4. ALL IRON MATERIALS SHALL BE DOMESTIC. (MADE IN USA)
5. CRUSHED STONE SHALL BE 3/4", PASSING #4 SIEVE.

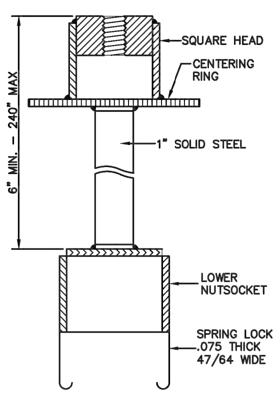
Sherman CLASSIC TOWN. BROAD HORIZON. ENGINEERING DEPARTMENT | VALVE SETTING BOX | STANDARD CONSTRUCTION DETAILS WATER | DATE: OCTOBER, 2012 | REV DATE: - | SHEET: SD-W09



NOTE
1. ALL CAST IRON FITTINGS SHALL BE DOMESTIC. (MADE IN U.S.A.)
2. VALVE BOXES SHALL BE PROVIDED FOR BURIED VALVES. THESE BOXES SHALL BE THREE (3) PIECE SCREW TYPE CAST IRON OF THE EXTENSION TYPE AND SHALL BE: BASS & HAYS THREE (3) PIECE ADJUSTABLE SCREW TYPE, EAST JORDAN IRON WORKS 8560 W/ 6800 LID, MUELLER NO. H-10360 OR APPROVED EQUAL. THE THREE (3) PIECES SHALL CONSIST OF THE TOP SECTION, BOTTOM SECTION AND COVER.

Sherman CLASSIC TOWN. BROAD HORIZON. ENGINEERING DEPARTMENT | VALVE BOX WITH EXTENSION | STANDARD CONSTRUCTION DETAILS WATER | DATE: OCTOBER, 2012 | REV DATE: - | SHEET: SD-W10

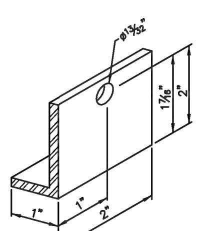




NOTE: TO BE USED ON ALL VALVES DEEPER THAN 5'-0".

TYPE - B
VALVE EXTENSION

SPRING LOCK
VALVE EXTENSION

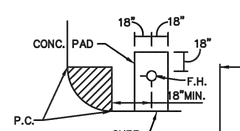


DETAIL

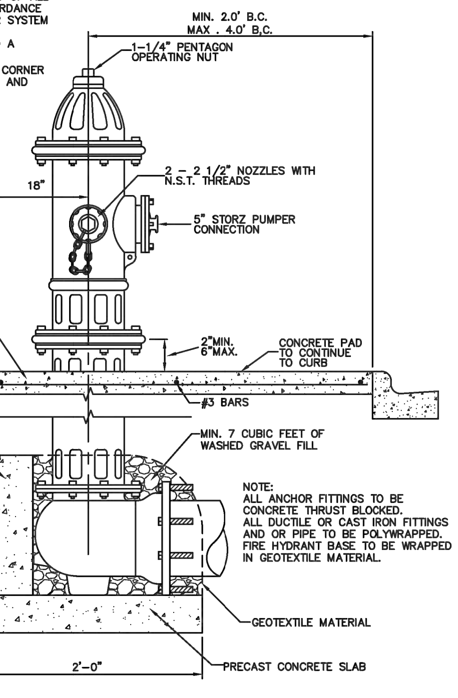
50% PAGE SIZE REDUCTION

Sherman CLASSIC TOWN. BROAD HORIZON. ENGINEERING DEPARTMENT | VALVE EXTENSION | STANDARD CONSTRUCTION DETAILS WATER | DATE: APRIL, 2012 | REV DATE: - | SHEET: SD-W11

NOTE:
1. DESIGN, SITE REQUIREMENTS, THE GENERAL OPERATION, PAINTING AND DELIVERY OF ALL FIRE HYDRANTS SHALL BE IN ACCORDANCE WITH THE CITY OF SHERMAN WATER SYSTEM REQUIREMENTS.
2. FIRE HYDRANTS SHALL BE LOCATED A MINIMUM OF 18" OUTSIDE OF THE AREA BETWEEN THE P.C.'S OF THE CORNER TURNING RADIUS AT INTERSECTIONS AND DRIVEWAYS (SEE PLAN VIEW).

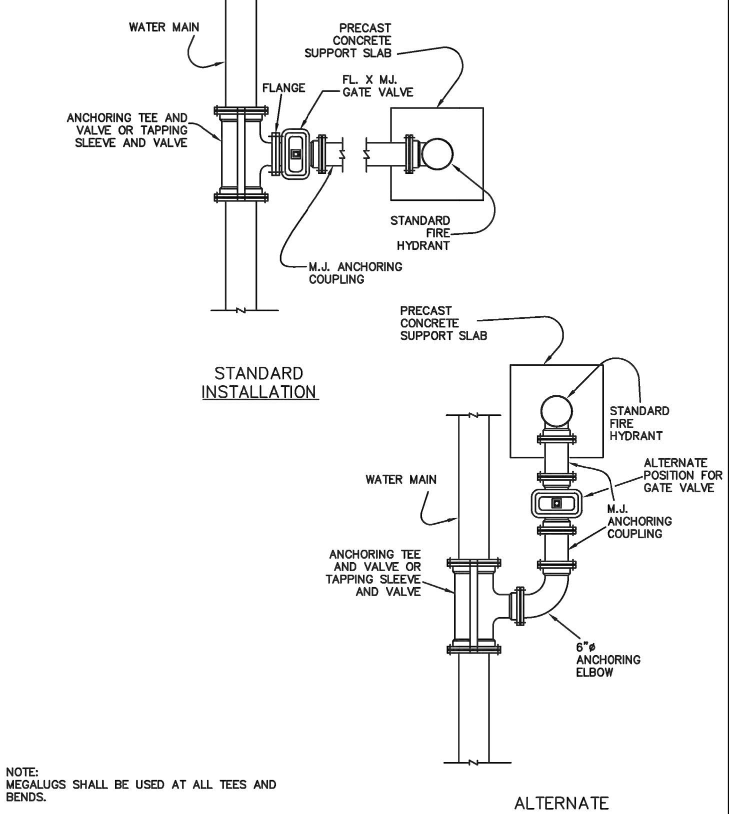


PLAN VIEW



TYPICAL FIRE HYDRANT INSTALLATION

Sherman CLASSIC TOWN. BROAD HORIZON. ENGINEERING DEPARTMENT | TYPICAL FIRE HYDRANT INSTALLATION | STANDARD CONSTRUCTION DETAILS WATER | DATE: APRIL, 2012 | REV DATE: - | SHEET: SD-W14



NOTE:
MEGALUGS SHALL BE USED AT ALL TEES AND BENDS.

Sherman CLASSIC TOWN. BROAD HORIZON. ENGINEERING DEPARTMENT | TYPICAL FIRE HYDRANT INSTALLATION | STANDARD CONSTRUCTION DETAILS WATER | DATE: OCTOBER, 2012 | REV DATE: - | SHEET: SD-W15

!!CAUTION!!
THERE MAY BE UNDERGROUND GAS LINES, TELEPHONE CABLES AND ELECTRICAL LINES WITHIN VICINITY OF SITE. EXACT LOCATIONS ARE UNKNOWN. CALL BEFORE DIGGING!

Texas811

PROGRESS PLOTS
FOR INTERIM DESIGN REVIEW ONLY
NOT FOR CONSTRUCTION
DATE: 12/20/18

NO.	DATE	BY	DESCRIPTION
1	12.20.18	VA	ADDRESSED CITY COMMENTS

VILBIG & ASSOCIATES, INC
CONSULTING ENGINEERS & SURVEYORS
517 W WOODARD STREET DENISON, TX 75020

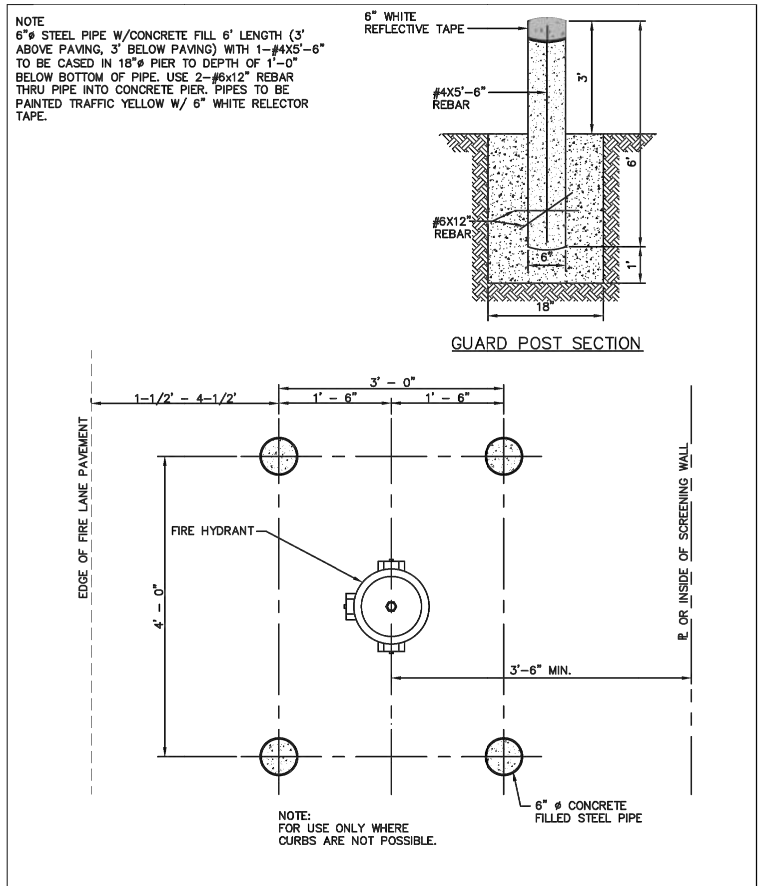
THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF BIDDING ONLY UNDER THE AUTHORITY OF DAVID A. VILBIG,P.E., 67207 ON [illegible]

COPLEY ADDITION

CITY OF SHERMAN
WATER DETAILS

SUBMITTAL #1: --/--/--
SUBMITTAL #2: --/--/--
SUBMITTAL #3: --/--/--
SUBMITTAL #4: --/--/--
DESIGN: VA DRAWN: VA

SHEET
C1[illegible]

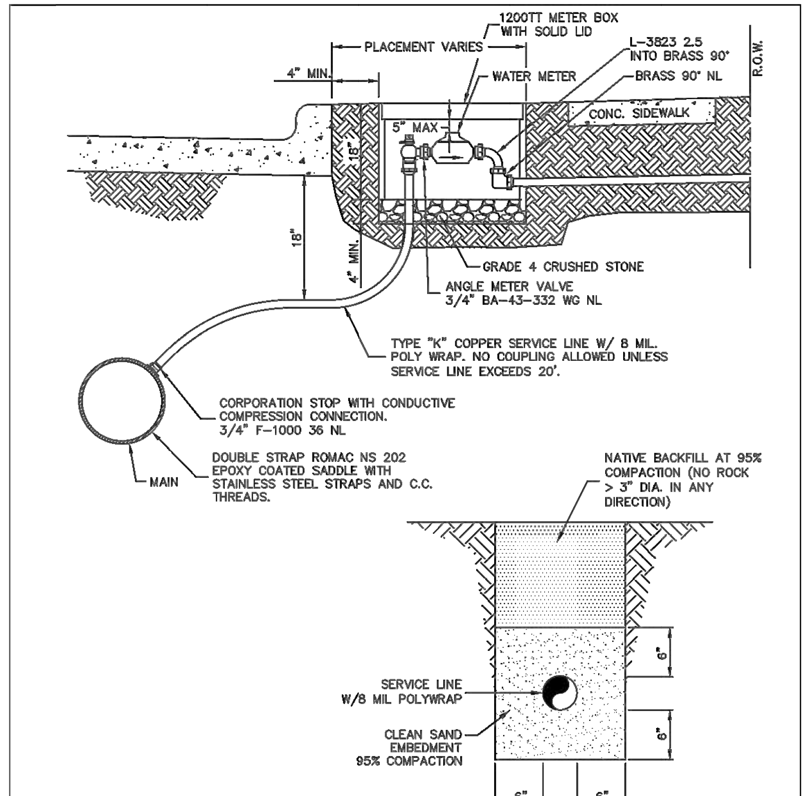


Sherman — CLASSIC TOWN. BROAD HORIZON. ENGINEERING DEPARTMENT

FIRE HYDRANT GUARD POST DETAIL

STANDARD CONSTRUCTION DETAILS WATER

DATE: OCTOBER, 2012 | REV DATE: – | SHEET: SD–W16



GENERAL NOTES:

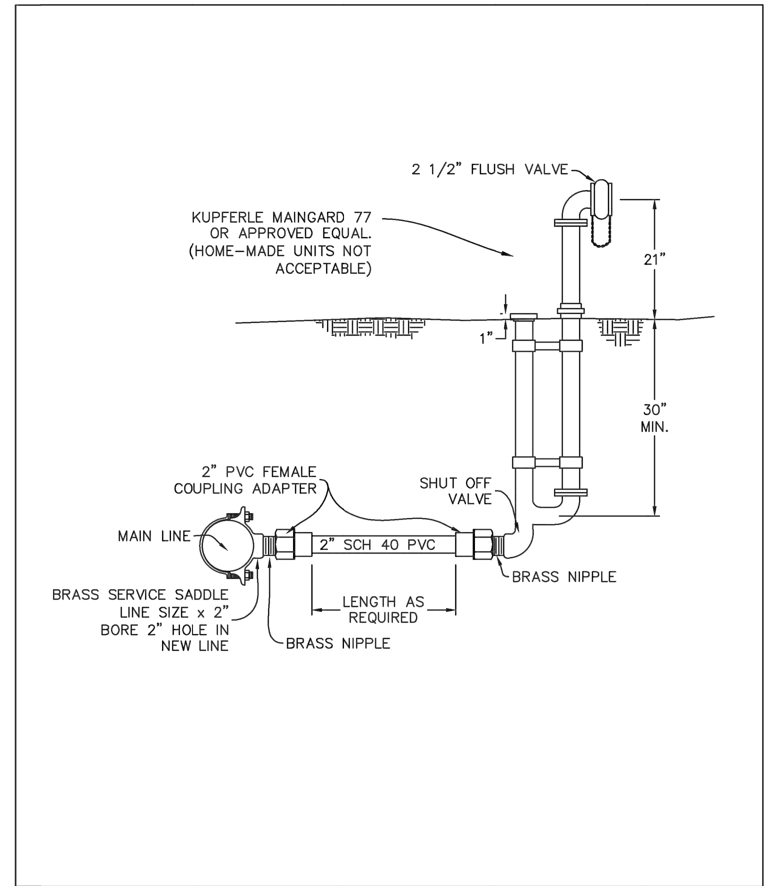
1. METERS PURCHASED FROM THE CITY OF SHERMAN UTILITY BILLING DEPARTMENT. 3/4" AND 1" METERS SET BY THE CITY. 1-1/2" METERS SHALL BE ST INSTALLED BY THE CONTRACTOR AND SHALL BE CENTERED IN THE METER BOX AT A DEPTH NOT GREATER THAN 5" BELOW METER LID.
2. THE ANGLE METER VALVE SHALL BE EASILY ACCESSIBLE, WHETHER INSIDE THE METER BOX OR IN A SECONDARY BOX.
3. ALL MATERIALS SHALL BE IN ACCORDANCE WITH THE CITY OF SHERMAN WATER SYSTEM REQUIREMENTS.
4. THE CITY OF SHERMAN UTILITY BILLING DEPARTMENT SHALL APPROVE ALL METER AND METER BOX INSTALLATIONS AS APPLICABLE.

Sherman — CLASSIC TOWN. BROAD HORIZON. ENGINEERING DEPARTMENT

SERVICE CONNECTION WITH METER BOX

STANDARD CONSTRUCTION DETAILS WATER

DATE: OCTOBER, 2012 | REV DATE: JAN 2016 | SHEET: SD–W18

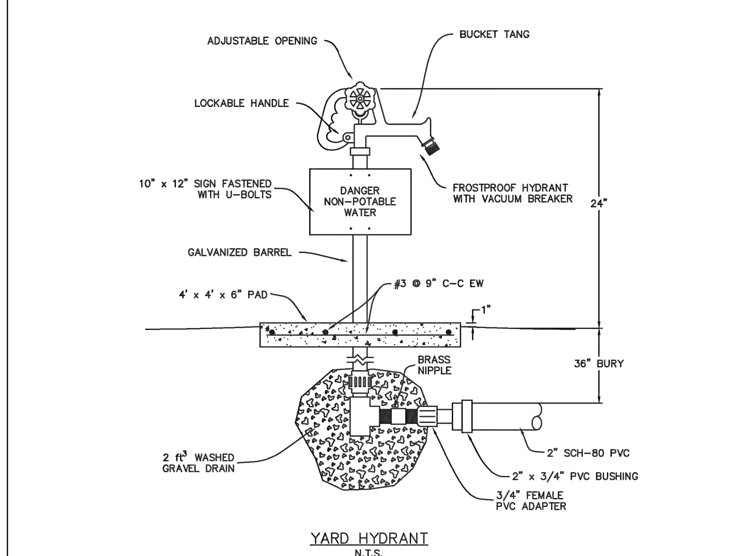


Sherman — CLASSIC TOWN. BROAD HORIZON. ENGINEERING DEPARTMENT

TYPICAL FLUSH VALVE INSTALLATION DETAIL

STANDARD CONSTRUCTION DETAILS WATER

DATE: JUNE 2017 | REV DATE: MAR 2018 | SHEET: SD–W21



YARD HYDRANT
N.T.S.

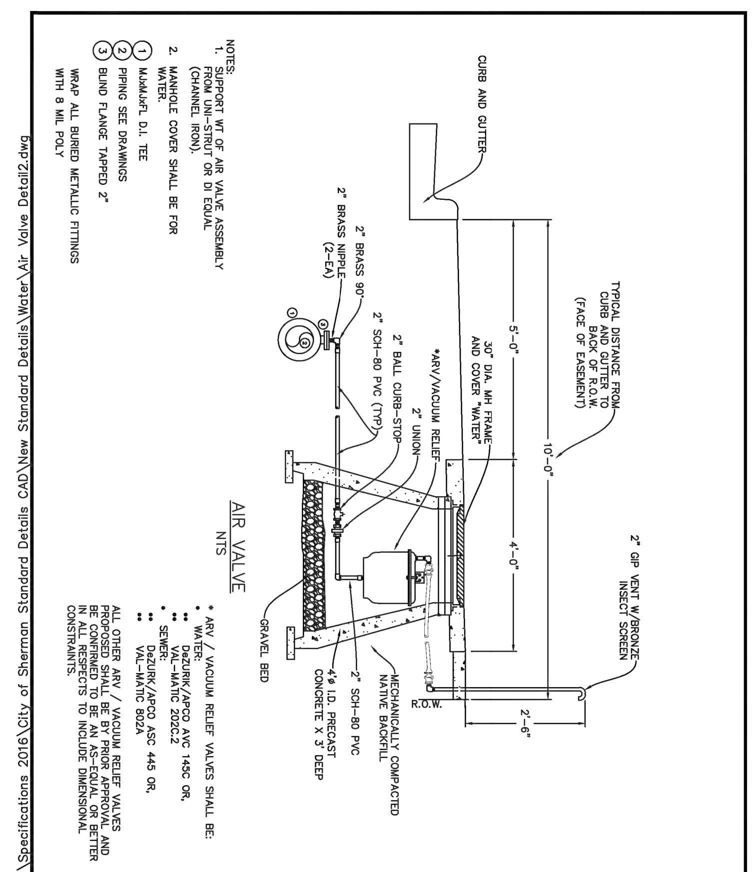
Sherman — CLASSIC TOWN. BROAD HORIZON. ENGINEERING DEPARTMENT

TYPICAL FROSTPROOF HYDRANT DETAIL

STANDARD CONSTRUCTION DETAILS WATER

DATE: MAR 2018 | REV DATE: | SHEET: SD–W22

50% PAGE SIZE REDUCTION

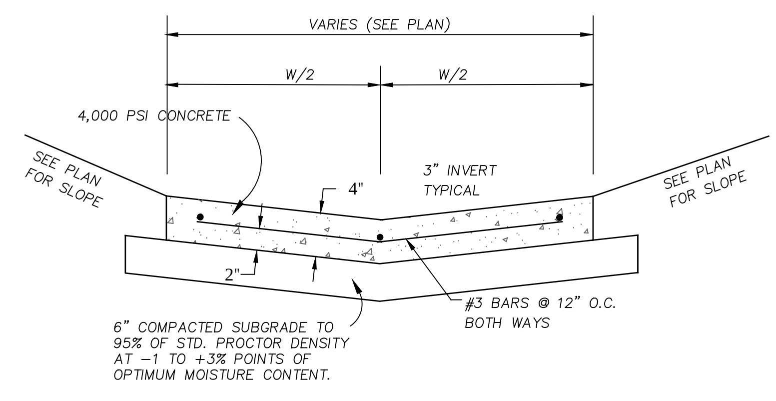


Sherman — CLASSIC TOWN. BROAD HORIZON. ENGINEERING DEPARTMENT

AIR RELEASE / VACUUM RELIEF VALVE DETAIL

STANDARD CONSTRUCTION DETAILS WATER

DATE: MAR 2018 | REV DATE: | SHEET : SD–W23



CONCRETE PILOT CHANNEL
NOT TO SCALE

!!CAUTION!!
THERE MAY BE UNDERGROUND GAS LINES, TELEPHONE CABLES AND ELECTRICAL LINES WITHIN VICINITY OF SITE. EXACT LOCATIONS ARE UNKNOWN. CALL BEFORE DIGGING!

Texas811

PROGRESS PLOTS
FOR INTERIM DESIGN REVIEW ONLY
NOT FOR CONSTRUCTION
DATE: 12/20/18

NO.	DATE	BY	DESCRIPTION
1	12.20.18	VA	ADDRESSED CITY COMMENTS

SUBMITTAL #1: --/--/--
SUBMITTAL #2: --/--/--
SUBMITTAL #3: --/--/--
SUBMITTAL #4: --/--/--
DESIGN: VA DRAWN: VA

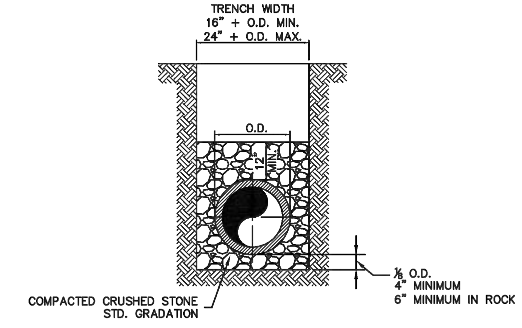
VILBIG & ASSOCIATES, INC.
CONSULTING ENGINEERS & SURVEYORS
517 W WOODARD STREET DENISON, TX 75020

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF BIDDING ONLY UNDER THE AUTHORITY OF DAVID A. VILBIG,P.E., 67207 ON

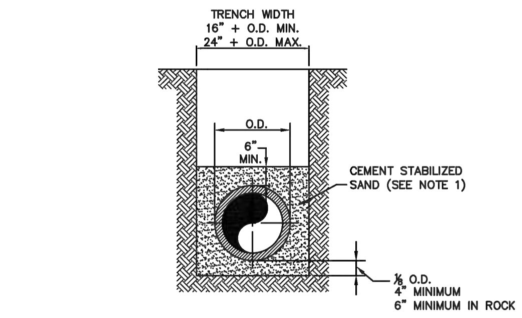
COPLEY ADDITION

CITY OF SHERMAN
WATER DETAILS

SHEET
C2



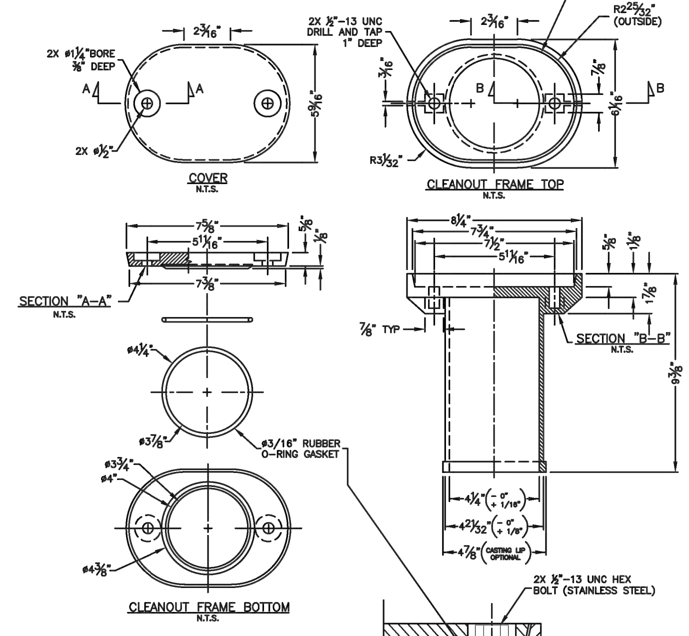
TYPICAL P.V.C. WASTEWATER MAIN EMBEDMENT



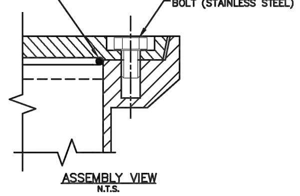
NOTE:
1. CEMENT STABILIZED SAND SHALL HAVE A MINIMUM OF 10% CEMENT PER CUBIC YARD OF CEMENT STABILIZED SAND MIXTURE, BASED ON LOOSE DRY WEIGHT VOLUME (AT LEAST 2.5 BAGS OF CEMENT PER CUBIC YARD OF MIXTURE). THE USE OF BROWN COLORING IN CEMENT STABILIZED SAND IS REQUIRED FOR PRESSURE RATED WASTEWATER MAIN AND LATERAL BEDDING.

P.V.C. WASTEWATER MAIN CEMENT STABILIZED SAND EMBEDMENT
FOR WATER MAIN CROSSINGS

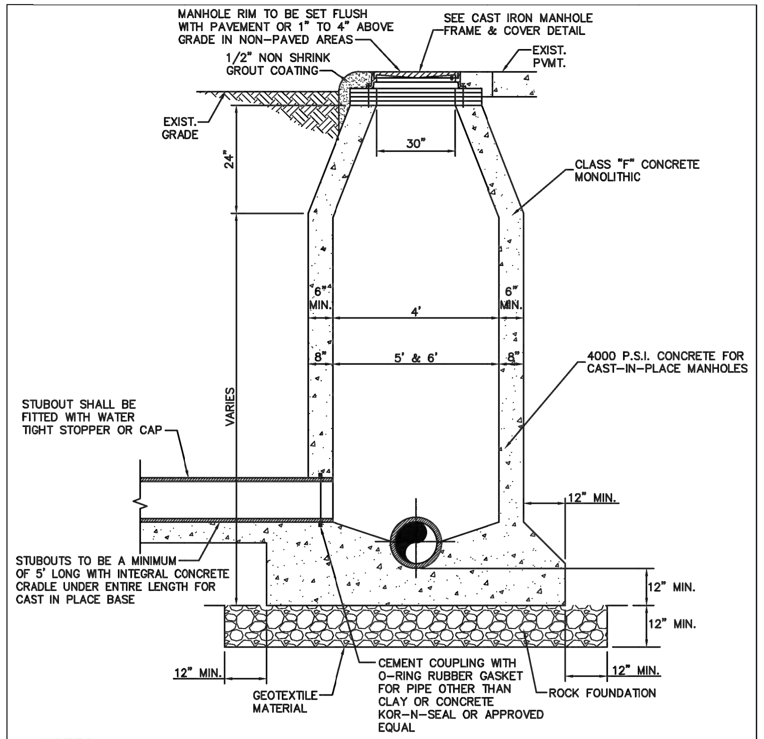
Sherman — CLASSIC TOWN. BROAD HORIZON. — ENGINEERING DEPARTMENT | P.V.C. WASTEWATER MAIN EMBEDMENT | STANDARD CONSTRUCTION DETAILS WASTEWATER | DATE: OCTOBER, 2012 | REV DATE: – | SHEET: SD-WW01



GENERAL NOTES
1. THE WORDS "WASTEWATER LATERAL CLEANOUT" SHALL BE CAST INTO TOP OF COVER.
2. MATERIALS TO BE CAST IRON.



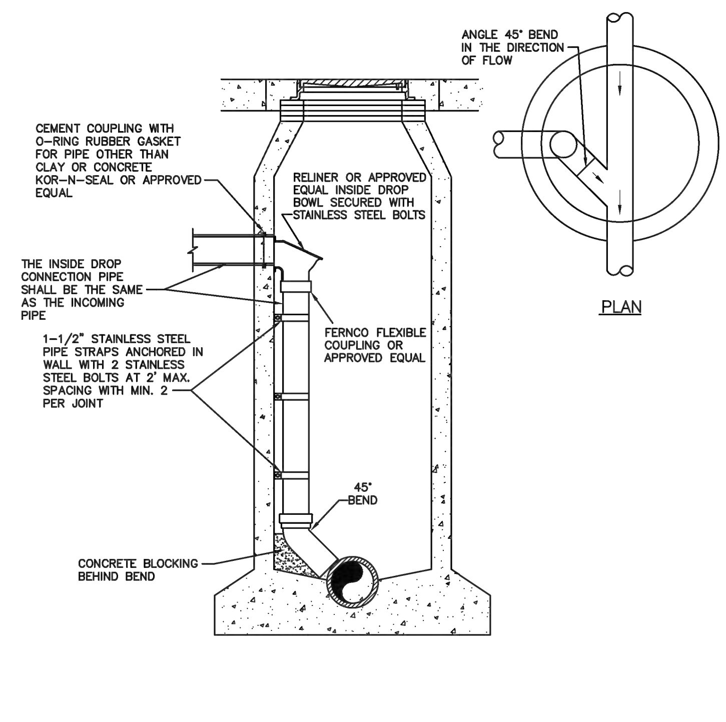
Sherman — CLASSIC TOWN. BROAD HORIZON. — ENGINEERING DEPARTMENT | CAST IRON CLEANOUT FRAME & COVER | STANDARD CONSTRUCTION DETAILS WASTEWATER | DATE: OCTOBER, 2012 | REV DATE: – | SHEET: SD-WW03



NOTES:
1. IF FALSE MANHOLE BOTTOMS ARE REQUIRED, THEY SHALL BE CONSTRUCTED, INSTALLED, AND REMOVED PER WASTEWATER MANHOLE FALSE BOTTOM STD. DETAIL.
2. WHERE MANHOLE'S ARE OUTSIDE OF PAVEMENT, FRAME & COVER SHALL BE CENTERED IN 5'x5' CONCRETE PAD CLASS 'A' CONCRETE, 4" THICK
3. ALL MANHOLES SHALL PASS VACUUM TEST AS PER NCTCOG SPECIFICATIONS

CAST-IN-PLACE NOTES:
1. KEYWAYS REQUIRED FOR ALL CONSTRUCTION JOINTS.
2. P.V.C. WATER STOP REQUIRED FOR ALL JOINTS IN LOWER 4'-0" OF MANHOLES
3. CONCRETE SHALL BE 4000 P.S.I.

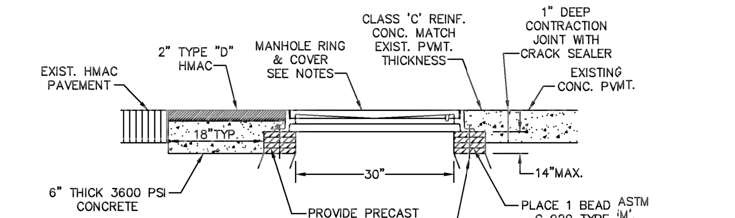
Sherman — CLASSIC TOWN. BROAD HORIZON. — ENGINEERING DEPARTMENT | CAST-IN-PLACE MANHOLE | STANDARD CONSTRUCTION DETAILS WASTEWATER | DATE: APRIL, 2012 | REV DATE: – | SHEET: SD-WW04



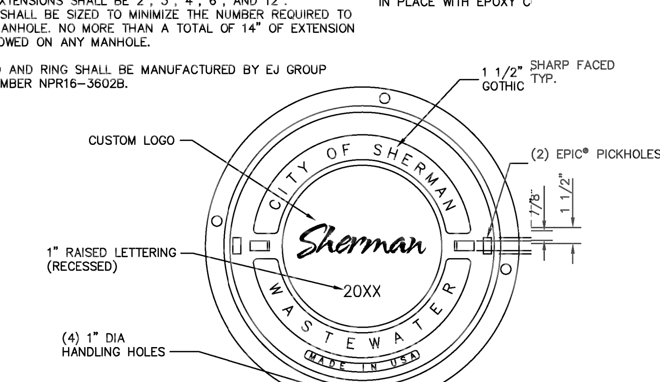
INTERIOR DROP MANHOLE CONNECTION

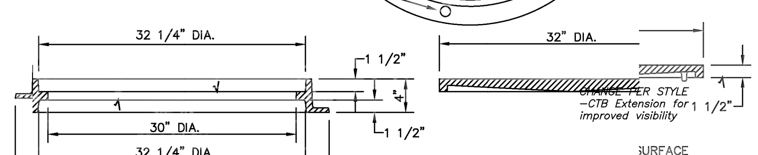
Sherman — CLASSIC TOWN. BROAD HORIZON. — ENGINEERING DEPARTMENT | INTERIOR DROP MANHOLE CONNECTION | STANDARD CONSTRUCTION DETAILS WASTEWATER | DATE: APRIL, 2012 | REV DATE: – | SHEET: SD-WW09

50% PAGE SIZE REDUCTION

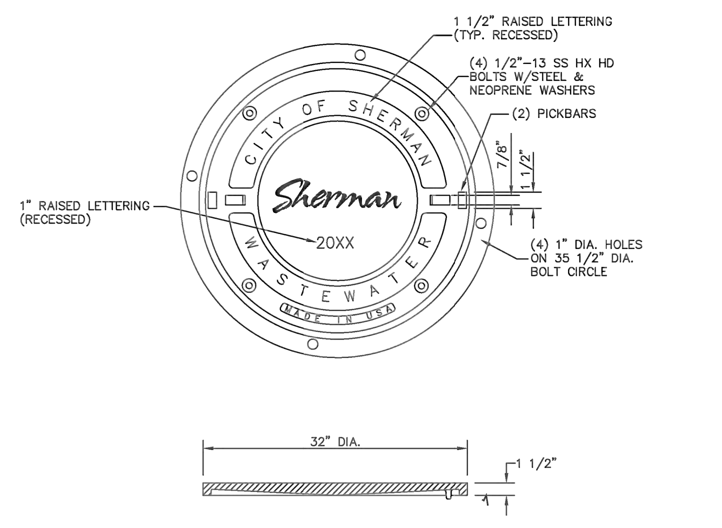


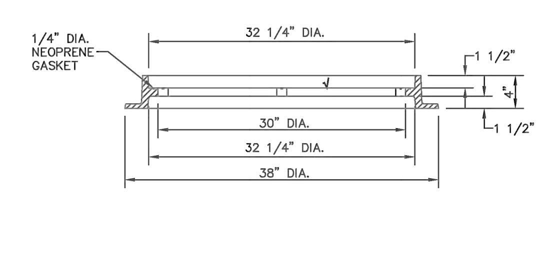
NOTES:
1. THERE SHALL BE SMOOTH TRANSITION BETWEEN THE FRAME GRADE RING, OR THE GRADE RING AND THE CONE.
2. CONCRETE EXTENSION RINGS MAY BE PRECAST OR CAST-IN-PLACE. BRICK EXTENSION RINGS WILL NOT BE ALLOWED.
3. STANDARD EXTENSIONS SHALL BE 2", 3", 4", 6", AND 12". EXTENSIONS SHALL BE SIZED TO MINIMIZE THE NUMBER REQUIRED TO RAISE THE MANHOLE. NO MORE THAN A TOTAL OF 14" OF EXTENSION WILL BE ALLOWED ON ANY MANHOLE.
4. MANHOLE LID AND RING SHALL BE MANUFACTURED BY EJ GROUP PRODUCT NUMBER NPR16-3602B.





Sherman — CLASSIC TOWN. BROAD HORIZON. | CAST IRON MANHOLE FRAME AND COVER | STANDARD CONSTRUCTION DETAILS WASTEWATER | DATE: | REV DATE: 20SEP16 | SHEET: SD-WW11





√ DESIGNATES MACHINE SURFACE

Sherman — CLASSIC TOWN. BROAD HORIZON. — ENGINEERING DEPARTMENT | PRESSURE TYPE MANHOLE FRAME AND COVER | STANDARD CONSTRUCTION DETAILS WASTEWATER | DATE: OCTOBER, 2012 | REV DATE: 20SEP16 | SHEET: SD-WW12

PROGRESS PLOTS
FOR INTERIM DESIGN REVIEW ONLY
NOT FOR CONSTRUCTION
DATE: 12/20/18

!!CAUTION!!
THERE MAY BE UNDERGROUND GAS LINES, TELEPHONE CABLES AND ELECTRICAL LINES WITHIN VICINITY OF SITE. EXACT LOCATIONS ARE UNKNOWN. CALL BEFORE DIGGING!

Texas811

NO.	DATE	BY	DESCRIPTION
1	12.20.18	VA	ADDRESSED CITY COMMENTS

SUBMITTAL #1: --/--/--
SUBMITTAL #2: --/--/--
SUBMITTAL #3: --/--/--
SUBMITTAL #4: --/--/--
DESIGN: VA DRAWN: VA

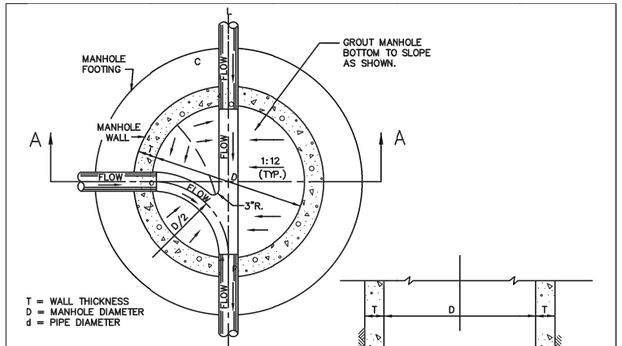
CITY OF SHERMAN
SEWER DETAILS

COPLEY ADDITION

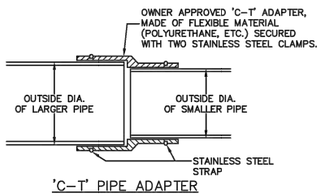
THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF BIDDING ONLY UNDER THE AUTHORITY OF DAVID A. VILBIG, P.E., 67207 ON

VILBIG & ASSOCIATES, INC
CONSULTING ENGINEERS & SURVEYORS
517 W WOODARD STREET DENISON, TX 75020

SHEET
C2

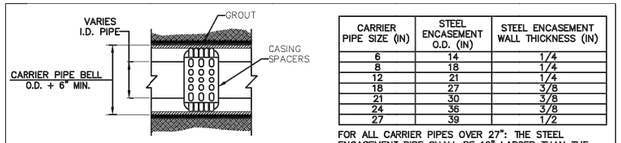


WASTEWATER MANHOLE LINE INTERSECTION



'C-T' PIPE ADAPTER

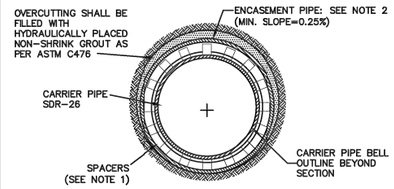
Sherman CLASSIC TOWN. BROAD HORIZON. ENGINEERING DEPARTMENT	WASTEWATER MANHOLE LINE INTERSECTION & 'C-T' PIPE ADAPTER	STANDARD CONSTRUCTION DETAILS WASTEWATER		
		DATE: APRIL, 2012	REV DATE: -	SHEET: SD-WW13



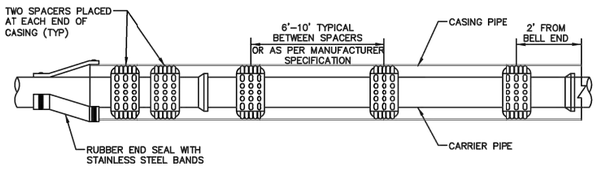
TYPICAL CASING SECTION

CARRIER PIPE SIZE (IN)	STEEL ENCASEMENT O.D. (IN)	STEEL ENCASEMENT WALL THICKNESS (IN)
6	14	1/4
8	18	1/4
12	21	1/4
18	27	3/8
21	30	3/8
24	36	3/8
27	39	1/2

FOR ALL CARRIER PIPES OVER 27": THE STEEL ENCASEMENT PIPE SHALL BE 12" LARGER THAN THE CARRIER PIPE AND THE STEEL ENCASEMENT WALL THICKNESS SHALL BE 1/2".



WASTEWATER ENCASEMENT

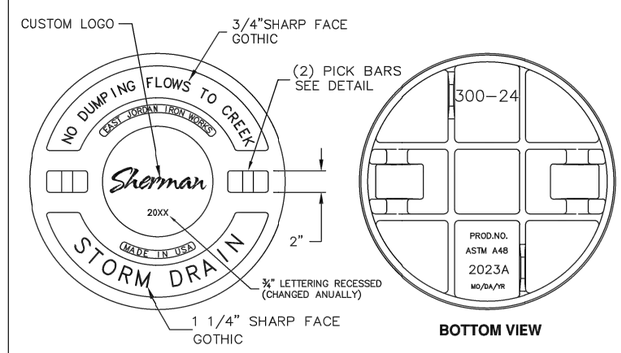


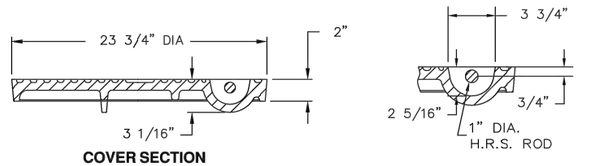
INSULATOR SPACING DETAIL

NOTES:

1. HIGH DENSITY POLYETHYLENE SPACERS, RACI OR EQUAL, SHALL BE USED. WHERE NO CASING PIPE IS REQUIRED OVERCUTTING AROUND UTILITY SHALL BE FILLED WITH HYDRAULICALLY PLACED NON-SHRINK GROUT AS PER ASTM C476.
2. ENCASEMENT PIPE SHALL BE HIGH DENSITY STEEL PIPE. ALL JOINTS TO BE WELDED 100%.

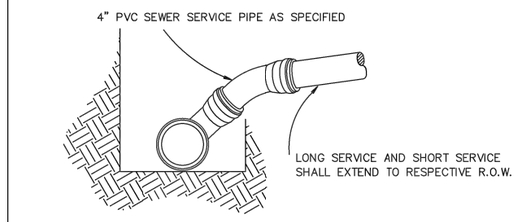
Sherman CLASSIC TOWN. BROAD HORIZON. ENGINEERING DEPARTMENT	CASING	STANDARD CONSTRUCTION DETAILS WASTEWATER		
		DATE: APRIL 2012	REV DATE: -	SHEET: SD-WW16





NOTE:
FRAME AND COVER SHALL BE EAST JORDAN IRON WORKS FRAME PRODUCT AND COVER PRODUCT #2023A OR APPROVED EQUAL AND SHALL BE GRAY CAST IRON CONFORMING TO ASTM A48-CL35B.

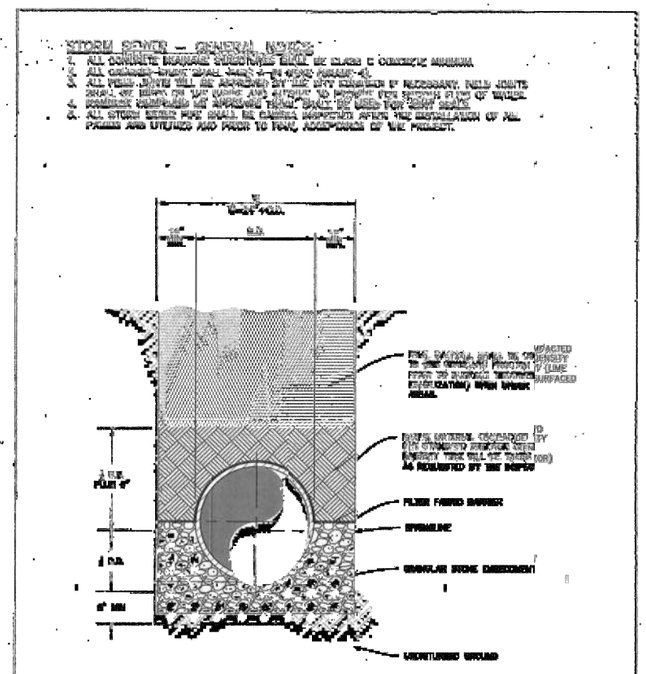
Sherman CLASSIC TOWN. BROAD HORIZON. ENGINEERING DEPARTMENT	STORM MANHOLE FRAME & COVER	STANDARD CONSTRUCTION DETAILS STORM DRAINAGE		
		DATE: OCT, 2013	REV DATE: 19SEP16	SHEET: SD-D07



SECTION

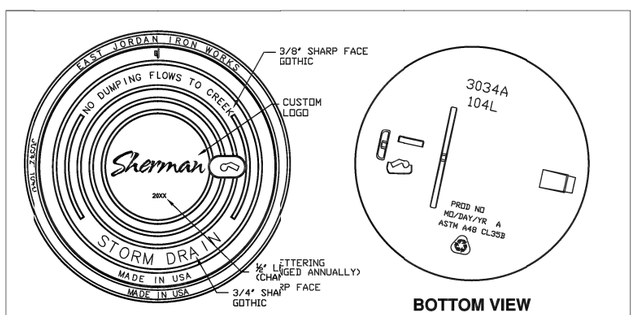
TYPICAL SEWER SERVICE LINE

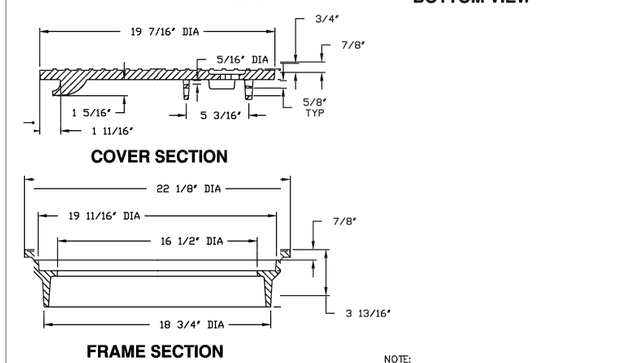
Sherman CLASSIC TOWN. BROAD HORIZON. ENGINEERING DEPARTMENT	TYPICAL WASTEWATER LINE LOCATION	STANDARD CONSTRUCTION DETAILS WASTEWATER		
		DATE: JUL 2015	REV DATE: -	SHEET: SD-WW17



RCP STORM SEWER PIPE BEDDING

Sherman CLASSIC TOWN. BROAD HORIZON. ENGINEERING DEPARTMENT	STORM SEWER GENERAL NOTES & RCP STORM SEWER PIPE BEDDING	STANDARD CONSTRUCTION DETAILS STORM DRAINAGE		
		DATE: OCT, 2013	REV DATE: 21SEP16	SHEET: SD-D19





NOTE:
FRAME AND COVER SHALL BE EAST JORDAN IRON WORKS FRAME PRODUCT AND COVER PRODUCT #3034A OR APPROVED EQUAL AND SHALL BE GRAY CAST IRON CONFORMING TO ASTM A48-CL35B.

Sherman CLASSIC TOWN. BROAD HORIZON. ENGINEERING DEPARTMENT	INLET ME & COVER FRA	STANDARD CONSTRUCTION DETAILS STORM DRAINAGE		
		DATE: OCT, 2013	REV DATE: 21SEP16	SHEET: SD-D19

50% PAGE SIZE REDUCTION

VILBIG & ASSOCIATES, INC.
CONSULTING ENGINEERS & SURVEYORS
517 W WOODARD STREET DENISON, TX 75020

COPLEY ADDITION

CITY OF SHERMAN
WASTE WATER

PROGRESS PLOTS
FOR INTERIM DESIGN REVIEW ONLY
NOT FOR CONSTRUCTION
DATE: 12/20/18

!!CAUTION!! THERE MAY BE UNDERGROUND GAS LINES, TELEPHONE CABLES AND ELECTRICAL LINES WITHIN VICINITY OF SITE. EXACT LOCATIONS ARE UNKNOWN. CALL BEFORE DIGGING!

Texas811

NO.	DATE	BY	DESCRIPTION
1	12.20.18	VA	ADDRESSED CITY COMMENTS

SUBMITTAL #1: --/--/--
SUBMITTAL #2: --/--/--
SUBMITTAL #3: --/--/--
SUBMITTAL #4: --/--/--
DESIGN: VA DRAWN: VA

SHEET
C2