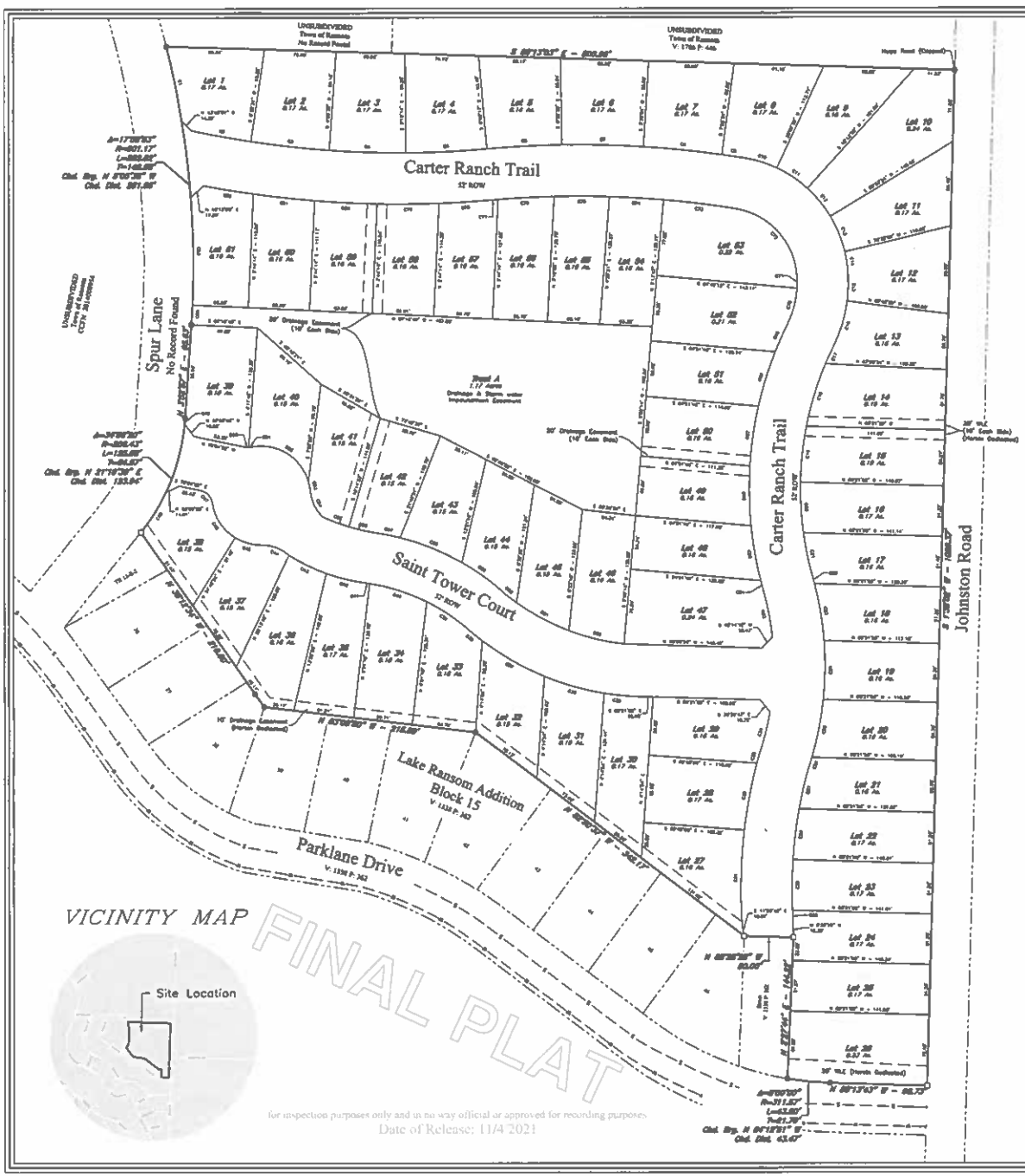
AGENDA ITEM 13:

Final Plat for Ransom Ranch Subdivision

TRACT A, Lots 1 thru 61
Ransom Ranch Addition,
an addition to the City of Ransom Canyon, Lubbock County, Texas



DESCRIPTION

BEING A 13.989 acre tract of land located in Section 8, Block 1, Lubbock County, Texas, being further described by metes and bounds as follows:

BEGINNING at a Square Tube Found on the northwest corner of Lot 46, Block 15, Lake Ransom Canyon Addition to the County of Lubbock, Texas, according to the Map, Plat and/or Dedication Deed thereof recorded in Volume 1338, Page 388, Deed records of Lubbock County, Texas;

THENCE North 52°50'37" West a distance of 242.17 feet along the north line of said Block 15 to a 3/8" Iron Rod Found for a point on this tract;

THENCE North 87°05'50" West a distance 315.88 feet along the north line of said Block 15 1/2" Iron Rod with Cap marked "CEC" Set for a point on this tract;

THENCE North 38°13'34" West a distance of 15.89 feet pass a Rail Road Spike Found in the north line of said Block 15, and continuing for a total distance of 215.50 feet to a Square Tube Found for a point on this tract;

THENCE along a Curve to the Left with a Radius of 308.43 feet, Cord Bearing of North 21°19'38" East, Chord Distance of 123.84 feet, and a Delta Angle of 34°06'38" to a 3/8" Iron Rod Found for a point on this tract;

THENCE North 38°07" East a distance of 88.63 feet to a 3/8" Iron Rod Found for a point on this tract;

THENCE along a Curve to the Left with a Radius of 501.17 feet, Chord Bearing of North 5°08'38" West, Chord Distance of 301.80 feet, and Delta Angle of 17°08'52" to a 1/2" Iron Rod Found for a point on this tract;

THENCE South 88°13'03" East a distance of 908.86 feet to a 1/2" Iron Rod with Cap marked "Hugo Reed" Found for a point on this tract;

THENCE South 1°38'58" West a distance of 1238.37 feet to a Square Tube Found for a point on this tract;

THENCE North 88°13'43" West a distance of 98.73 feet to a 3/8" Iron Rod Found for a point on this tract;

THENCE along a Curve to the Right with a Radius of 311.57 feet, Chord Bearing of North 84°12'51" West, Chord Distance of 43.57 feet, and a Delta Angle of 8°00'00" to a 3/8" Iron Rod Found for a point on this tract;

THENCE North 2°27'44" East a distance of 144.23 feet to a Square Tube Found for a point on this tract;

THENCE North 88°36'35" West a distance of 50.00 feet to the POINT OF BEGINNING and containing within these metes a calculated area of 13.989 acres more or less.

LEGEND

- Set 1/2" Iron Rod with Cap marked "CEC"
- Found 1/2" Iron Rod – As Described
- Found 3/8" Iron Rod
- Found Square Tube
- Found Railroad Spike
- Property Line
- Lot Line
- Adjoiner Line
- Easement Line – As Described
- Existing Water Line
- Existing Sewer Line
- W.L.E. – Water Line Easement
- R.O.W. – Right-of-Way
- V.&P. – Volume & Page
- C.C.F.N. – County Clerk File Number

SCALE: 1" = 50'

CURVE TABLE						
CURVE	DELTA	RADIUS	LENGTH	TANGENT	CHORD DIR.	CHORD DIST.
C1	4°42'11"	308.43'	25.31'	12.66'	N 17°40'56" W	25.30'
C2	2°30'22"	1029.54'	45.32'	22.66'	N 19°26'47" W	45.31'
C3	4°12'50"	1029.54'	75.71'	37.87'	N 23°32'31" W	75.69'
C4	4°12'50"	1029.54'	75.71'	37.87'	N 27°45'21" W	75.69'
C5	4°12'50"	1029.54'	75.71'	37.87'	N 31°57'51" W	75.69'
C6	4°12'50"	1029.54'	75.71'	37.87'	N 36°10'21" W	75.69'
C7	4°12'50"	1029.54'	75.71'	37.87'	N 40°22'51" W	75.69'
C8	4°12'50"	1029.54'	75.71'	37.87'	N 44°35'21" W	75.69'
C9	4°12'50"	1029.54'	75.71'	37.87'	N 48°47'51" W	75.69'
C10	4°12'50"	1029.54'	75.71'	37.87'	N 52°60'21" W	75.69'
C11	4°12'50"	1029.54'	75.71'	37.87'	N 57°12'51" W	75.69'
C12	4°12'50"	1029.54'	75.71'	37.87'	N 61°25'21" W	75.69'
C13	4°12'50"	1029.54'	75.71'	37.87'	N 65°37'51" W	75.69'
C14	4°12'50"	1029.54'	75.71'	37.87'	N 69°50'21" W	75.69'
C15	4°12'50"	1029.54'	75.71'	37.87'	N 74°02'51" W	75.69'
C16	4°12'50"	1029.54'	75.71'	37.87'	N 78°15'21" W	75.69'
C17	2°33'50"	1029.54'	46.07'	23.04'	N 80°31'46" W	46.07'
C18	11°47'00"	308.43'	63.41'	31.78'	N 83°19'06" W	63.28'
C19	17°50'17"	308.43'	96.01'	48.42'	N 77°24'21" W	95.62'
C20	17°50'17"	308.43'	96.01'	48.42'	N 59°34'04" W	95.62'
C21	17°50'17"	308.43'	96.01'	48.42'	N 41°43'47" W	95.62'
C22	17°50'17"	308.43'	96.01'	48.42'	N 23°53'30" W	95.62'
C23	17°50'17"	308.43'	96.01'	48.42'	N 6°03'13" W	95.62'
C24	17°50'17"	308.43'	96.01'	48.42'	N 11°46'54" E	95.62'
C25	17°50'17"	308.43'	96.01'	48.42'	N 29°37'41" E	95.62'
C26	17°50'17"	308.43'	96.01'	48.42'	N 47°28'28" E	95.62'
C27	17°50'17"	308.43'	96.01'	48.42'	N 65°19'15" E	95.62'
C28	17°50'17"	308.43'	96.01'	48.42'	N 83°10'02" E	95.62'
C29	17°50'17"	308.43'	96.01'	48.42'	S 79°00'49" E	95.62'
C30	17°50'17"	308.43'	96.01'	48.42'	S 61°09'36" E	95.62'
C31	17°50'17"	308.43'	96.01'	48.42'	S 43°18'23" E	95.62'
C32	17°50'17"	308.43'	96.01'	48.42'	S 25°27'10" E	95.62'
C33	17°50'17"	308.43'	96.01'	48.42'	S 7°35'57" E	95.62'
C34	17°50'17"	308.43'	96.01'	48.42'	S 10°16'36" W	95.62'
C35	17°50'17"	308.43'	96.01'	48.42'	S 28°07'49" W	95.62'
C36	17°50'17"	308.43'	96.01'	48.42'	S 45°59'02" W	95.62'
C37	17°50'17"	308.43'	96.01'	48.42'	S 63°50'15" W	95.62'
C38	17°50'17"	308.43'	96.01'	48.42'	S 81°41'28" W	95.62'
C39	17°50'17"	308.43'	96.01'	48.42'	N 89°27'41" W	95.62'
C40	17°50'17"	308.43'	96.01'	48.42'	N 71°36'54" W	95.62'
C41	17°50'17"	308.43'	96.01'	48.42'	N 53°46'07" W	95.62'
C42	17°50'17"	308.43'	96.01'	48.42'	N 35°55'20" W	95.62'
C43	17°50'17"	308.43'	96.01'	48.42'	N 18°04'33" W	95.62'
C44	17°50'17"	308.43'	96.01'	48.42'	N 0°13'46" E	95.62'
C45	17°50'17"	308.43'	96.01'	48.42'	N 19°07'57" E	95.62'
C46	17°50'17"	308.43'	96.01'	48.42'	N 37°02'08" E	95.62'
C47	17°50'17"	308.43'	96.01'	48.42'	N 54°56'19" E	95.62'
C48	17°50'17"	308.43'	96.01'	48.42'	N 72°50'30" E	95.62'
C49	17°50'17"	308.43'	96.01'	48.42'	N 90°44'41" E	95.62'
C50	17°50'17"	308.43'	96.01'	48.42'	S 88°31'52" E	95.62'
C51	17°50'17"	308.43'	96.01'	48.42'	S 70°41'39" E	95.62'
C52	17°50'17"	308.43'	96.01'	48.42'	S 52°51'26" E	95.62'
C53	17°50'17"	308.43'	96.01'	48.42'	S 35°01'13" E	95.62'
C54	17°50'17"	308.43'	96.01'	48.42'	S 17°11'00" E	95.62'
C55	17°50'17"	308.43'	96.01'	48.42'	S 0°20'47" E	95.62'
C56	17°50'17"	308.43'	96.01'	48.42'	S 18°30'34" W	95.62'
C57	17°50'17"	308.43'	96.01'	48.42'	S 36°40'21" W	95.62'
C58	17°50'17"	308.43'	96.01'	48.42'	S 54°50'08" W	95.62'
C59	17°50'17"	308.43'	96.01'	48.42'	S 73°59'55" W	95.62'
C60	17°50'17"	308.43'	96.01'	48.42'	S 89°09'42" W	95.62'
C61	17°50'17"	308.43'	96.01'	48.42'	N 87°19'29" W	95.62'
C62	17°50'17"	308.43'	96.01'	48.42'	N 69°29'16" W	95.62'
C63	17°50'17"	308.43'	96.01'	48.42'	N 51°39'03" W	95.62'
C64	17°50'17"	308.43'	96.01'	48.42'	N 33°48'50" W	95.62'
C65	17°50'17"	308.43'	96.01'	48.42'	N 15°58'37" W	95.62'
C66	17°50'17"	308.43'	96.01'	48.42'	N 2°08'24" E	95.62'
C67	17°50'17"	308.43'	96.01'	48.42'	N 20°07'31" E	95.62'
C68	17°50'17"	308.43'	96.01'	48.42'	N 38°06'38" E	95.62'
C69	17°50'17"	308.43'	96.01'	48.42'	N 56°05'45" E	95.62'
C70	17°50'17"	308.43'	96.01'	48.42'	N 74°04'52" E	95.62'
C71	17°50'17"	308.43'	96.01'	48.42'	S 88°03'59" E	95.62'
C72	17°50'17"	308.43'	96.01'	48.42'	S 69°93'06" E	95.62'
C73	17°50'17"	308.43'	96.01'	48.42'	S 51°42'13" E	95.62'
C74	17°50'17"	308.43'	96.01'	48.42'	S 33°51'20" E	95.62'
C75	17°50'17"	308.43'	96.01'	48.42'	S 15°60'27" E	95.62'
C76	17°50'17"	308.43'	96.01'	48.42'	S 2°09'34" W	95.62'
C77	17°50'17"	308.43'	96.01'	48.42'	S 20°18'41" W	95.62'
C78	17°50'17"	308.43'	96.01'	48.42'	S 38°27'48" W	95.62'
C79	17°50'17"	308.43'	96.01'	48.42'	S 56°36'55" W	95.62'
C80	17°50'17"	308.43'	96.01'	48.42'	S 74°46'02" W	95.62'
C81	17°50'17"	308.43'	96.01'	48.42'	S 88°55'09" W	95.62'
C82	17°50'17"	308.43'	96.01'	48.42'	N 87°04'16" W	95.62'
C83	17°50'17"	308.43'	96.01'	48.42'	N 69°13'23" W	95.62'
C84	17°50'17"	308.43'	96.01'	48.42'	N 51°22'30" W	95.62'
C85	17°50'17"	308.43'	96.01'	48.42'	N 33°31'37" W	95.62'
C86	17°50'17"	308.43'	96.01'	48.42'	N 15°40'44" W	95.62'
C87	17°50'17"	308.43'	96.01'	48.42'	N 2°49'51" E	95.62'
C88	17°50'17"	308.43'	96.01'	48.42'	N 20°58'58" E	95.62'
C89	17°50'17"	308.43'	96.01'	48.42'	N 39°08'05" E	95.62'
C90	17°50'17"	308.43'	96.01'	48.42'	N 57°17'12" E	95.62'
C91	17°50'17"	308.43'	96.01'	48.42'	N 75°26'19" E	95.62'
C92	17°50'17"	308.43'	96.01'	48.42'	S 89°35'26" E	95.62'
C93	17°50'17"	308.43'	96.01'	48.42'	S 71°44'33" E	95.62'
C94	17°50'17"	308.43'	96.01'	48.42'	S 53°53'40" E	95.62'
C95	17°50'17"	308.43'	96.01'	48.42'	S 36°02'47" E	95.62'
C96	17°50'17"	308.43'	96.01'	48.42'	S 18°11'54" E	95.62'
C97	17°50'17"	308.43'	96.01'	48.42'	S 0°21'01" E	95.62'
C98	17°50'17"	308.43'	96.01'	48.42'	S 17°30'08" W	95.62'
C99	17°50'17"	308.43'	96.01'	48.42'	S 35°39'15" W	95.62'
C100	17°50'17"	308.43'	96.01'	48.42'	S 53°48'22" W	95.62'
C101	17°50'17"	308.43'	96.01'	48.42'	S 71°57'29" W	95.62'
C102	17°50'17"	308.43'	96.01'	48.42'	S 90°06'36" W	95.62'
C103	17°50'17"	308.43'	96.01'	48.42'	N 88°15'43" W	95.62'
C104	17°50'17"	308.43'	96.01'	48.42'	N 70°24'50" W	95.62'
C105	17°50'17"	308.43'	96.01'	48.42'	N 52°33'57" W	95.62'
C106	17°50'17"	308.43'	96.01'	48.42'	N 34°43'04" W	95.62'
C107	17°50'17"	308.43'	96.01'	48.42'	N 16°52'11" W	95.62'
C108	17°50'17"	308.43'	96.01'	48.42'	N 0°61'18" E	95.62'
C109	17°50'17"	308.43'	96.01'	48.42'	N 19°10'25" E	95.62'
C110	17°50'17"	308.43'	96.01'	48.42'	N 37°19'32" E	95.62'
C111	17°50'17"	308.43'	96.01'	48.42'	N 55°28'39" E	95.62'
C112	17°50'17"	308.43'	96.01'	48.42'	N 73°37'46" E	95.62'
C113	17°50'17"	308.43'	96.01'	48.42'	N 91°46'53" E	95.62'
C114	17°50'17"	308.43'	96.01'	48.42'	S 89°55'00" E	95.62'
C115	17°50'17"	308.43'	96.01'	48.42'	S 71°63'07" E	95.62'
C116	17°50'17"	308.43'	96.01'	48.42'	S 53°12'14" E	95.62'
C117	17°50'17"	308.43'	96.01'	48.42'	S 35°21'21" E	95.62'
C118	17°50'17"	308.43'	96.01'	48.42'	S 17°30'28" E	95.62'
C119	17°50'17"	308.43'	96.01'	48.42'	S 0°39'35" E	95.62'
C120	17°50'17"	308.43'	96.01'	48.42'	S 18°48'42" W	95.62'
C121	17°50'17"	308.43'	96.01'	48.42'	S 36°57'49" W	95.62'
C122	17°50'17"	308.43'	96.01'	48.42'	S 55°06'56" W	95.62'
C123	17°50'17"	308.43'	96.01'	48.42'	S 73°16'03" W	95.62'
C124	17°50'17"	308.43'	96.01'	48.42'	S 91°25'10" W	95.62'
C125	17°50'17"	308.43'	96.01'	48.42'	N 89°34'17" W	95.62'
C126	17°50'17"	308.43'	96.01'	48.42'	N 71°43'24" W	95.62'
C127	17°50'17"	308.43'	96.01'	48.42'	N 53°52'31" W	95.62'
C128	17°50'17"	308.43'	96.01'	48.42'	N 36°01'38" W	95.62'
C129	17°50'17"	308.43'	96.01'	48.42'	N 18°10'45" W	95.62'
C130	17°50'17"	308.43'	96.01'	48.42'	N 0°19'52" W	95.62'
C131	17°50'17"	308.43'	96.01'	48.42'	N 17°28'59" E	95.62'
C132	17°50'17"	308.43'	96.01'	48.42'	N 35°38'06" E	95.62'
C133	17°50'17"	308.43'	96.01'	48.42'	N 53°47'13" E	95.62'
C134	17°50'17"	308.43'	96.01'	48.42'	N 71°56'20" E	95.62'
C135	17°50'17"	308.43'	96.01'	48.42'	N 90°05'27" E	95.62'
C136	17°50'17"	308.43'	96.01'	48.42'	S 88°14'34" E	95.62'
C137	17°50'17"	308.43'	96.01'	48.42'	S 70°23'41" E	95.62'
C138	17°50'17"	308.43'	96.01'	48.42'	S 52°32'48" E	95.62'
C139	17°50'17"	308.43'	96.01'	48.42'	S 34°41'55" E	95.62'
C140	17°50'17"	308.43'	96.01'	48.42'	S 16°51'02" E	95.62'
C141	17°50'17"	308.43'	96.01'	48.42'	S 0°60'09" W	95.62'
C142	17°50'17"	308.43'	96.01'	48.42'	S 19°09'16" W	95.62'

GENERAL SURVEYOR NOTES:

1. Heavy Lines indicate plat limits.
2. All streets, alleys and monuments within plat limits are hereby dedicated, unless noted otherwise.
3. All easements dedicated hereby shall entitle the City or utility company using such easements to the right to remove, install or replace any trees, plant, obstacle or pipes within such easements as may be determined by the City or utility company without the City or utility company being responsible or liable for the replacement of improvements, paving or surfacing of the pavement necessitated by such removal, repair or replacement. Easements designated or intended for ingress/egress (utility and emergency) or preservation access shall not be fenced or otherwise obstructed.
4. Either all or a portion of the surveyed property is within or adjacent to the boundary of a Special Flood Hazard Area as established by the FEMA
5. No building permit shall be issued on any survey certificate that is not in accordance with this final plat.
6. Only those angles which bear an adjacent lot improvement and or endpoint cap will be considered a "valid" angle. Cornerstone Engineering & Consulting, LLC. will not be responsible for the omitted of anything other than a valid angle of this survey.
7. Coordinate values shown hereon are based upon the Texas Coordinate System, North Central Zone, NAD83 Datum.
8. Distances and areas shown hereon are based on horizontal surface measurements in U.S. feet.
9. Separate instrument accompanies this plat.

SURVEYOR'S CERTIFICATE

KNOW ALL MEN BY THESE PRESENTS:

That I, Justin Cardwell, do hereby certify that I prepared this plat from an actual and accurate survey of the land, and that the corner monuments shown thereon were properly placed under my personal supervision, in accordance with the Subdivision Regulations of the City of Ransom Canyon, Texas.

Justin Cardwell, RPLS 6331
Date: (To be Dated at Signing after final approval), 2021

Approved this _____ day of _____, 20__,
by the City Council of the City of Ransom Canyon, Texas.

Mayor

ATTEST:

City Administrator

FINAL PLAT

For inspection purposes only and in no way official or approved for recording purposes

Tract A, Lots 1-61
Ransom Ranch Addition
to the City of Ransom Canyon,
Located in Section 8, Block 1, Lubbock County, Texas
Total = 13.989 acres November 4, 2021

CORNERSTONE ENGINEERING & CONSULTING, LLC
Professional Engineering
Surveying/Prof. LLP
CORNERSTONE ENGINEERING & CONSULTING, LLC
Civil Engineering
Land Surveying
Grid Eng. No. F-3870
Grid Sur. No. 10194270
Property Owner: Quest PC, LLC
Owner Address: 1001 Main Street, Suite 200, Lubbock, TX
Phone: 806-410-1204

PROPOSED STREET AND UTILITY IMPROVEMENTS

TRACT A, & LOT 1 - 61 RANSOM RANCH ADDITION

RANSOM CANYON, LUBBOCK COUNTY, TEXAS

OCTOBER, 2021

VICINITY MAP

LEGEND

- Electrical Manhole
- Fire Hydrant
- Gas Manhole
- Gas Meter
- Guy Anchor
- Iron Pipe Found
- Iron Rod Found
- Iron Rod Set
- Light Pole
- Power Pole
- Sewer Clean-Out
- Sewer Manhole
- Sprinkler Head
- Storm Drain Manhole
- Street Sign
- TBM
- Telephone Manhole
- Telephone Pedestal
- Traverse Point
- Water Meter
- Water Valve
- Blackjack Tree
- Cedar Tree
- Elm Tree
- Mesquite
- Pine Tree
- Post Oak
- Water Oak Tree
- Station
- Top of Curb Elevation
- Proposed Drainage Structure No.
- Indicates Proposed Water Structure Identifier
- Indicates Proposed Water Service Line Number
- Indicates Proposed Sewer Structure Identifier
- Indicates Proposed Sewer Service Line Number
- Ambulatory Ramp
- Prop. Handicapped Parking Sign
- Straw Bale Barrier
- Inlet Protection
- Prop. Drainage Structure w/Culvert Inlet Protection
- Prop. Inlet / Storm Drain
- Drainage Flow
- E. Drainage Ditch
- Indicated Drainage Flow w/Straw Bale Barrier
- Prop. Hose Bib
- Pipeline
- Gas Line
- Telephone Cable
- Fiber Optics Cable
- Overhead Electrical Line
- Underground Electric Line
- Underground Utilities
- Ex. Sewer Line w/ size
- Prop. Sewer Line w/ size
- Ex. Water Line w/ size
- Prop. Waterline & Fire Hydrant
- Prop. Silt Fence
- Ex. Ground Contour Line
- Prop. Finish Grade Contour
- Wire Fence
- Chain Link Fence
- Pipe Fence w/ Cable
- Subdivision Boundary
- Prop. R.O.W. Line
- Easement Lines

ABBREVIATIONS

BC	BUILDING CORNER	±	PLUS OR MINUS
BM	BENCHMARK	PC	POINT OF CURVATURE
CFS	CUBIC FEET PER SECOND	PRC	POINT OF REVERSE CURVATURE
℄	CENTERLINE	PCC	POINT OF COMPOUND CURVATURE
CMP	CORRUGATED METAL PIPE	℄	PROPERTY LINE
CONC.	CONCRETE	PROP.	PROPOSED
Δ	DELTA	PT	POINT OF TANGENCY
ø	DIAMETER	P.O.E.	PUBLIC DRAINAGE EASEMENT
DIA	DIAMETER	P.U.E.	PUBLIC UTILITY EASEMENT
DIP	DUCTILE IRON PIPE	PVC	POLYVINYL CHLORIDE
ELEV.	ELEVATION	R	RADIUS
E.O.P.	EDGE OF PAVEMENT	R.O.W.	RIGHT OF WAY
EX.	EXISTING	SD	STORM DRAIN
F.F	FINISHED FLOOR	SF	SQUARE FEET
F.H.	FIRE HYDRANT	SS	SEWER SERVICE
℄	FLOW LINE	S.Y.	SQUARE YARD
FT.	FOOT (FEET)	STA.	STATION
GALV.	GALVANIZED	STD.	STANDARD
H.P.	HIGH POINT	SW	SIDEWALK
HGL	HYDRAULIC GRADE LINE	TBM	TEMPORARY BENCHMARK
IN.	INCH	TC	TOP OF CURB
L.F.	LINEAR FEET	TG	TOP OF GRATE
L.P.	LOW POINT	TI	TOP OF INLET
MH	MANHOLE	TMH	TOP OF MANHOLE
MIN.	MINIMUM	TP	TOP OF PAVEMENT
MISC.	MISCELLANEOUS	TS	TOP OF SIDEWALK
NG	NATURAL GROUND	TEL.	TELEPHONE
N.T.S.	NOT TO SCALE	VPC	VERTICAL POINT OF CURVATURE
OC	ON CENTER	VPI	VERTICAL POINT OF INTERSECTION
OCEW	ON CENTER EACH WAY	VPT	VERTICAL POINT OF TANGENCY
O.D.	OUTSIDE DIAMETER	WS	WATER SERVICE

Prepared By:
Centerline Engineering & Consulting, LLC.
8312 Upland Ave
Lubbock, Texas 79424
(806) 470-8686

Sheet List Table	
Sheet Number	Sheet Name
C100	Cover Sheet
C101	Existing Topo
C102	Final Plat
C103	Site Plan
C104	Grading Plan
C105	Carter Ranch Trail Sta. 0+00 - 7+00
C106	Carter Ranch Trail Sta. 7+00 - 15+98
C107	Saint Tower Court
C108	Spur Lane
C109	Municipal Water Plan
C110	Municipal Sewer Plan
C111	SE-M-1 Sta. 0+00 - 7+00 P&P
C112	SE-M-1 Sta. 7+00 - 15+23 P&P
C113	SE-M-2 P&P
C114	Standard Construction Details
C115	Standard Construction Details

ISSUED FOR BIDDING AND CONSTRUCTION

REVISIONS

CENTERLINE ENGINEERING & CONSULTING, LLC.
TBPE Reg. No. F-13172
TBPLS Reg. No. 10193429
8312 Upland Ave
Lubbock, TX 79424 (806) 470-8686

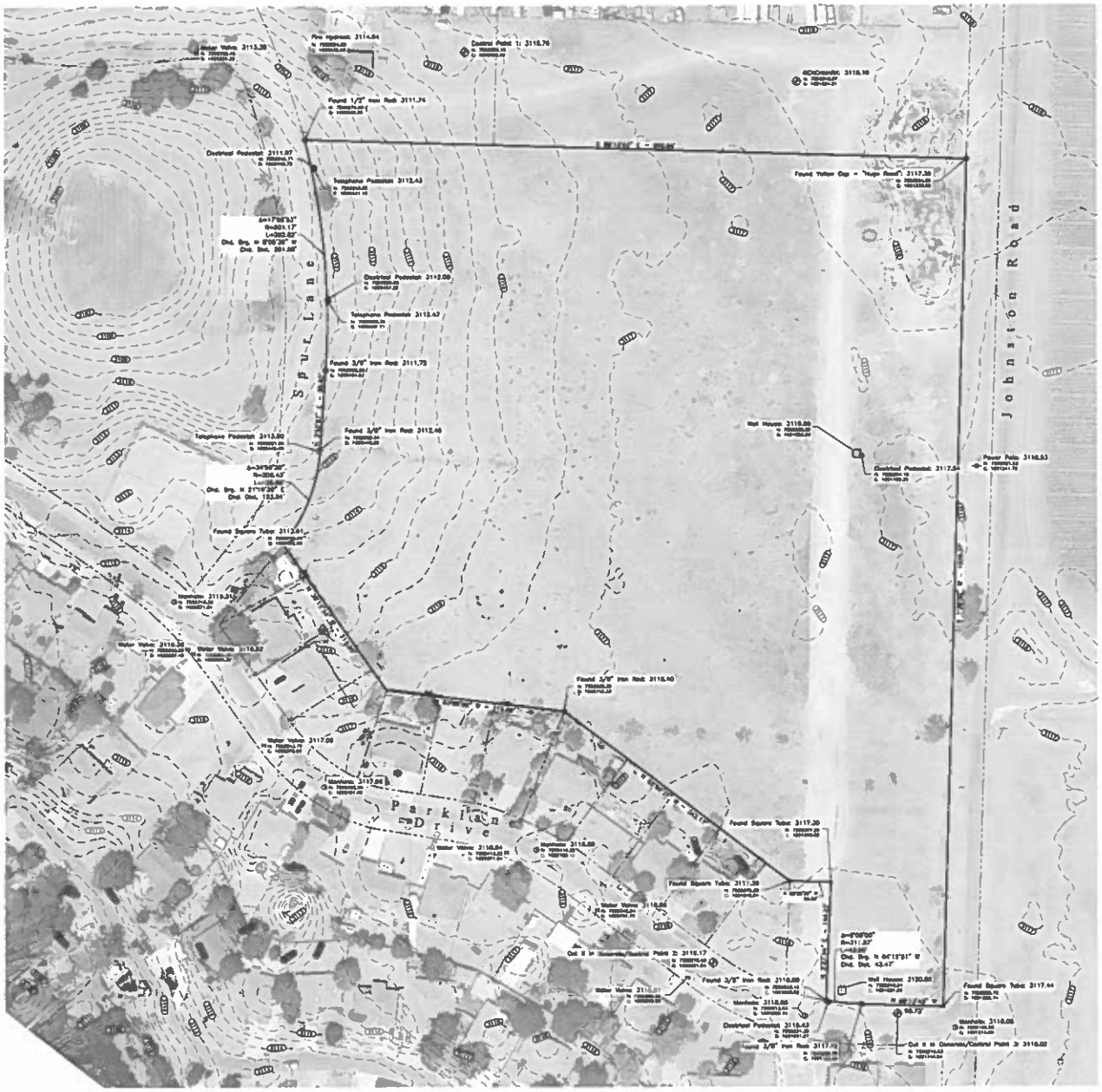
Cover Sheet

Ransom Ranch Addition
Ransom Canyon, Lubbock County, Texas

SHEET NO.

C100

OF 15 SHEETS



GENERAL NOTES:

1. The Contractor shall be responsible for verifying the location of all existing utilities. At least 48-hours prior to beginning construction, the Contractor shall contact the following, but not limited to:
   A. Texas One Call @ 1-800-669-8344
   B. City Tow @ 1-806-344-6377
   C. City of Ransom Canyon @ 806-793-2470
2. The purpose of this sheet is to show existing conditions of structures relevant to the site design. Location of existing buried utilities, where shown, is approximated only. Other utilities may be present that are not shown on the Construction Drawings. The Contractor shall be responsible for locating and protecting all buried utilities.
3. The contractor shall be responsible to communicate discrepancies between the survey and the field conditions at time of construction to the Engineer of Record.
4. Existing conditions of site reflect survey completed on 01/26/2021. The following pertinent information was used for the duration of the design of this project.

BENCHMARK INFO

BENCHMARK

N: 7206348.37
E: 1001520.31
Z: 3118.10

Control Point 1

N: 7206356.19
E: 1000622.03
Z: 3116.79

Control Point 2

N: 7206376.46
E: 1000601.84
Z: 3116.17

Control Point 3

N: 7206316.53
E: 1001144.94
Z: 3118.92

Values based upon the Texas Coordinate System, North Central Zone, NAD83 Datum.

Existing Topo

SCALE: Hor: 1" = 50'

PLANS PLACED ON HOLD UNTIL REQUIREMENTS DESCRIBED HAS BEEN SATISFIED.

NOTE: LOCATION OF EXISTING UTILITIES, STRUCTURES, SURFACE FEATURES, & APPURTENANCES SHALL VERIFIED PRIOR TO CONSTRUCTION AND ANY DEVIATIONS THE CONTRACTOR SHALL BE RESPONSIBLE FOR LABOR AND MATERIALS FOR REPAIR DAMAGES.

STATE OF TEXAS
Jimmy E. Gleaton
PROFESSIONAL ENGINEER

ISSUED FOR BIDDING AND CONSTRUCTION

DATE: 10-21-2021
DRAWN BY: MR
CHECKED BY: JG
DESIGNED BY: JG
PROJECT NUMBER: 20-21-170

REVISIONS

CENTERLINE ENGINEERING & CONSULTING, LLC.
Texas Reg. No. F-16173
TBPLS Reg. No. 10194375
8312 Upland Ave
Lubbock, TX 79424 (806) 470-8886

Existing Topo

Ransom Ranch Addition

Ransom Canyon, Lubbock County, Texas

SHEET NO.

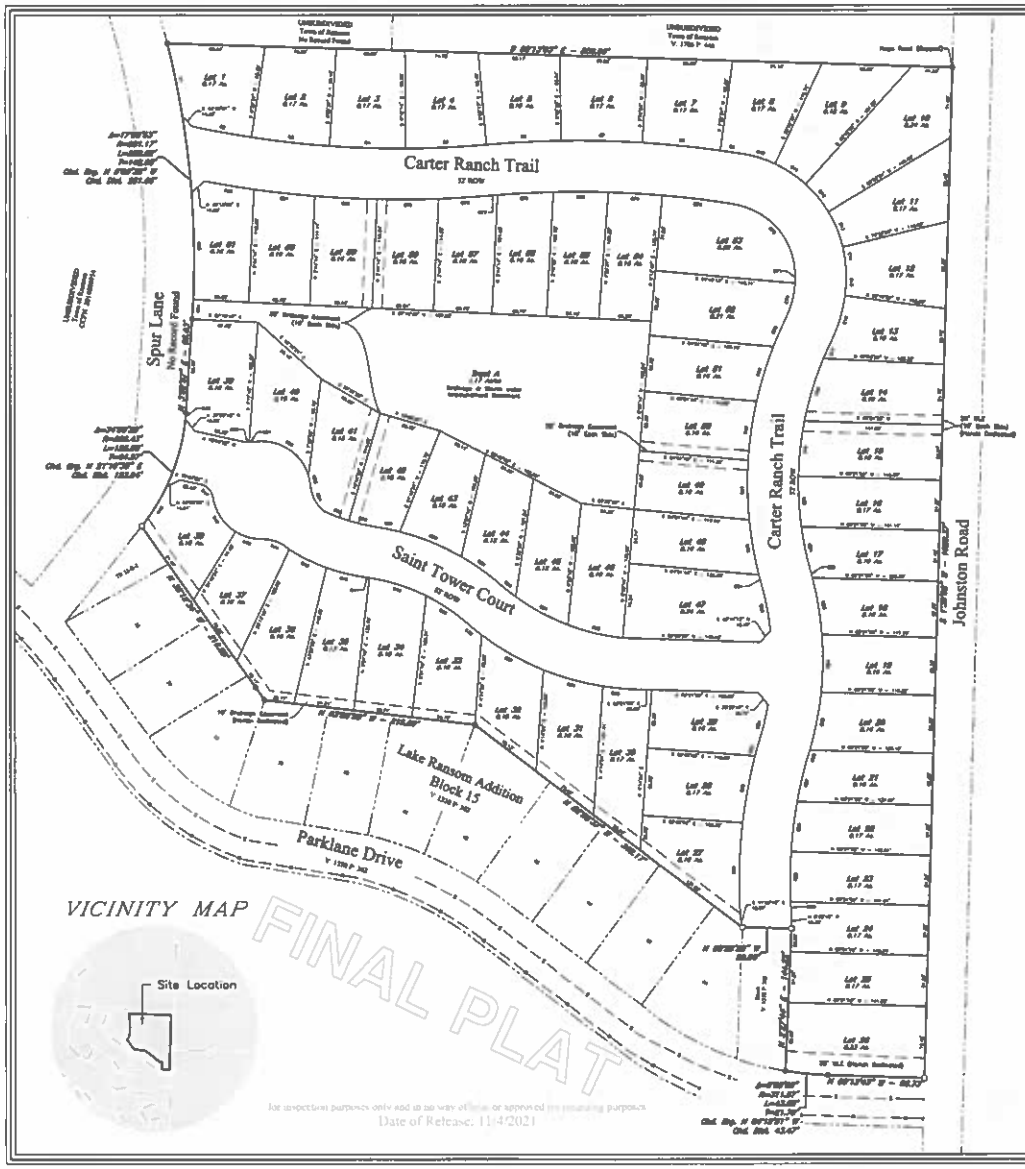
C101

OF 16 SHEETS

TRACT A, Lots 1 thru 61

Ransom Ranch Addition,

an addition to the City of Ransom Canyon, Lubbock County, Texas

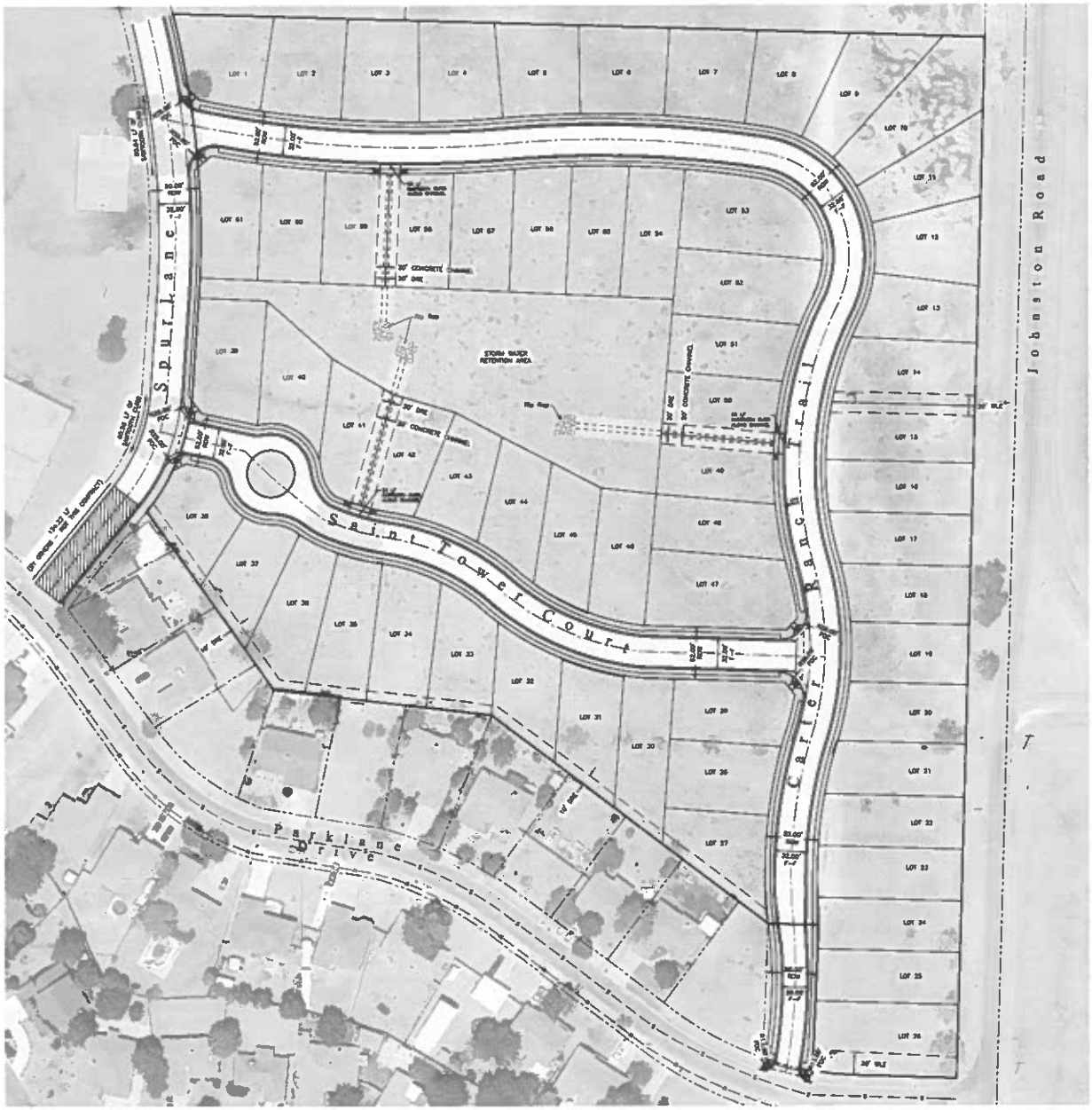


LEGEND

- Set 1/2" Iron Rod with Cap marked "CEC"
- Found 1/2" Iron Rod – As Described
- Found 3/8" Iron Rod
- Found Square Tube
- Found Railroad Spike
- Property Line
- Lot Line
- Adjacent Line
- Easement Line – As Described
- Existing Water Line
- Existing Sewer Line
- W.L.E. – Water Line Easement
- R.O.W. – Right of Way
- V.&P. – Volume & Page
- C.F.N. – County Clerk File Number

CURVE TABLE

CURVE	DELTA	RADIUS	LENGTH	CHORD	BEARING	CHORD DIST
C1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
C2	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
C3	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]



Site Plan

SCALE: non 1" = 50'

GENERAL NOTES:

1. The Contractor shall be responsible for verifying the location of all existing utilities, at least 48-hours prior to beginning construction. The Contractor shall contact the following, but not limited to:
   A. Atmos Pipe @ 806-745-1192
   B. Texas One Call @ 1-800-669-8344
   C. City of Lubbock Water & Sewer Department @ 1-806-775-2885
   D. City Tow @ 1-806-744-6377
2. All construction shall be in accordance with the Construction Drawings found herein. All testing shall be performed in accordance with the technical specifications.
3. The Contractor is responsible for all construction safety. Construction Drawings do not include necessary components for construction safety.
4. Locations of existing buried utilities, where shown, is approximated only. Other utilities may be present that are not shown on the Construction Drawings. The Contractor shall be responsible for locating and protecting all buried utilities.
5. The Contractor shall be responsible for all storm water pollution prevention procedures on his project. The Contractor shall use all means necessary to prevent the transportation of sediment from the project site. The Contractor shall comply with TCEQ - TPDES storm water requirements.
6. All concrete shall be 3,000 p.s.i. or as noted.
7. All reinforcement shall be Grade 60, unless noted otherwise.
8. Irrigation Plans shall be provided by others.
9. Landscaping Plans shall be provided by others.
10. All sidewalks and accessible ramps shall accessible routes obtained be accordance with current A.D.A. and T.A.S. requirements.
11. All curbs shall be standard 24" curb and gutter unless otherwise noted.
12. All exposed faces of curb shall have smooth finish.
13. All sidewalks are 5.00' wide.

Aligned dimension abbreviations:
ROW = right of way
F-F = face to face
F-C = face of curb

BENCHMARK info can be found on C101 Existing Topo.

ISSUED FOR BIDDING AND CONSTRUCTION

DATE: 10-11-2021
DRAWN BY: MR
REVIEWED BY: JHB
CHECKED BY: JHB
PROJECT NUMBER: 20-10-100

REVISIONS

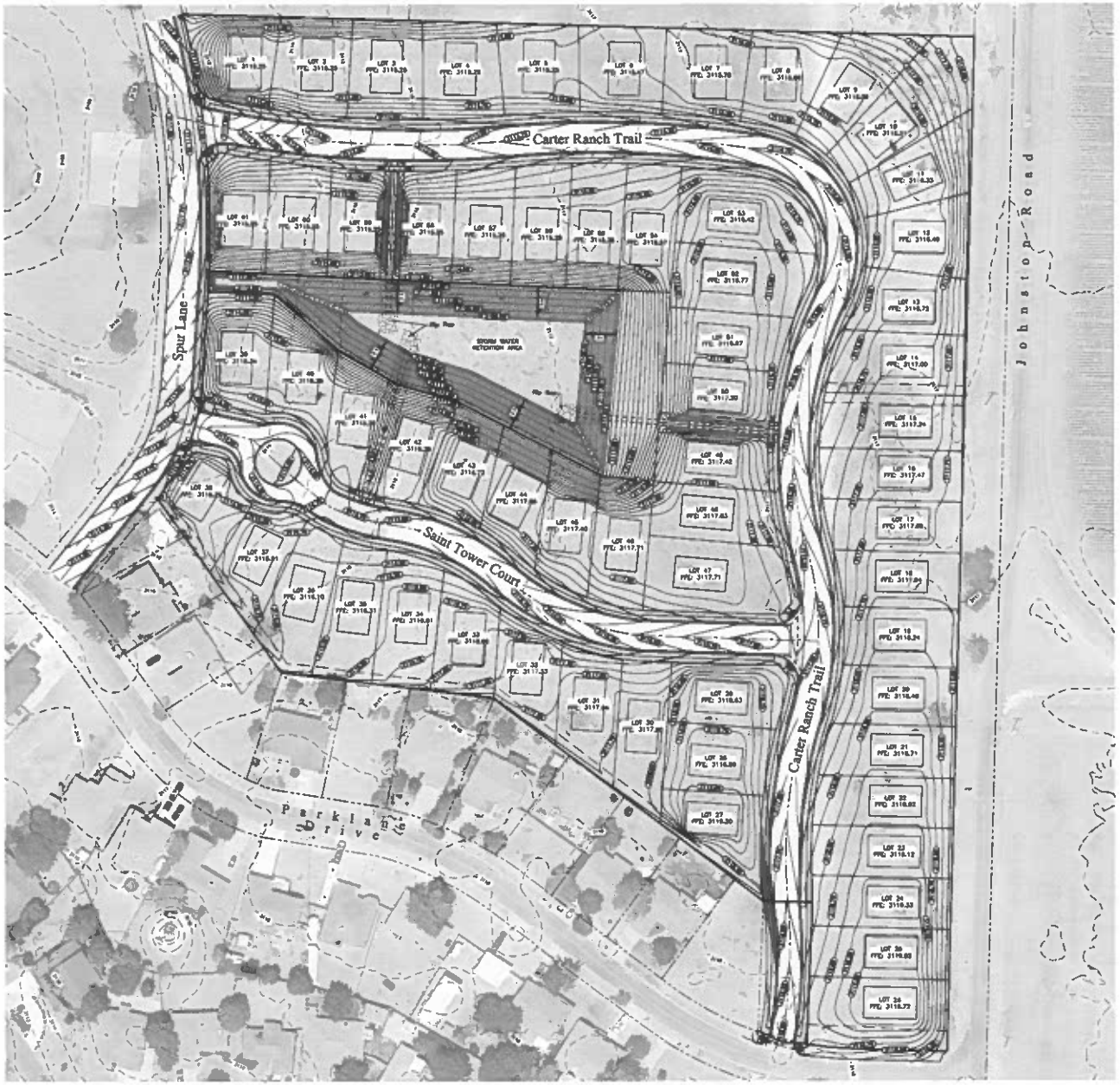
CENTERLINE ENGINEERING & CONSULTANTS, LLC.
TBPE Reg. No. F-13313
TBPLS Reg. No. 10193-370
8312 Upland Ave.
Lubbock, TX 79424 (806) 470-8888

Site Plan

Ransom Ranch Addition

Ransom Canyon, Lubbock County, Texas

SHEET NO.
C103
OF 18 SHEETS



GENERAL GRADING NOTES

1. Provide uniform slope between spot elevations and contours.
2. Spot elevations and contours shown represent the finished surface elevation. The contractor shall be responsible for tolerances or base, pavement, concrete, or other items, surfaces to be applied in order to achieve final grade.
3. The finished surface of curb and gutter and pavement shall be smooth and free of voids. 0.04 feet of the established line, grade, and cross section. Areas that pond water greater than 3 inch deep will not be acceptable for controlling surface areas.

HORIZONTAL AND VERTICAL CONTROL DATA

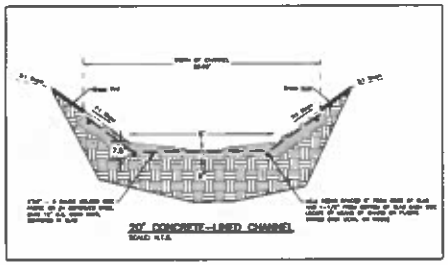
1. Refer to Control Points in drawing for horizontal and vertical data for the project.

CUT AND FILL QUANTITIES

1. The cut and fill quantities shown below are based on existing ground grades, proposed finished grades, pavement subgrade, and top soil subgrade. No adjustments have been made for compaction or shrinking. Contractor shall be responsible for calculating actual cut/fill quantities required for this project.
   a. Cut = 8,33,719 CY
   b. Fill = 46,438 CY
2. Structural fill included in cut/fill quantities. Specification and design by others.
3. Minimum density to 95% Standard Proctor at 0-3%
   above Optimum Moisture Content.
4. Density test required: 1 per 2,000 SF.
5. Embankment material shall not exceed 6 in of 15.

BENCHMARK Info published on C101 Existing Topo.

Detail A - 20' Concrete Lined Channel



Grading Plan
SCALE: Horz. 1" = 50'

THESE PLANS DO NOT INCLUDE HYDROLOGY DESIGN AND DOCUMENTATION.

ISSUED FOR BIDDING AND CONSTRUCTION

DATE: 10-11-2021
DRAWN BY: [illegible]
DESIGNED BY: [illegible]
CHECKED BY: [illegible]

REVISIONS

CENTERLINE ENGINEERING & SURVEYING, LLC.
TBPELS Reg. No. F-10313
TBPLS Reg. No. 10194379
8312 Upland Ave.
Lubbock, TX 79424 (806) 470-8086

Grading Plan

Ransom Ranch Addition

Ransom Canyon, Lubbock County, Texas

SHEET NO.
C104
OF 16 SHEETS

GENERAL PAVING NOTES:

1. Site Benchmarks are provided on Existing Topo Sheet of current plan set.
2. Refer to Final Plant for complete lot dimensional information. Refer to City of Lubbock Standards for alley returns and intersections for complete dimensional information.
3. All elevations shown in street areas are gutter or flow line.
4. Percent slopes are calculated along face of curb.
5. All curbs are 24" Type "A" curb and gutter unless otherwise noted.
6. All exposed back of curb shall have smooth finish.
7. All sidewalks are 5.00' wide unless otherwise noted.
8. All concrete pathways including sidewalks and ramps shall be ADA compliant.
9. Pavement shall be in accordance with current City of Lubbock Standard Details. See Pavement Cross Section Detail Sheet C114.
10. All concrete shall be 3,000 p.s.i. or as noted.
11. All reinforcement shall be Grade 60, unless noted otherwise.
12. All work shall be performed in accordance with current version of the City of Lubbock Minimum Design Standards and Specifications.
13. Contractor shall backfill down curb at all intersections in accordance with current City of Lubbock Standard Details Plate 26-13 and 26-17. See Detail Sheet C113.
14. All Fire Lanes shall be designated by painting the curbs. The curbs shall be painted red with four inch (4") white lettering stating "No Parking Fire Lane See Area Zone". Marking may not be spaced more than fifteen feet (15') apart.

CITY OF RANSOM CANYON CONTACT:

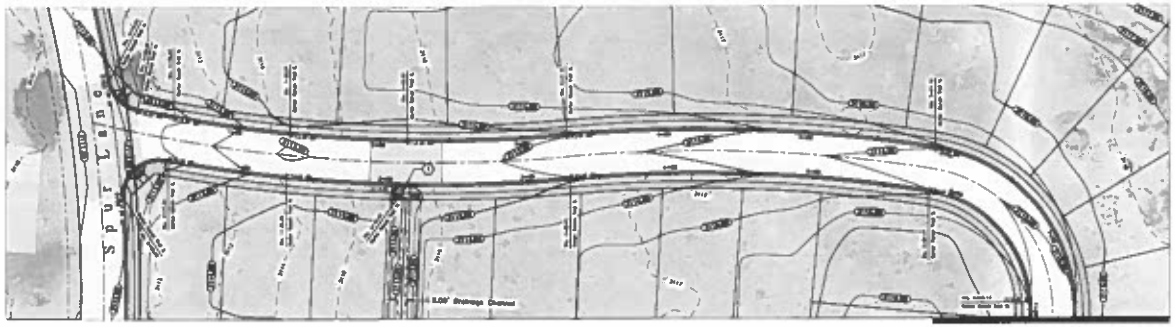
806-428-3470

LEGEND:

P	= Pipeline
SB	= Grade Break
PC	= Point of Curvature
PT	= Point of Tangency
SA	= Top of Pavement
ARPC	= Alley Return Point of Curvature
ARPT	= Alley Return Point of Tangency
PA	= Proposed Alley
PD	= Proposed Drive
ED	= Existing Drive

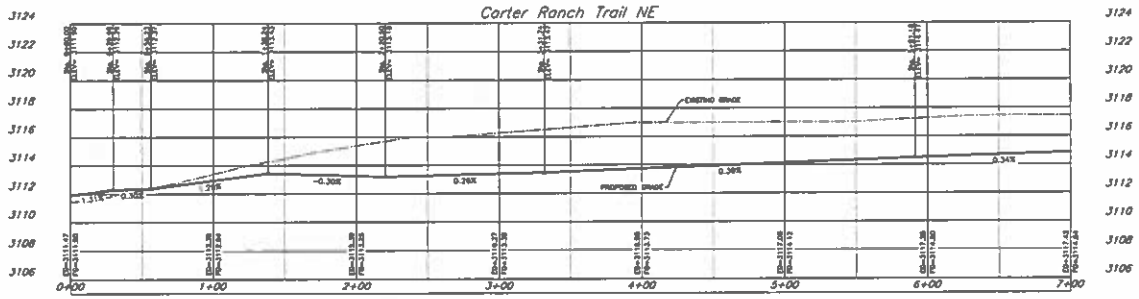
KEYED DETAIL NOTES:

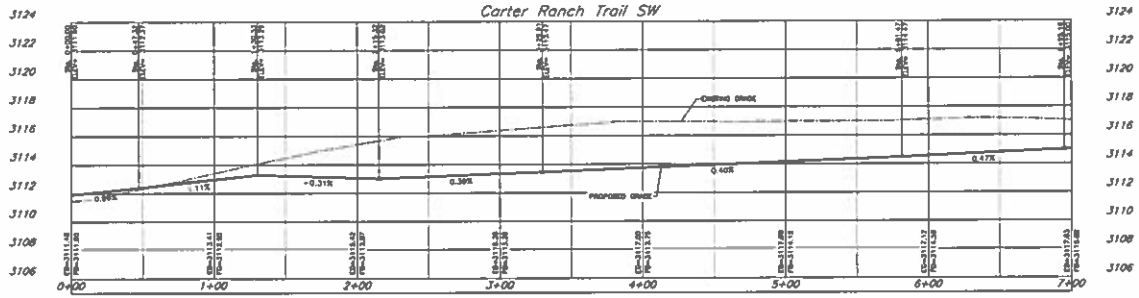
1. 3 LF of Sweepstik Curb & Gutter along Drainage Channel opening



Carter Ranch Trail Sta. 0+00 - 7+00

SCALE: Horz. 1" = 40' Vert. 1" = 5'





ISSUED FOR BIDDING AND CONSTRUCTION

DATE: 10-11-2021
DRAWN BY: MB
DESIGNED BY: JHD
CHECKED BY: JHD

REVISIONS

CENTERLINE ENGINEERING & CONSULTING, LLC.
TBPE Reg. No. F-10172
TBPLS Reg. No. 10194375
8312 Upland Ave.
Lubbock, TX 79424 (806) 478-0888

Carter Ranch Trail Sta. 0+00 - 7+00

Ransom Ranch Addition
Ransom Canyon, Lubbock County, Texas

SHEET NO.
C105
OF 10 SHEETS

GENERAL PAVING NOTES:

1. Site Geometrics are provided on Catalog Topo Sheet of current plan set.
2. Refer to Final Plat for complete lot dimensional information. Refer to City of Lubbock Standards for alley returns and information for complete dimensional information.
3. All elevations shown in street areas are gutter or flow line.
4. Percent slopes are calculated along face of curb.
5. All curbs are 24" Type "A" curb and gutter unless otherwise noted.
6. All exposed back of curb shall have smooth finish.
7. All sidewalks are 5.00' wide unless otherwise noted.
8. All concrete pathways including sidewalks and ramps shall be ADA compliant.
9. Pavement shall be in accordance with current City of Lubbock Standard Details. See Pavement Cross Section Detail Sheet C114.
10. All concrete shall be 3,000 p.s.i. or as noted.
11. All reinforcement shall be Grade 60, unless noted otherwise.
12. All work shall be performed in accordance with current version of the City of Lubbock Minimum Design Standards and Specifications.
13. Contractor shall install down curb at all intersections in accordance with current City of Lubbock Standard Details Paths 30-13 and 30-17. See Detail Sheet C113.
14. All Fire Lanes shall be designated by painting the curbs. The curbs shall be painted red with four inch (4") white letering stating "No Parking Fire Lane Tow Away Zone". Handling sign not to exceed more than fifteen feet (15') apart.

CITY OF RANSOM CANYON CONTACT:

806-689-3470

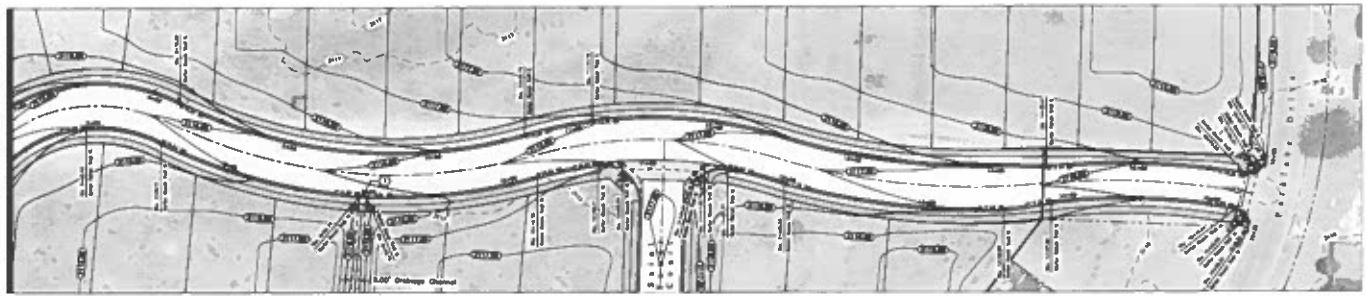
LEGEND:

- Pavilion
- Grade Break
- Point of Curvature
- Point of Tangency
- Top of Pavement
- Alley Return Point of Curvature
- Alley Return Point of Tangency
- Proposed Alley
- Proposed Drive
- Existing Drive

REVISED DRAWING NOTES:

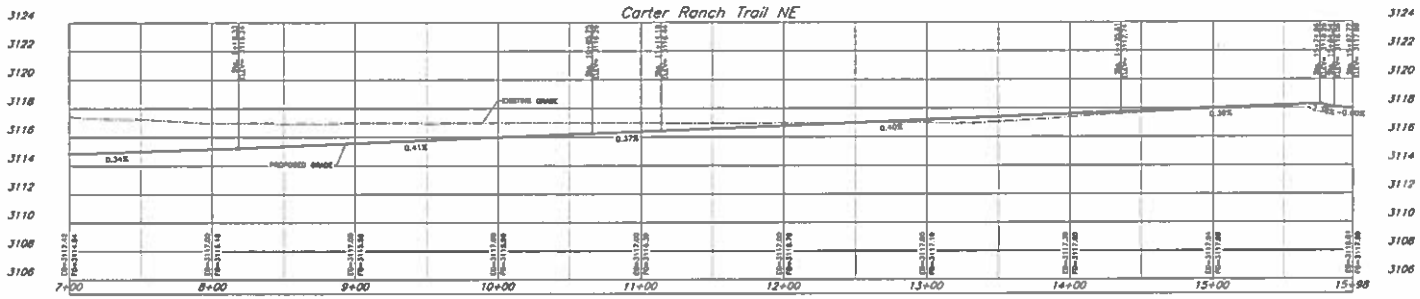
1. 5 LF of Sawtooth Curb & Gutter along Drainage Channel opening

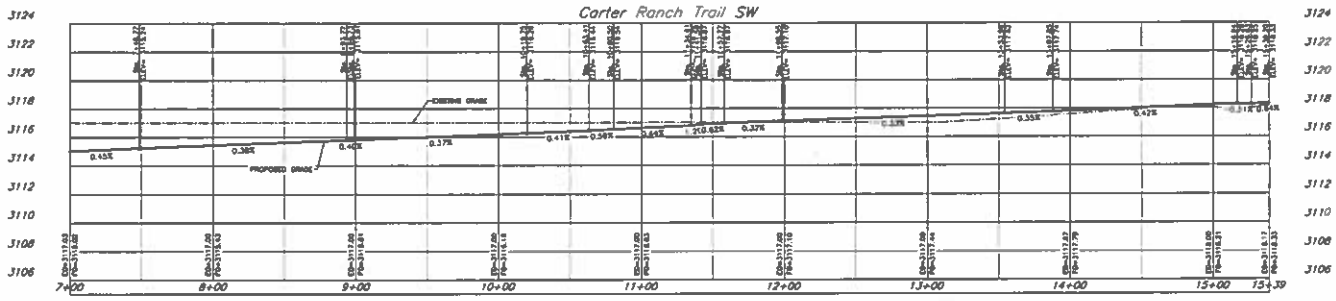
MATCH LINE STA. 7+00 (SEE SHEET C105)



Carter Ranch Trail Sta. 7+00 – 15+98

SCALE: Horz. 1" = 40' Vert. 1" = 5'





ISSUED FOR BIDDING AND CONSTRUCTION

REVISIONS

CENTERLINE ENGINEERING & CONSULTING, LLC.
TBPE Firm No. F-10173
TBPLS Firm No. 10194075
6312 Upland Ave
Lubbock, TX 79424 (806) 470-8888

Carter Ranch Trail Sta. 7+00 - 15+98

Ransom Ranch Addition
Ransom Canyon, Lubbock County, Texas

SHEET NO.
C106
OF 16 SHEETS

GENERAL PAVING NOTES:

1. Site Benchmarks are provided on Existing Topo Sheet of current plan set.
2. Refer to Final Plat for complete lot dimensional information. Refer to City of Lubbock Standards for alley returns and intersections for complete dimensional information.
3. All elevations shown in street crown are gutter or top line.
4. Percent slopes are calculated along face of curb.
5. All curbs are 24" Type "A" curb and gutter unless otherwise noted.
6. All exposed back of curb shall have smooth finish.
7. All sidewalks are 5.00' wide unless otherwise noted.
8. All concrete pathways including sidewalks and ramps shall be ADA compliant.
9. Pavement shall be in accordance with current City of Lubbock Standard Details. See Pavement Cross Section Detail Sheet C114.
10. All concrete shall be 3,600 p.s.i. or as noted.
11. All reinforcement shall be Grade 60, unless noted otherwise.
12. All work shall be performed in accordance with current version of the City of Lubbock Minimum Design Standards and Specifications.
13. Contractor shall locate down work at all intersections in accordance with current City of Lubbock Standard Details Plate 36-13 and 36-17. See Detail Sheet C113.
14. All Fire Lanes shall be designated by painting the curbs. The curbs shall be painted red with four inch (4") white letering stating "No Parking Fire Lane Tow Away Zone". Marking may not be spaced more than fifteen feet (15') apart.

CITY OF LUBBOCK CONTACT CONTACT:

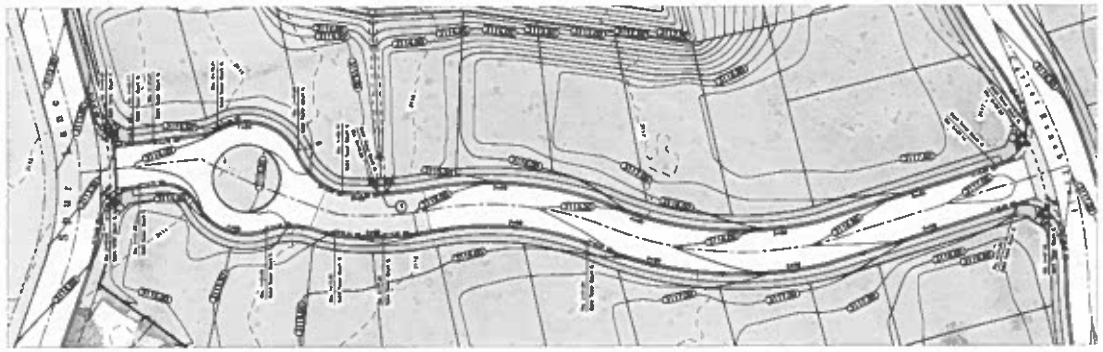
806-775-2476

LEGEND:

FL	= Flowline
GB	= Grade Break
PC	= Point of Curvature
PT	= Point of Tangency
TS	= Top of Parapet
ARPC	= Alley Return Point of Curvature
ARPT	= Alley Return Point of Tangency
PA	= Proposed Alley
PD	= Proposed Drive
ED	= Existing Drive

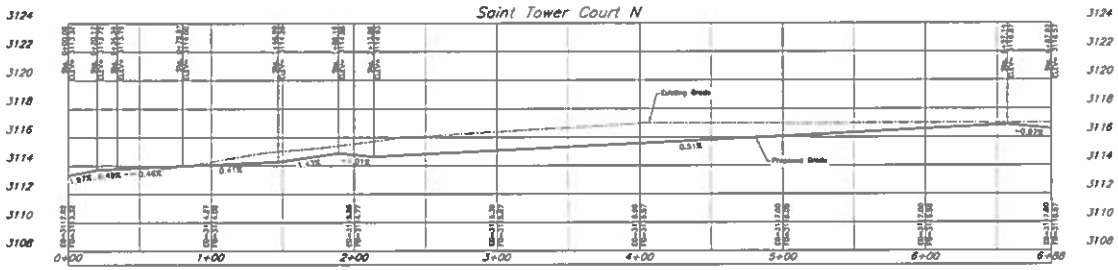
SHEET NOTES:

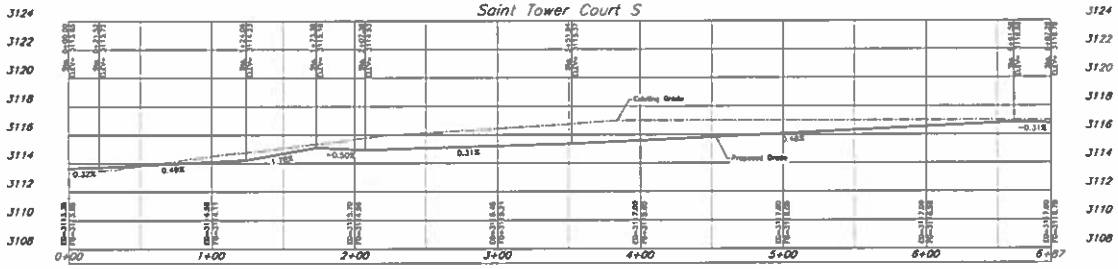
1. 5 LF of Sportsmith Curb & Gutter along Drainage Channel opening



Saint Tower Court

SCALE: Horz. 1" = 50' Vert. 1" = 2'





ISSUED FOR BIDDING AND CONSTRUCTION

DATE: 10-11-2021
DRAWN BY: JMS
REVIEWED BY: RKD
CHECKED BY: JDC
PROJECT NUMBER: 19-01-110

REVISIONS

CENTERLINE ENGINEERING & CONSULTING, LLC.
TBPELS Reg. No. F-10173
TBPLS Reg. No. 10194-270
8312 Upland Ave
Lubbock, TX 79424 (806) 679-5666

Saint Tower Court

Ransom Ranch Addition

Ransom Canyon, Lubbock County, Texas

SHEET NO.

C107

OF 16 SHEETS

GENERAL PAVING NOTES:

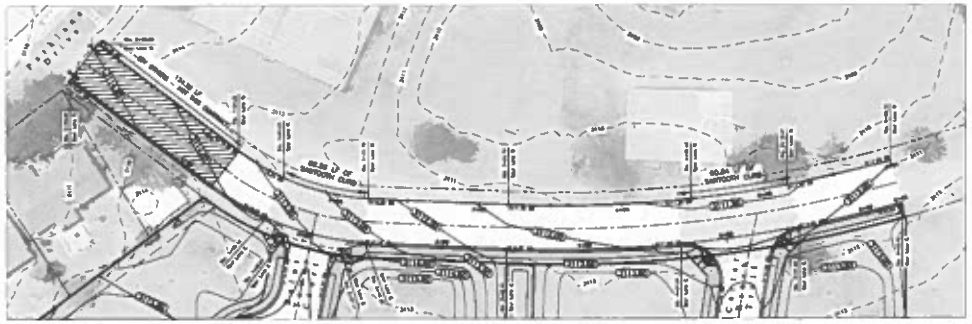
1. Site Benchmarks are provided on Existing Topo Sheet of current plan set.
2. Refer to Plan Plant for complete all dimensional information. Refer to City of Lubbock Standards for alley returns and intersections for complete dimensional information.
3. All dimensions shown in street areas are gutter or flow line.
4. Percent slopes are calculated along face of curb.
5. All curbs are 24" Type "A" curb and gutter unless otherwise noted.
6. All exposed face of curb shall have smooth finish.
7. All sidewalks are 5.00' wide unless otherwise noted.
8. All concrete pathways including sidewalks and ramps shall be ADA compliant.
9. Pavement shall be in accordance with current City of Lubbock Standard Details. See Pavement Cross Section Detail Sheet C114.
10. All concrete shall be 3,600 p.s.i. or as noted.
11. All reinforcement shall be Grade 60, unless noted otherwise.
12. All work shall be performed in accordance with current version of the City of Lubbock Minimum Design Standards and Specifications.
13. Contractor shall install drive curb at all intersections in accordance with current City of Lubbock Standard Details Plates 36-13 and 36-17. See Detail Sheet C113.
14. All Fire Lanes shall be designated by painting the curbs. The curbs shall be painted red with four inch (4") white letering stating "No Parking Fire Lane Tow Away Zone". Marking may not be spaced more than fifteen feet (15') apart.

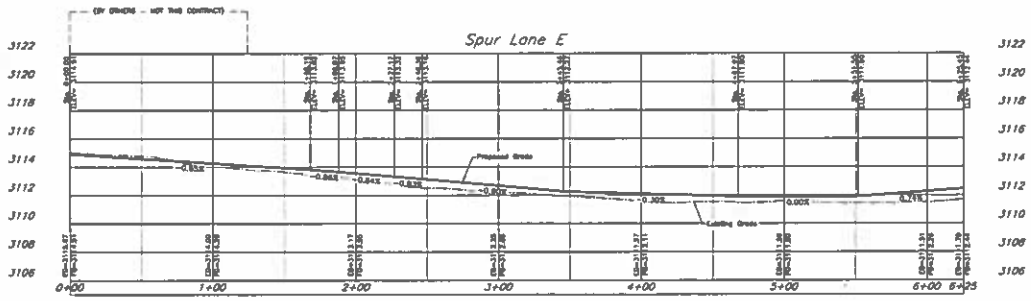
CITY OF LUBBOCK CONTACT:

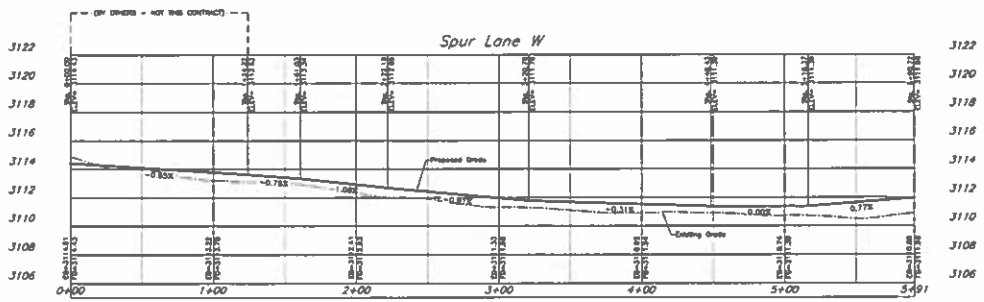
@ 806-830-3470

LEGEND:

FL	=	Flowline
GB	=	Grade Break
PC	=	Point of Curvature
PT	=	Point of Tangency
Dr.	=	Top of Pavement
ARPC	=	Alley Return Point of Curvature
ARPT	=	Alley Return Point of Tangency
PA	=	Proposed Alley
PD	=	Proposed Drive
ED	=	Existing Drive







THESE PLANS DO NOT INCLUDE NECESSARY SIGNATURES FOR SIGNATURES BELOW.

NOTE: LOCATION OF EXISTING UTILITIES, WHICH CONFLICT, IS APPROXIMATE ONLY. THERE MAY BE OTHER UTILITIES WHICH ARE NOT SHOWN. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING ALL UTILITIES PRIOR TO CONSTRUCTION.

STATE OF TEXAS
Jason K. Cheatham
76526
REGISTERED PROFESSIONAL ENGINEER

ISSUED FOR BIDDING AND CONSTRUCTION

DATE: 10-21-2021
DRAWN BY: MR
DESIGNED BY: MR
CHECKED BY: JC
PROJ# 20200: 20-0-109

REVISIONS

CENTERLINE ENGINEERING & CONSULTING, LLC.
TBPE Reg. No. F-13712
TBPLS Reg. No. 10194375
6312 Upland Ave.
Lubbock, TX 79424 (806) 470-0088

Spur Lane

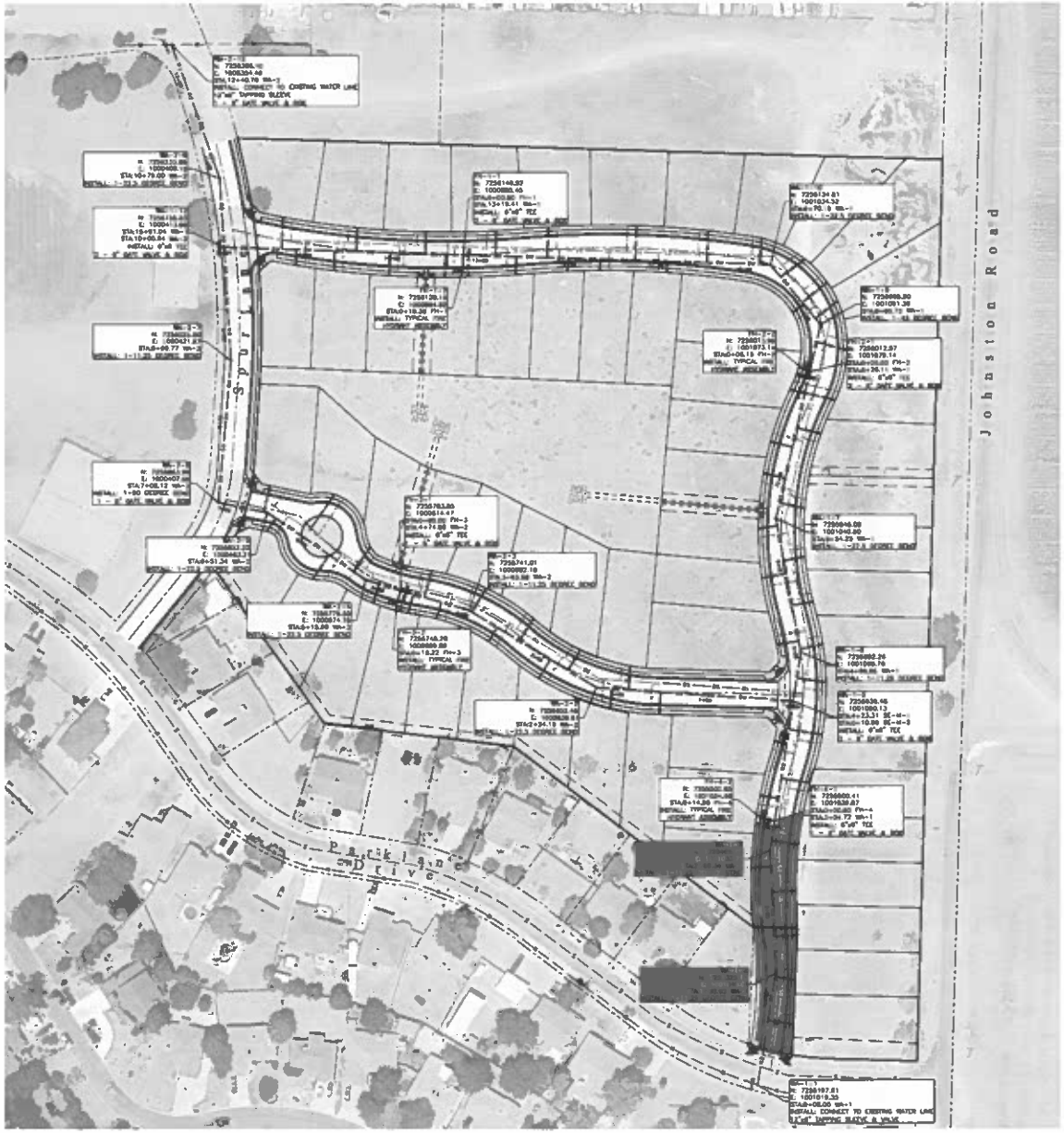
Ransom Ranch Addition

Ransom Canyon, Lubbock County, Texas

SHEET NO.

C108

OF 16 SHEETS



GENERAL UTILITY NOTES

1. It shall be the responsibility of the Contractor to verify the exact location of all existing underground utilities. Furthermore, the Contractor shall contact all utility company representatives a minimum of 48 hours in advance of any excavation.

   Contact City Tess @ 1-800-344-8377

2. Sewer Service Line shall be installed as per the current City of Ransom Canyon Standards.
3. Water Service Line shall be installed as per the current City of Ransom Canyon Standards.
4. All work shall be performed in accordance with the City of Ransom Canyon Public Works Engineering minimum design standards, applicable codes, and project specifications. The more prohibitive standard shall apply in the event of a conflict.

APPLICABLE CODES

City of Ransom Canyon Ordinance
International Building Code
National Electric Code
International Plumbing Code
International Mechanical Code

6. Existing Line locations are shown for the convenience of the contractor in accordance with the best information available, but is not guaranteed to be correct or complete.
7. Contractor is responsible for verifying the exact size, type, and location of utilities and protecting/repairing the same at no additional cost to the owner.
8. Coordinate with architectural, structural, mechanical, plumbing, and electrical plans and verify the location of all project requirements.
9. Trench Safety shall be established in accordance with O.S.H.A. Standard 29 CFR Part 1926 Subpart P.

WATER NOTES

1. Water Lines to be 6" PVC AWWA C900 CL200.

BACKFILLING AND BACKFILLING

1. The backfilling of all trenches within structural areas shall be accomplished with earthen stabilized sand placed to within 6" of street subgrade. The backfilling of all trenches outside of structural areas shall be placed so as to achieve 95% Standard Proctor Density. All backfilling shall be between optimum and 4 percent (4%) above optimum moisture content.
2. It is the responsibility of the contractor to comply with all State and Federal Regulations regarding construction activities near energized overhead power lines.
3. Trenches may be left open overnight if properly secured or barricaded to prevent pedestrian and vehicular access.

CITY OF RANSOM CANYON CONTACT INFORMATION

@ 806-698-2470

BENCHMARKS data provided on C101 Existing Topo.

Municipal Water Plan

SCALE: max. 1" = 50'

STATE OF TEXAS
R. C. Gilbert
REGISTERED
PROFESSIONAL ENGINEER
No. 87

ISSUED FOR BIDDING AND CONSTRUCTION

DATE: 10-31-2021
DRAWN BY: MAS
REVIEWED BY: JHB
CHECKED BY: PTC
PROJECT NUMBER: 20-05-140

REVISIONS

CENTERLINE ENGINEERING & CONSULTING, LLC.
TBPLE Reg. No. 19194379
6317 Upland Ave
Lubbock, TX 79424 (806) 679-8866

Municipal Water Plan

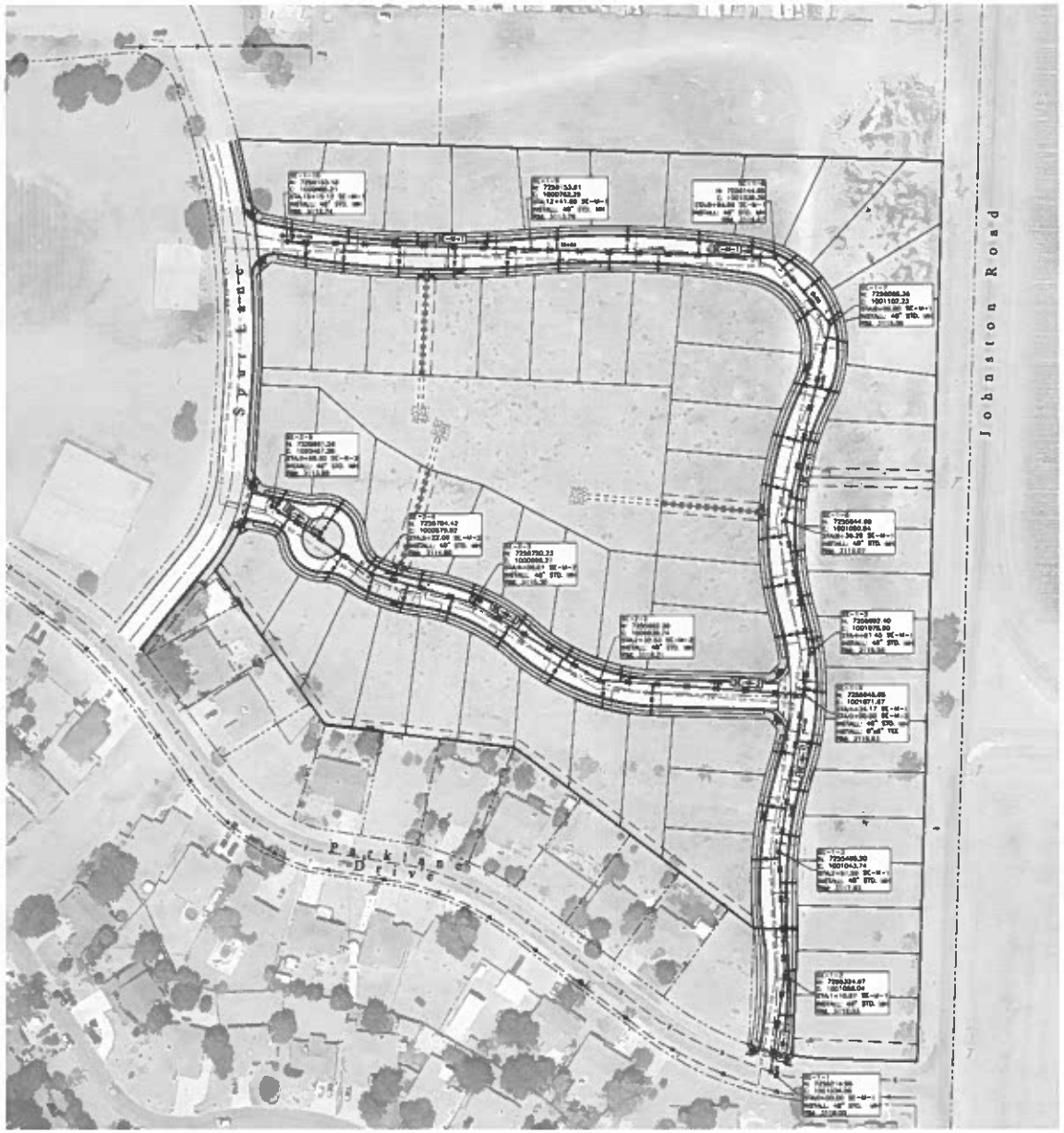
Ransom Ranch Addition

Ransom Canyon, Lubbock County, Texas

SHEET NO.

C109

OF 16 SHEETS



GENERAL UTILITY NOTES

1. It shall be the responsibility of the Contractor to verify the exact location of all existing underground utilities. Furthermore, the Contractor shall contact all utility company representatives a minimum of 48 hours in advance of any excavation.

   Contact City Texas @ 1-806-344-6377

2. Sewer Service Line shall be installed as per the current City of Ransom Canyon Standards.
3. Water Service Line shall be installed as per the current City of Ransom Canyon Standards.
4. All work shall be performed in accordance with the City of Ransom Canyon Public Works Engineering minimum design standards, applicable codes, and project specifications. The more protective standard shall apply in the event of a conflict.

   APPLICABLE CODES
   City of Ransom Canyon Ordinance
   International Building Code
   National Electric Code
   International Plumbing Code
   International Mechanical Code

5. Existing Line locations are shown for the convenience of the contractor to coordinate with the best information available, but is not guaranteed to be correct or complete.
6. Contractor is responsible for verifying the exact size, type, and location of utilities and protecting/repairing the same at no additional cost to the owner.
7. Coordinate with architectural, structural, mechanical, plumbing, and electrical plans and verify the location of all project requirements.
8. Trench Safety shall be conducted in accordance with O.S.H.A. Standard 29 CFR Part 1926 Subpart P.

SEWER NOTES

1. Sewer Line to be 8" of PVC ASTM D2241 SDR26.
2. Minimum cover for 8" Sewer Services is 6.33ft.

TRENCHING AND BACKFILLING

1. The backfilling of all trenches within structural areas shall be accomplished with approved structural sand placed to within 6" of street subgrade. The backfilling of all trenches outside of structural areas shall be placed so as to conform SUE Standard Practice Details. All backfilling shall be between optimum and 4 percent (4%) above optimum moisture content.
2. It is the responsibility of the contractor to comply with all State and Federal Regulations regarding construction activities near energized overhead power lines.
3. Trenches may be left open overnight if properly covered or barricaded to prevent pedestrian and vehicular access.

City of Ransom Canyon CONTACT INFORMATION:

@ 806-829-3470

ADDITIONAL info provided on C101 Existing Info.

Municipal Sewer Plan

SCALE: Hor. 1" = 60'

0 30 60 120

ISSUED FOR BIDDING AND CONSTRUCTION

DATE	10-21-2021
DRAWN BY	BR
DESIGNED BY	JHS
REVIEWED BY	JC
PROJECT NUMBER	20-0-110

REVISIONS

CENTERLINE ENGINEERING & CONSULTING, LLC.
TBPE Reg. No. F-16173
TBPLS Reg. No. 10193979
6512 Upland Ave
Lubbock, TX 79424 (806) 470-8888

Municipal Sewer Plan

Ransom Ranch Addition

Ransom Canyon, Lubbock County, Texas

SHEET NO.

C110

OF 16 SHEETS

GENERAL UTILITY NOTES

1. It shall be the responsibility of the Contractor to verify the exact location of all existing underground utilities. Furthermore, the Contractor shall contact all utility company representatives a minimum of 48 hours in advance of any excavation.

   Cannon Dig Less @ 1-800-344-8377

2. Sewer Service Line shall be installed as per the current City of Ransom Canyon Standards.
3. Water Service Line shall be installed as per the current City of Ransom Canyon Standards.
4. All work shall be performed in accordance with the City of Ransom Canyon Public Works Engineering minimum design standards, applicable codes, and project specifications. The more prohibitive standard shall apply in the event of a conflict.

   APPLICABLE CODES
   City of Ransom Canyon Ordinance
   International Building Code
   National Electric Code
   International Plumbing Code
   International Mechanical Code

5. Existing Line locations are shown for the convenience of the contractor to coordinate with the best information available, but is not guaranteed to be correct or complete.
6. Contractor is responsible for verifying the exact size, type, and location of utilities and protecting/repairing the same at no additional cost to the owner.
7. Coordinate with mechanical, structural, construction, plumbing, and electrical plans and verify the location of all project requirements.
8. Trench Safety shall be conducted in accordance with O.S.H.A. Standard 29 CFR Part 1926 Subpart P.

SEWER NOTES

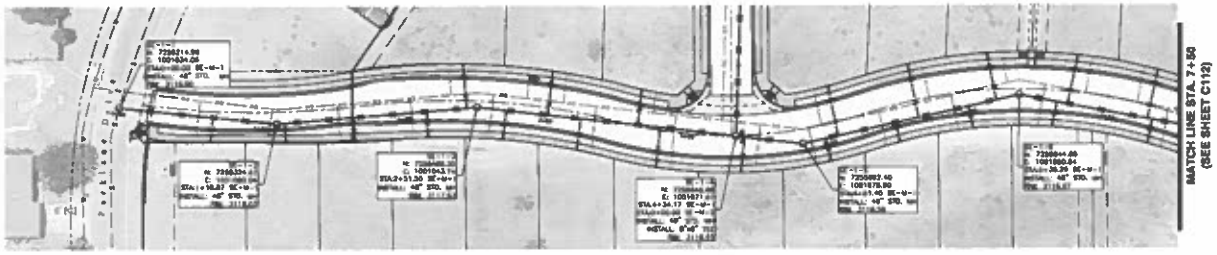
1. Sewer Lines to be 8" of PVC ASTM D2241 SERIES.
2. Minimum slope for 8" Sewer Services is 0.33%.

TRENCHING AND BACKFILLING

1. The backfilling of all trenches within structural areas shall be accomplished with cement stabilized sand placed to within 6" of street subgrade. The backfilling of all trenches outside of structural areas shall be placed so as to achieve 95% Standard Proctor Density. All backfilling shall be between optimum and 4 percent (4%) above optimum moisture content.
2. It is the responsibility of the contractor to comply with all State and Federal Regulations regarding construction activities near energized overhead power lines.
3. Trenches may be left open overnight if properly covered or barricaded to prevent pedestrian and vehicular access.

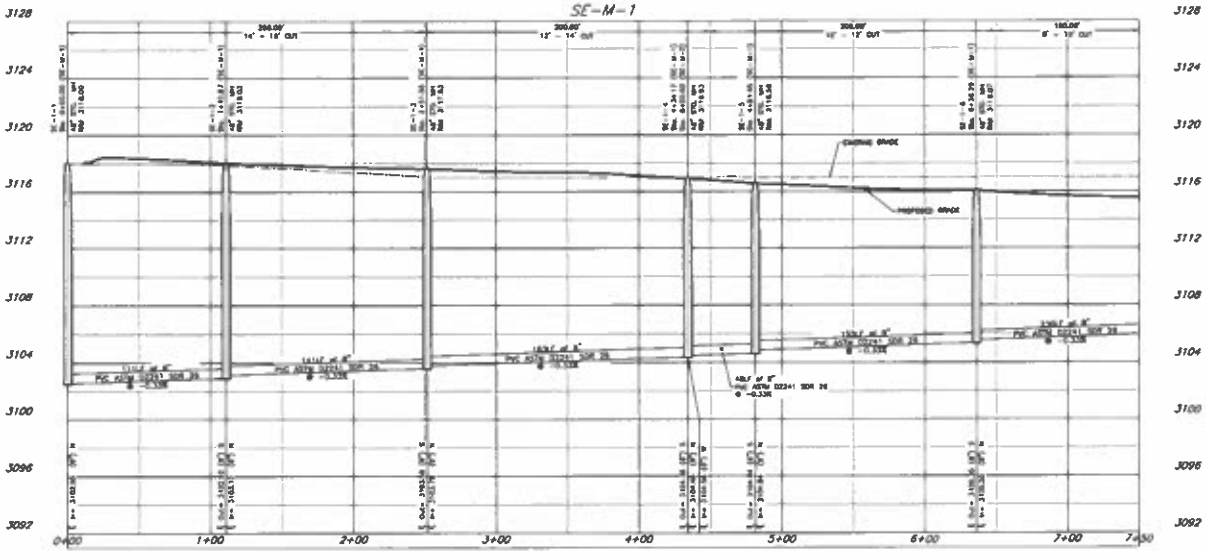
CITY OF RANSOM CANYON CONTACT INFORMATION

806-698-3476



SE-M-1 Sta. 0+00 – 7+50 Plan and Profile

SCALE: Hor. 1" = 40'
Vert. 1" = 5'



STATE OF TEXAS
Jeremy K. Greenhaw
109628
REGISTERED PROFESSIONAL ENGINEER

ISSUED FOR BIDDING AND CONSTRUCTION

DATE:	10-21-2021
DRAWN BY:	MR
REVIEWED BY:	JKG
CHECKED BY:	JKG
PROJECT NUMBER:	20-20-1108

REVISIONS

CENTERLINE ENGINEERING & CONSULTING, PLLC.
TBPE Reg. No. F-10112
TBPLS Reg. No. 10194375
8310 Slaton Ave.
Lubbock, TX 79424 (806) 470-0886

SE-M-1 Sta. 0+00 - 7+00 P&P

Ransom Ranch Addition
Ransom Canyon, Lubbock County, Texas

SHEET NO.
C111
OF 16 SHEETS

GENERAL UTILITY NOTES

1. It shall be the responsibility of the Contractor to verify the exact location of all existing underground utilities. Furthermore, the Contractor shall contact all utility company representatives a minimum of 48 hours in advance of any construction.

   Contact City Tess @ 1-806-344-6377

2. Sewer Service Line shall be installed as per the current City of Ransom Canyon Standards.
3. Water Service Line shall be installed as per the current City of Ransom Canyon Standards.
4. All work shall be performed in accordance with the City of Ransom Canyon Public Works Engineering minimum design standards, applicable codes, and project specifications. The more restrictive standard shall apply in the event of a conflict.

   APPLICABLE CODES
   City of Ransom Canyon Ordinance
   International Building Code
   National Electric Code
   International Plumbing Code
   International Mechanical Code

5. Existing Line locations are shown for the convenience of the contractor in accordance with the best information available, but is not guaranteed to be correct or complete.
6. Contractor is responsible for verifying the exact size, type, and location of utilities and probeding/repairing the same at no additional cost to the owner.
7. Coordinate with architectural, structural, mechanical, plumbing, and electrical plans and verify the location of all project requirements.
8. Trench Safety shall be conducted in accordance with O.S.H.A. Standard 29 CFR Part 1926 Subpart P.

SEWER NOTES

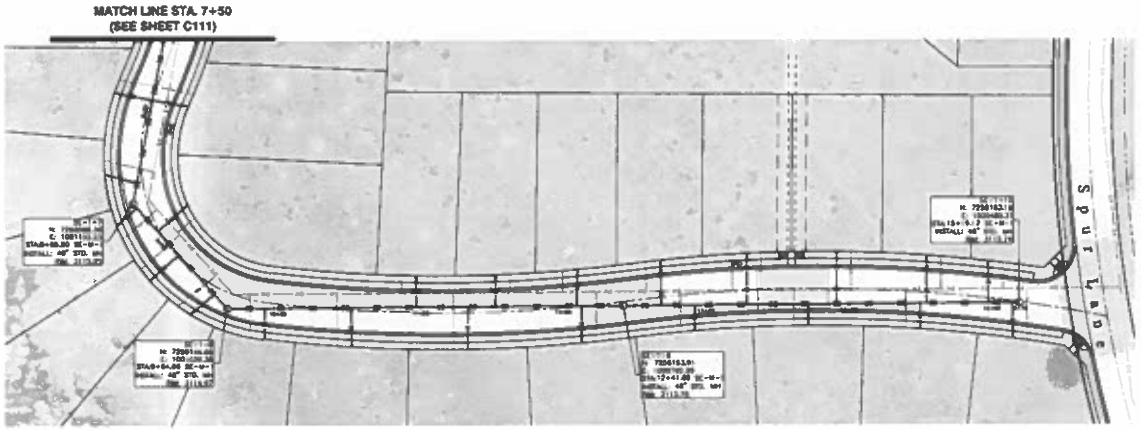
1. Sewer Lines to be 8" of PVC ASTM D3241 SDR35.
2. Minimum slope for 8" Sewer Services is 0.33%.

TRENCHING AND BACKFILLING

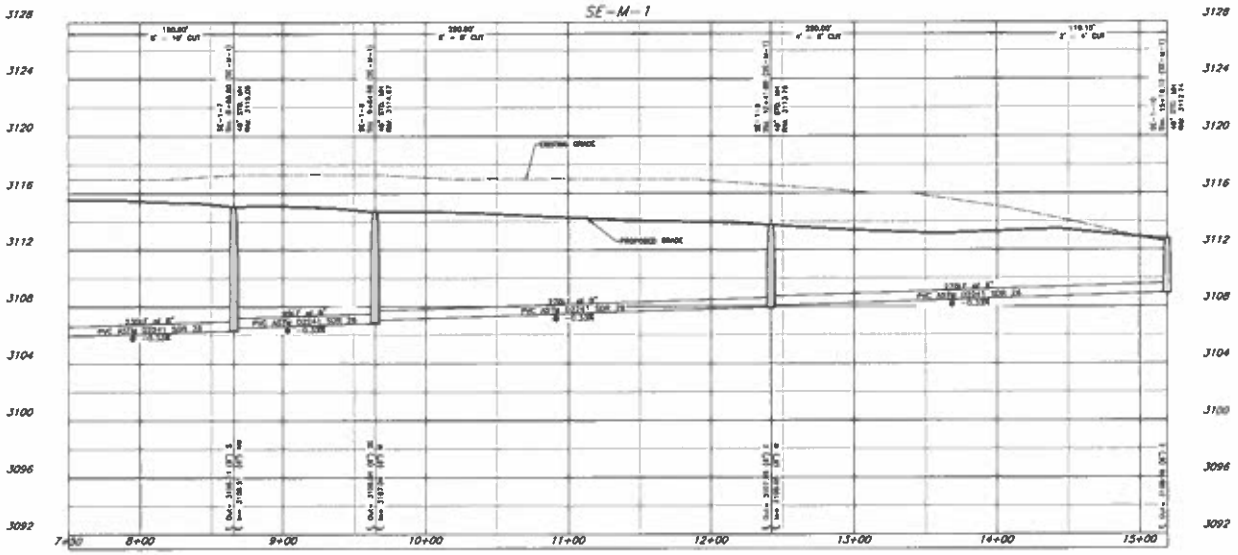
1. The backfilling of all trenches within structural areas shall be accomplished with cement stabilized sand placed to within 6" of street subgrade. The backfilling of all trenches outside of structural areas shall be placed so as to achieve 95% Standard Proctor Density. All backfilling shall be between optimum and 4 percent (4%) above optimum moisture content.
2. It is the responsibility of the contractor to comply with all State and Federal Regulations regarding construction activities near energized overhead power lines.
3. Trenches may be left open overnight if properly covered or barricaded to prevent pedestrian and vehicular access.

CITY OF RANSOM CANYON CONTACT INFORMATION

@ 806-828-3470



SE-M-1 Sta. 7+50 – 15+25 Plan and Profile



ISSUED FOR BIDDING AND CONSTRUCTION

REVISIONS

CENTERLINE ENGINEERING & CONSULTING, LLC.

SE-M-1 Sta. 7+00 - 15+23 P&P

Ransom Ranch Addition

Ransom Canyon, Lubbock County, Texas

SHEET NO.

C112

OF 16 SHEETS

GENERAL UTILITY NOTES

1. It shall be the responsibility of the Contractor to verify the exact location of all existing underground utilities. Furthermore, the Contractor shall contact all utility company representatives a minimum of 48 hours in advance of any construction.

   Contact City Tess @ 1-800-344-8377

2. Sewer Service Line shall be installed as per the current City of Ransom Canyon Standards.
3. Water Service Line shall be installed as per the current City of Ransom Canyon Standards.
4. All work shall be performed in accordance with the City of Ransom Canyon Public Works Engineering minimum design standards, applicable codes, and project specifications. The more prohibitive standard shall apply in the event of a conflict.

   APPLICABLE CODES
   City of Ransom Canyon Ordinance
   International Building Code
   National Electric Code
   International Plumbing Code
   International Mechanical Code

5. Existing line locations are shown for the convenience of the contractor in accordance with the best information available, but is not guaranteed to be correct or complete.
6. Contractor is responsible for verifying the exact size, type, and location of utilities and protecting/repairing the same at no additional cost to the owner.
7. Coordinate with architectural, structural, mechanical, plumbing, and electrical plans and verify the location of all project requirements.
8. French Drains shall be constructed in accordance with D.B.H.A. Standard 20 DTX Part 1926 Subpart P.

SEWER NOTES

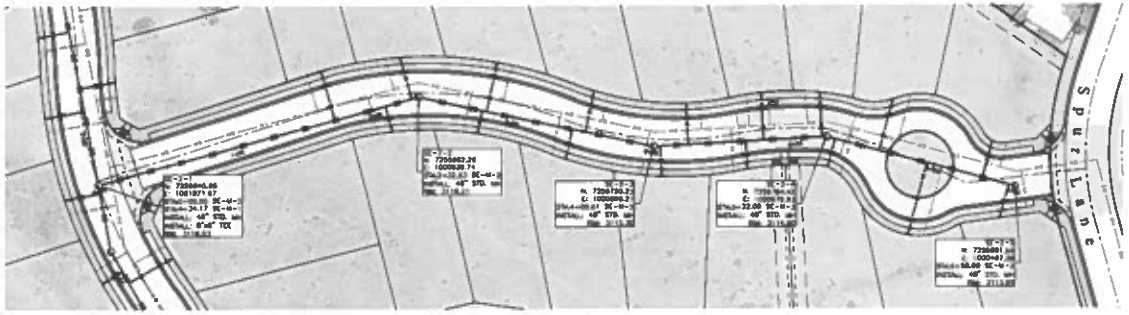
1. Sewer Lines to be 8" of PVC ASTM D2241 SDR26.
2. Minimum slope for 8" Sewer Services is 0.33%.

TRENCHING AND BACKFILLING

1. The backfilling of all trenches within structural areas shall be accomplished with optimal moisture content placed in within 6" of street subgrade. The backfilling of all trenches outside of structural areas shall be placed as per the current TCEQ Standard Regular Details. All backfilling shall be between optimum and 4 percent (4%) above optimum moisture content.
2. It is the responsibility of the contractor to comply with all State and Federal Regulations regarding construction activities near energized overhead power lines.
3. Trenches may be left open overnight if properly covered or barricaded to prevent pedestrian and vehicular danger.

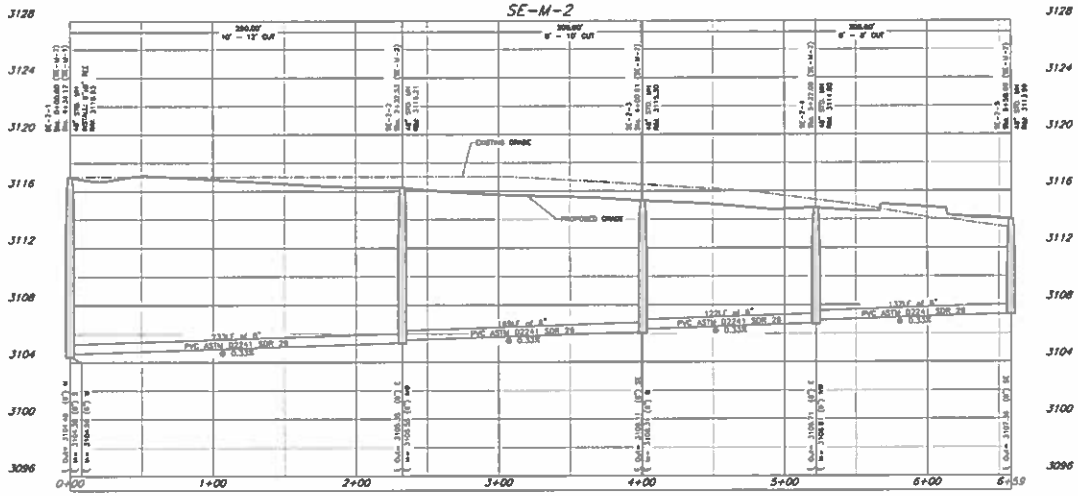
CITY OF RANSOM CANYON CONTACT INFORMATION:

806-885-2476



SE-M-2 Sta. 0+00 – 6+63 Plan and Profile

SCALE: Hor: 1" = 40'
Vert: 1" = 5'



ISSUED FOR BIDDING AND CONSTRUCTION

REVISIONS

CENTERLINE ENGINEERING & CONSULTING, L.L.C.
TBPE Reg. No. F-13313
TBPLS Reg. No. 10194379
8312 Lubbock Ave.
Lubbock, TX 79424 (806) 478-8888

SE-M-2 P&P

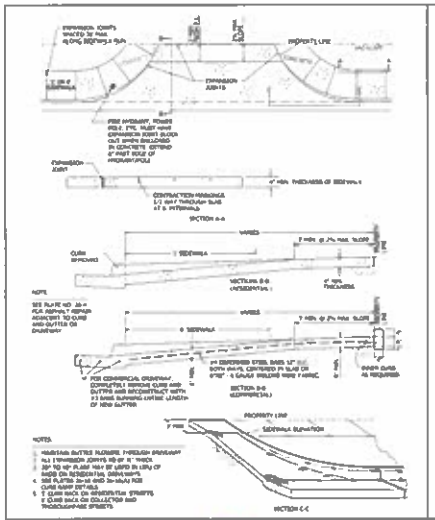
Ransom Ranch Addition

Ransom Canyon, Lubbock County, Texas

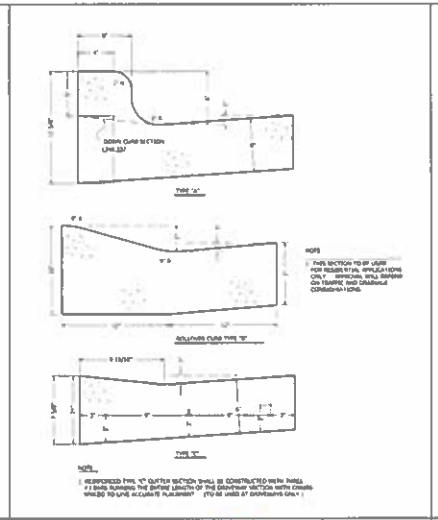
SHEET NO.

C113

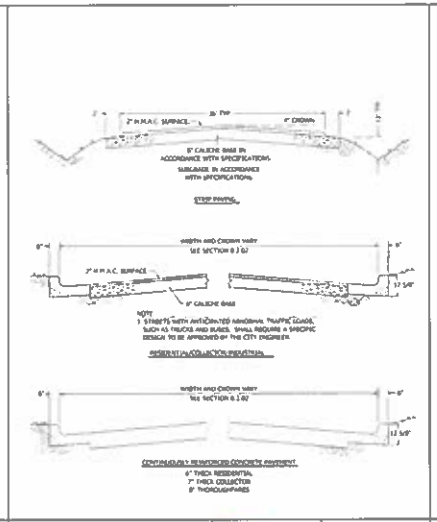
OF 16 SHEETS



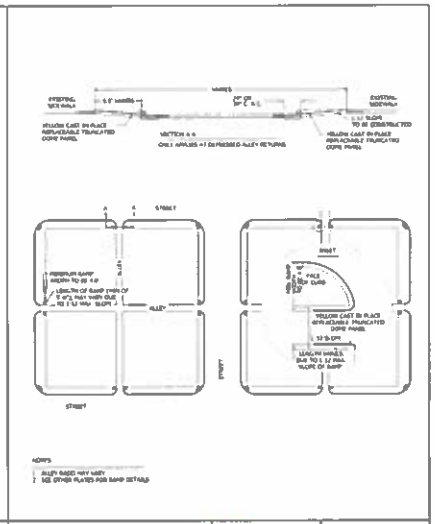
5' OR 6' SIDEWALK CONSTRUCTION DETAILS	City of Lubbock	FEB. 2017 / 36-2 (B)



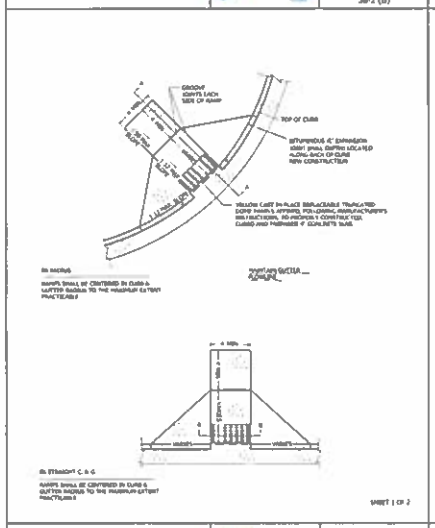
TYPICAL 24" CURB AND GUTTER SECTIONS	City of Lubbock	MAY 2014 / 36-9



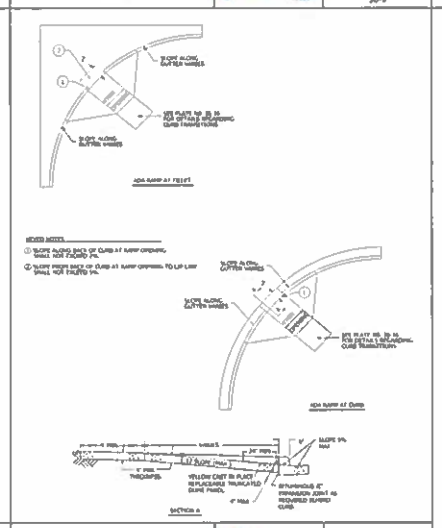
TYPICAL STREET CROSS-SECTIONS	City of Lubbock	FEB. 2017 / 36-12



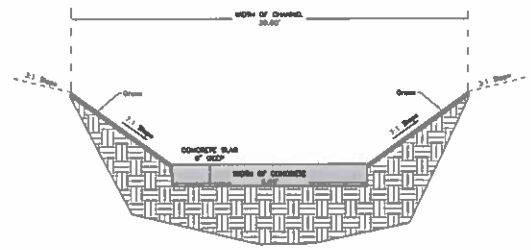
TYPICAL LOCATIONS FOR CURB RAMP	City of Lubbock	FEB. 2017 / 36-13



TYPICAL ADA RAMP PLAN	City of Lubbock	FEB. 2017 / 36-16(A)



TYPICAL ADA RAMP DETAIL	City of Lubbock	FEB. 2017 / 36-17



1 20' CONCRETE-LINED CHANNEL
SCALE: N.T.S.

ISSUED FOR BIDDING AND CONSTRUCTION

REVISIONS

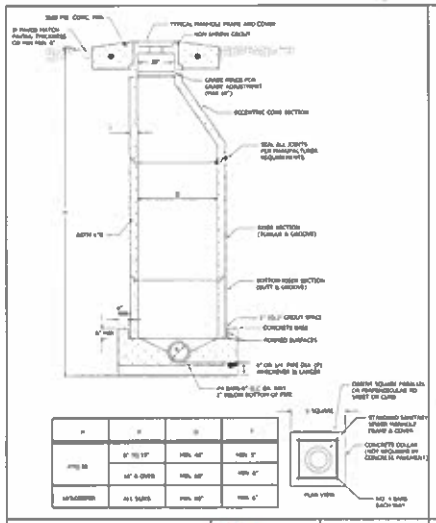
CENTERLINE ENGINEERING & SURVEYING, L.L.C.
TBPELS Reg. No. F-10013
TBPLS Reg. No. 10194378
6312 Slaton Ave.
Lubbock, TX 79424 (806) 478-8888

Standard Construction Details

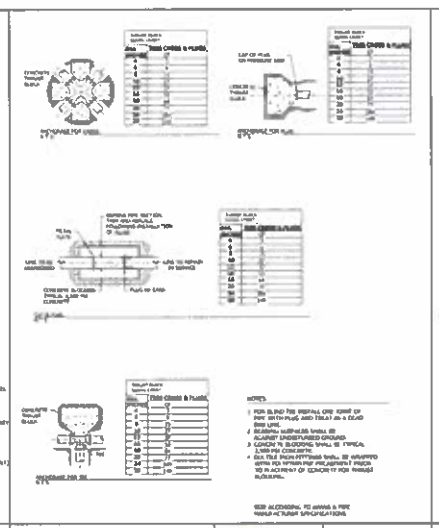
Ransom Ranch Addition

Ransom Canyon, Lubbock County, Texas

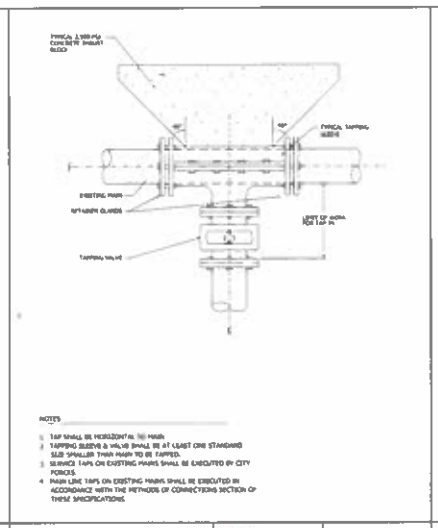
SHEET NO.
C114
OF 10 SHEETS



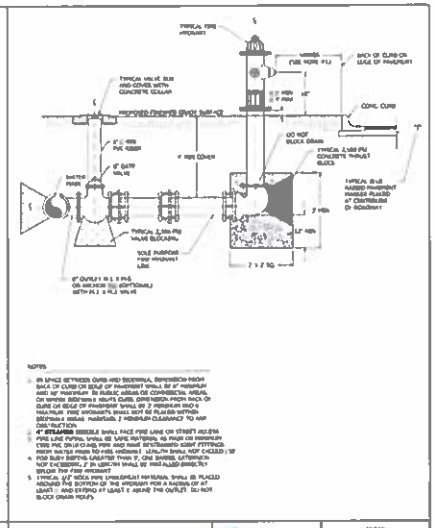
PRECAST REINFORCED CONCRETE MANHOLE	City of Lubbock	DEC. 2015	SS-5



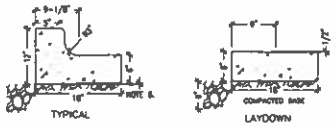
CONCRETE THRUST BLOCKING	City of Lubbock	DEC. 2012	W-2

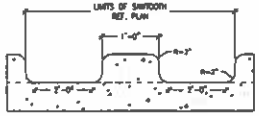


TYPICAL TAPPING SLEEVE AND VALVE	City of Lubbock	DEC. 2012	W-5



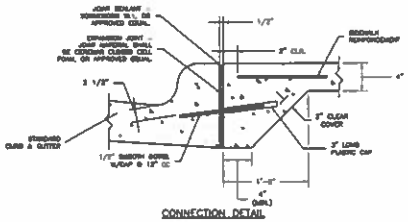
TYPICAL FIRE HYDRANT	City of Lubbock	MAY 2015	W-7

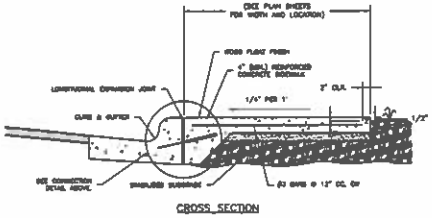




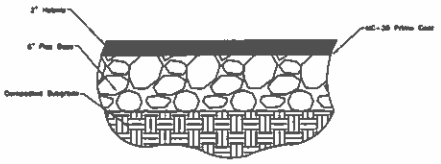
1. CONCRETE SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 3000 psi, A SLUMP BETWEEN 4 TO 6 INCHES, AND AN AIR CONTENT BETWEEN 3% AND 6%.
2. EXPANSION JOINTS ARE REQUIRED AT THE BEGINNING AND END OF CURVES, (RADIUS LESS THAN 100') AND ON A SPACING NOT TO EXCEED 30'. PRE-FORMED EXPANSION JOINT MATERIAL SHALL BE USED.
3. GUARDY JOINTS ARE REQUIRED ON 10' CENTERS AND SHALL BE CUT TO A 1" MINIMUM DEPTH.
4. INSTALL TWO #4 REBARS ON 12" CENTERS IN ALL LAYDOWN AND RIBBON CURBS.
5. TWO #4 DOWELS 24" LONG TO BE PLACED AT EACH EXPANSION JOINT.

1 CURB AND GUTTER SECTIONS
SCALE: N.T.S.





2 CONCRETE SIDEWALK
SCALE: N.T.S.



HMAC	2" TY D HOT MIX
CALICHE BASE	6" FLEX BASE COMPACTED TO 95% MODIFIED (ASTM D1557) AT 0 TO 2% ABOVE OPTIMUM MOISTURE TRIAXIAL STRENGTH 150 PSI MINIMUM
SUBGRADE	6" SUBGRADE TO BE SCARIFIED AND COMPACTED TO 95% MODIFIED (ASTM D1557) @ 0 TO 2% ABOVE OPT. MOISTURE

3 STANDARD ASPHALT PAVEMENT CROSS SECTIONS
SCALE: N.T.S.

ISSUED FOR BIDDING AND CONSTRUCTION

REVISIONS

CENTERLINE ENGINEERING & CONSULTING, L.L.C.
TBPE Reg. No. F-10172
TBPLS Reg. No. 10194379
8312 Upland Ave
Lubbock, TX 79424 (806) 470-8866

Standard Construction Details
Ransom Ranch Addition
Ransom Canyon, Lubbock County, Texas

SHEET NO.
C115
OF 18 SHEETS

DRAINAGE REPORT

FOR

RANSOM RANCH SUBDIVISION
RANSOM CANYON, TEXAS

October 2021

PREPARED FOR:

BEAST PC, LLC

CE & C No. 20-08-1182

CENTERLINE
ENGINEERING &
CONSULTING, LLC

DRAINAGE REPORT

SUMMARY

The development of Ransom Ranch Subdivision, Tract A and Lots 1-61 will include the development of 14.820 acres located near the intersection of Spur Lane and Parklane Drive. The existing site is undeveloped poor grassland and is adjacent to Lake Ransom Addition, Block 15. All the site extents lie within Zone X and will require no fill to comply with building requirements. The site is relatively flat with slopes of up to 3% or less and no stream channels. Existing conditions are such that water drains naturally to the west of the property. The developments are such that proposed flow conditions will slightly increase the existing conditions.

10-21-21

Design Engineer Date

GENERAL LOCATION AND DESCRIPTION

Development Size:	13.989 acres, 14.820 Acres including Spur Lane
Location:	Northeast corner of Spur Lane and Parklane Drive.
Description of Existing Site:	100% natural poor grassland. Soils are clay loam. Curve Number: 76
Description of Proposed Site:	39% Pavement and building with 61% developed landscape. Gently sloping topography, with an average slope of 1-2%. Soils are clay loam. Curve Number for Single Family Residential: 87
Development Type:	Residential development.

FLOOD HAZARD INFORMATION

FEMA FIRM Map #:	48303C0341E
Effective Date:	September 28, 2007
Comments:	No portions of the site are not shown to be within the 100-year floodplain. As such, this site is not currently regulated under the National Flood Insurance Program.

SURFACE DRAINAGE DESIGN

General:	Drainage from the site will be surface drainage to Carter Ranch Trail and Saint Tower Court. Drainage of developed roads will drain to the sides to curb and gutter. *(PS is an abbreviation for Point of Study)*
Design Storm:	100-yr Return Period – 24-hr Storm event
Design Methodology	
Hydrology:	SCS Method
Software Model:	Hydraflow Hydrographs Extension (AutoCAD Civil 3D 2020)
Hydraulics:	Manning's Equation
Software Model:	Hydraflow Express Extension (AutoCAD Civil 3D 2020)

Applicable Exhibits:	A	Drainage Maps and Grading Plan
	B	Hydrograph Summary Reports and Tc Calculations

C	Flow Depth Reports
D	Soils Map
E	FEMA – FIRM 48303C0341E
F	Technical Design Summary

ANALYSIS OF DOWNSTREAM IMPACTS

General: The proposed project site was studied and analyzed using a curve number of 76 for pre-development and curve number of 87 for post-development, single family residential, per the City of Lubbock Drainage Criteria Manual. The proposed development will increase flowrates and slightly increase total volume. A retention pond is proposed on site that will retain runoff on-site for the increase in total runoff from the development.

Design Storm: 100-yr Return Period – 24-hr Storm
500-yr Return Period – 24-hr Storm for Non-Overflow Playa

Design Methodology:
Hydrology: SCS Method
Software Model: Hydraflow Express Extension (AutoCAD Civil 3D 2020)

Summary of Results:

Analysis of All Tract Development

Runoff Summary Table

PROPOSED

DRAINAGE AREA	Drainage Area (Ac)	Tc (min)	CN	Q (cfs)		V (cf)	
				100	500	100	500
A-1	2.60	27.1	87	10.44	12.99	47,969	60,344
A-3	1.01	20.6	87	4.48	5.57	18,634	23,442
A-4	6.61	35.3	87	23.06	28.72	121,950	153,414
A-5	1.82	24.9	87	7.31	9.09	33,578	42,241
ONSITE POND	13.00	34.8	85	43.80	54.98	229,840	291,119
A	70.70	61	77	118.15	154.19	1,037,414	1,353,152

EXISTING

DRAINAGE AREA	Drainage Area (Ac)	Tc (min)	CN	Q (cfs)		V (cf)	
				100	500	100	500
A	70.7	68.3	76	134.13	176	1,007,370	1,319,358
ONSITE	14.82	30.3	76	40.99	53.59	212,022	277,635

INITIAL PLAYA VOLUME - 1.4" OVER ENTIRE WATERSHED

DRAINAGE AREA	Drainage Area (Ac)	Tc (min)	CN	Q (cfs)	V (cf)
				1.4" INITIAL	1.4" INITIAL
A	70.7	61	76	1.652	31,622

POS A	V (cf)	
(OVERALL TO BASIN) + (A-5) - RETENTION STORAGE VOLUME =	100	500
	149,568	219,510

Analysis of Floodplain

The increase in stormwater runoff from the development will be retained on site. The property will drain as it does currently to the west. The increase in volume for the 500-year event will be mitigated by excavating the center area of the site, shown and dedicated as a drainage and stormwater impoundment area easement. The retention basin storage volume on-site is 113,850 cu-ft.

The runoff volume at POS A, shown on both the Existing Drainage Map and the Proposed Drainage Map is reduced with the development of the property, and the addition of the retention pond on-site. The volume of runoff at POS A is reduced from 277,635 cu-ft to 219,510 cu-ft in the 500-year event and reduced from 212,022 cu-ft to 149,568 cu-ft in the 100-year event.

The interior streets were designed for the 100-year storm event and will convey the 100-year storm event within the right-of-way with a water surface elevation less than 1 ft above gutter elevation. Cross sections showing depth of flow at the downstream location are provided in the report.

Cross sections for the channels conveying flow into the on-site pond are provided in the report as well.

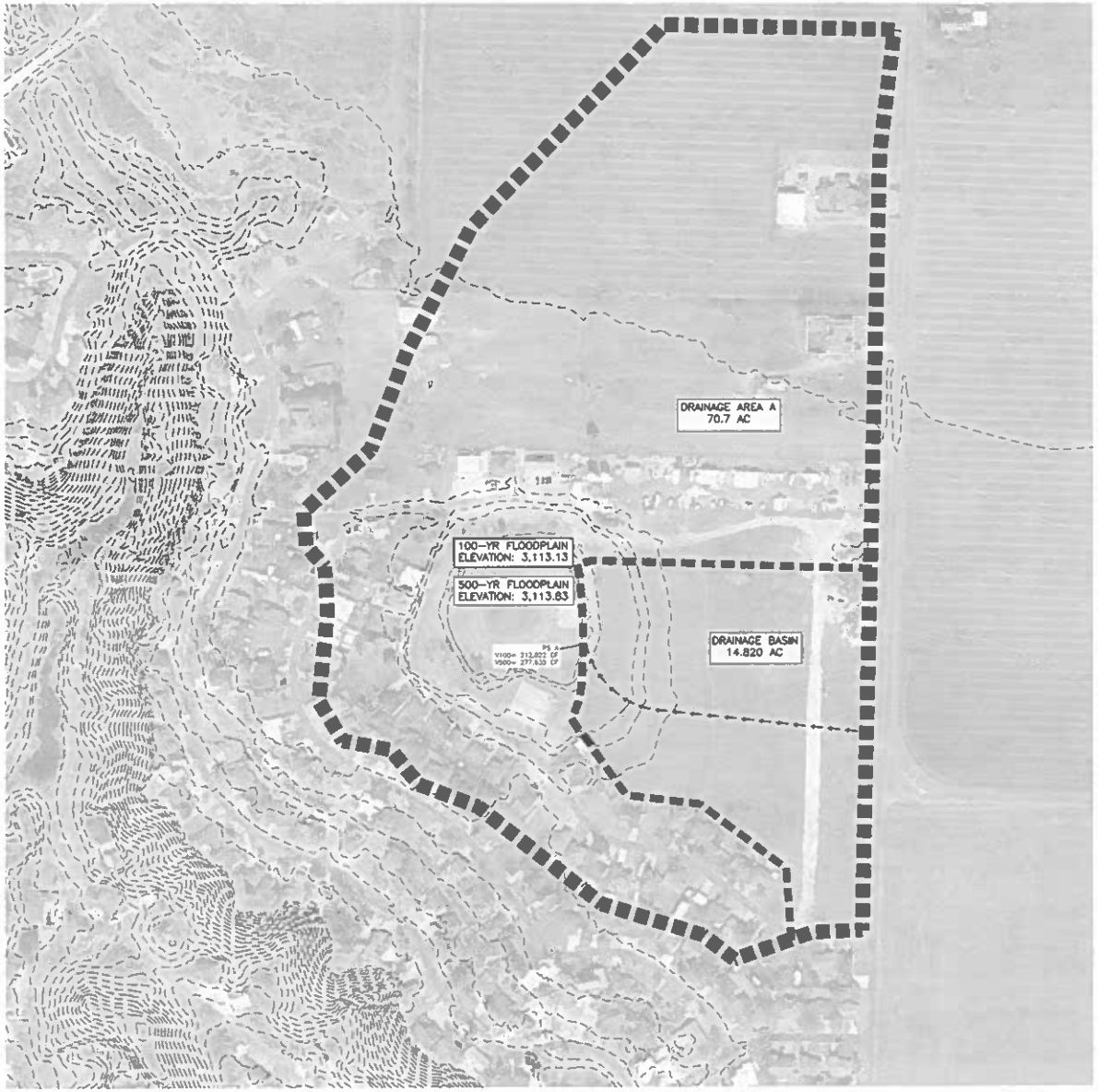
Playa

Existing and Proposed volumes for the playa are shown on the previous table. Proposed volumes for the 100-yr and 500-yr are 1,037,414 cf and 1,353,152 cf respectively. These volumes result in floodplain elevations of 3113.25 for the 100-yr and 3113.90 for the 500-yr. These volumes are shown on the attached PDM. All proposed FF elevations are above the 500-yr floodplain elevation. Existing FF elevations around the existing playa are also shown on the PDM attached showing all existing homes outside the 500-year floodplain.

EXHIBITS

EXHIBIT A

CENTERLINE
ENGINEERING &
CONSULTING, LLC



Existing Drainage Map

ISSUED FOR BIDDING AND CONSTRUCTION

REVISIONS

DATE 10-21-2021
DRAWN BY MAB
DESIGNED BY MAS
CHECKED BY JLC

CENTERLINE ENGINEERING & CONSULTING, LLC.
TBPE Reg No F-14417
TBPLS Reg No 10194379
6312 Upland Ave
Lubbock, TX 79424 (806) 470-8888

Dominguez Engineering & Associates, LLP

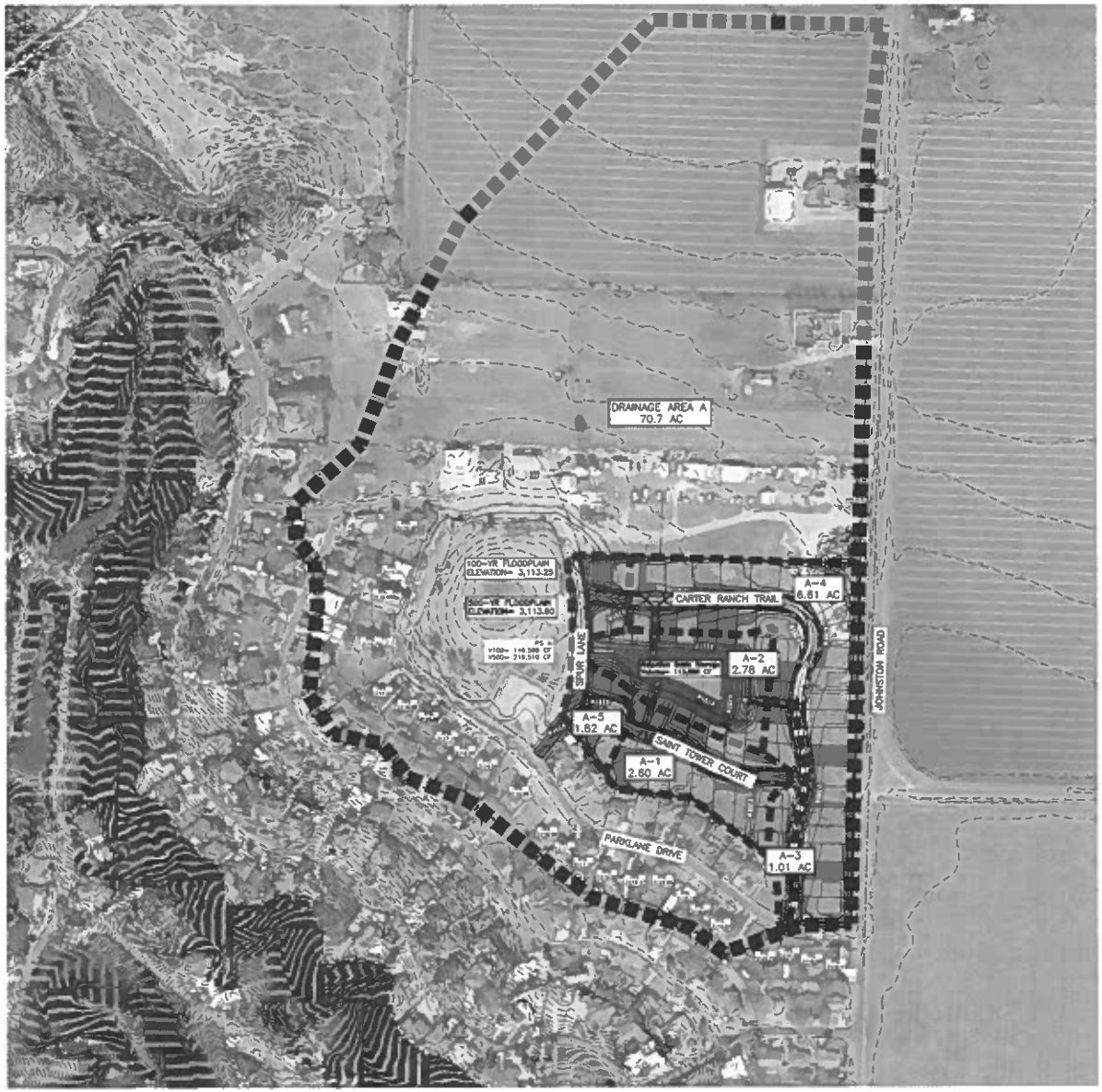
Existing Drainage Map

Ransom Ranch Addition

Ransom Canyon, Lubbock County, Texas

SHEET NO

EDM



Proposed Drainage Map

SCALE Hor 1" = 150'

0' 150' 300'

THESE PLANS DO NOT INCLUDE NECESSARY DEPARTMENTAL APPROVALS.

ALL LOCATIONS OF EXISTING BURIED UTILITIES, WHEN SHOWN, IS APPROXIMATE ONLY. THERE MAY BEEN OTHER UTILITIES BURIED AND NOT SHOWN. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND PROTECTING ALL BURIED UTILITIES.

STATE OF TEXAS
Jeremy K. Chadham
105635
REGISTERED
PROFESSIONAL ENGINEER

ISSUED FOR BIDDING AND CONSTRUCTION

DATE	10-21-2021
DRAWN BY:	GJP
DESIGNED BY:	SHG
CHECKED BY:	JC

REVISIONS

CENTERLINE ENGINEERING & CONSULTING, L.L.C.
TBPE Reg. No. F-13573
TBPLS Reg. No. 10194379
8312 Island Ave
Lubbock, TX 79424 (806) 470-8888

Proposed Drainage Map

Ransom Ranch Addition

Ransom Canyon, Lubbock County, Texas

SHEET NO

PDM

GENERAL GRADING NOTES

1. Provide uniform slope between spot elevations and contours.
2. Spot elevations and contours shown represent the finished surface elevation. The contractor shall be responsible for thickness of base, pavement, concrete, or other finish surfaces to be placed at grade to achieve final grade.
3. The finished surface of curb and gutter and pavement shall be smooth and true to within 0.01 feet of the established line, grade, and cross section. Areas that pond water greater than 3 inch deep will not be acceptable for correcting deficient grades.

HORIZONTAL AND VERTICAL CONTROL DATA

1. Refer to Control Plans as drawing for horizontal and vertical data for the project.

CUT AND FILL QUANTITIES

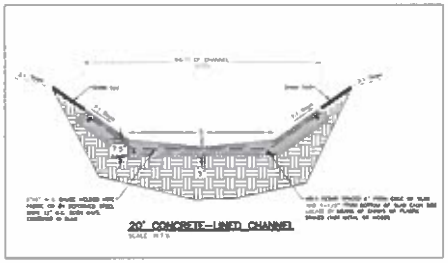
1. The cut and fill quantities shown below are based on existing ground grades, proposed finished grades, pavement subgrade and top soil stripping. No adjustments have been made for compaction or swelling. Contractor shall be responsible for calculating actual cut/fill quantities required for the project.

   A. Cut = 823,718 CY
   B. Fill = 39,430 CY

2. Structural Fill included in cut/fill quantities. Specification and design by others.
3. Maximum density as 95% Standard Proctor at 0~2% above Optimum Moisture Content.
4. Density test required per 5,000 SF.
5. Embankment material shall not exceed a PI of 18.

BENCHMARK data provided on C101 Existing Topo.

Detail A – 20' Concrete-Lined Channel



Grading Plan

ISSUED FOR BIDDING AND CONSTRUCTION

REVISIONS

CENTERLINE ENGINEERING & CONSULTING, LLC.
Texas Registered Firm
TBPE & Reg. No 10184376
8312 Listered Ave
Lubbock, TX 79424 (806) 470-8888

Centerline Engineering & Consulting, LLC

Grading Plan

Ransom Ranch Addition

Ransom Canyon, Lubbock County, Texas

SHEET NO

C104

OF 16 SHEETS

EXHIBIT B

CENTERLINE
ENGINEERING &
CONSULTING, LLC

Hydrograph Report

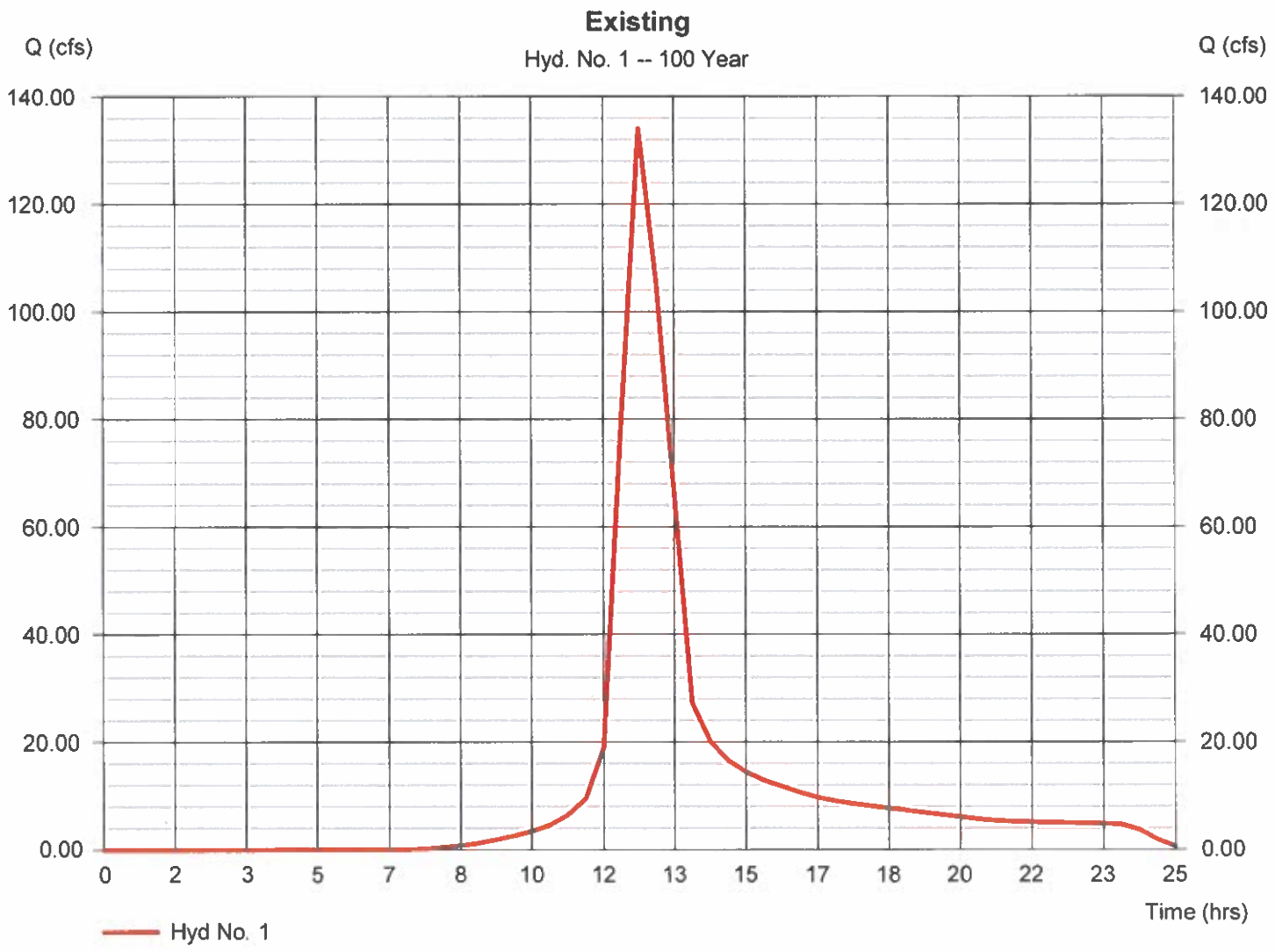
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020 Thursday, 10 / 21 / 2021

Hyd. No. 1

Existing

Hydrograph type	= SCS Runoff	Peak discharge	= 134.13 cfs
Storm frequency	= 100 yrs	Time to peak	= 12.50 hrs
Time interval	= 25 min	Hyd. volume	= 1,007,370 cuft
Drainage area	= 70.700 ac	Curve number	= 76*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 68.30 min
Total precip.	= 6.94 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(32.800 x 76) + (18.200 x 87) + (2.000 x 79) + (17.700 x 64)] / 70.700



Hydrograph Report

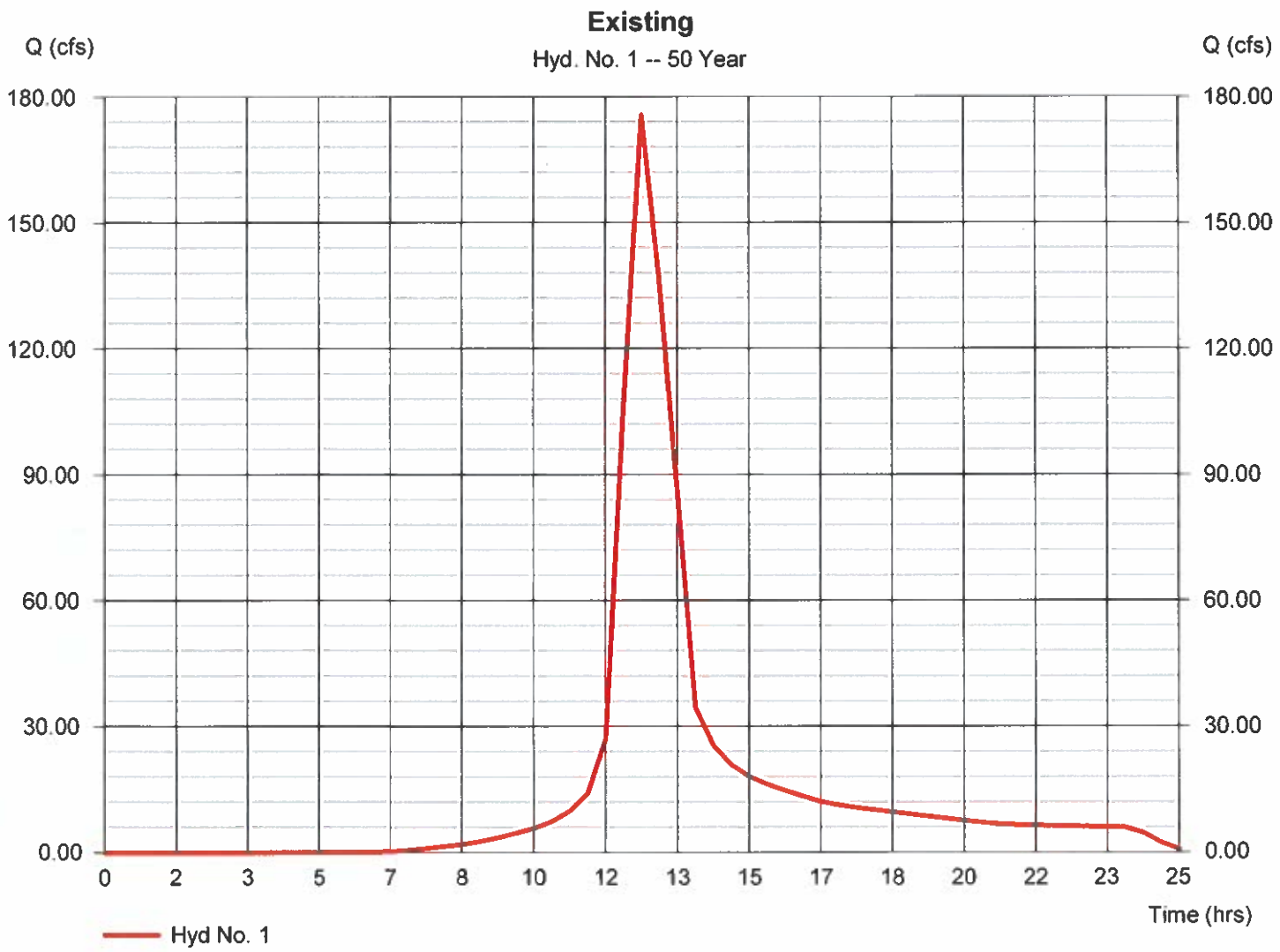
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020 Thursday, 10 / 21 / 2021

Hyd. No. 1

Existing

Hydrograph type	= SCS Runoff	Peak discharge	= 175.68 cfs
Storm frequency	= 500 yrs	Time to peak	= 12.50 hrs
Time interval	= 25 min	Hyd. volume	= 1,319,358 cuft
Drainage area	= 70.700 ac	Curve number	= 76*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 68.30 min
Total precip.	= 8.38 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(32.800 x 76) + (18.200 x 87) + (2.000 x 79) + (17.700 x 64)] / 70.700



Hydrograph Report

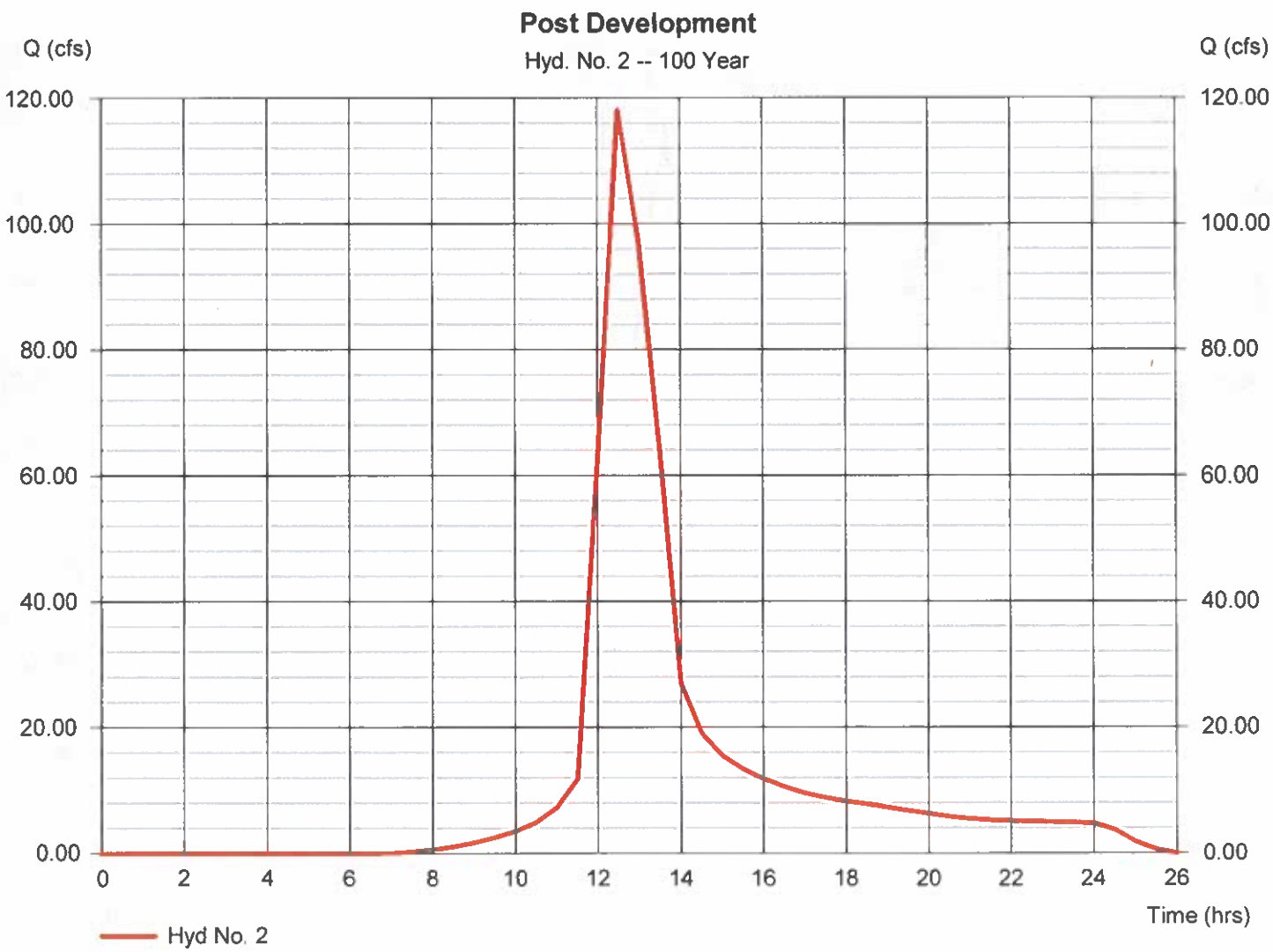
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020 Thursday, 10 / 21 / 2021

Hyd. No. 2

Post Development

Hydrograph type	= SCS Runoff	Peak discharge	= 118.15 cfs
Storm frequency	= 100 yrs	Time to peak	= 12.50 hrs
Time interval	= 30 min	Hyd. volume	= 1,037,414 cuft
Drainage area	= 70.700 ac	Curve number	= 77*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 61.00 min
Total precip.	= 6.94 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(26.780 x 87) + (2.000 x 79) + (25.020 x 76) + (16.900 x 64)] / 70.700



Hydrograph Report

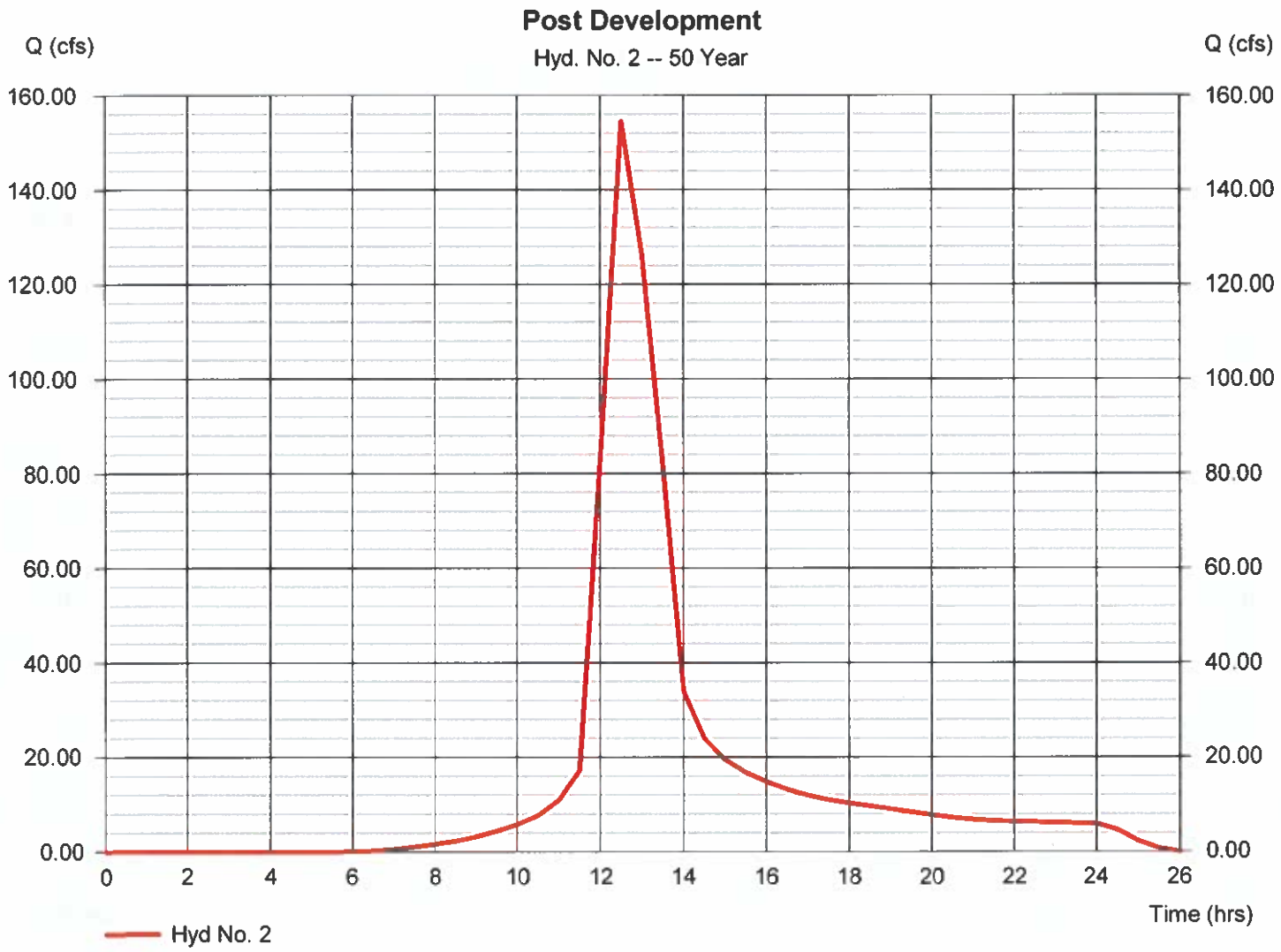
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020 Thursday, 10 / 21 / 2021

Hyd. No. 2

Post Development

Hydrograph type	= SCS Runoff	Peak discharge	= 154.59 cfs
Storm frequency	= 500 yrs	Time to peak	= 12.50 hrs
Time interval	= 30 min	Hyd. volume	= 1,353,152 cuft
Drainage area	= 70.700 ac	Curve number	= 77*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 61.00 min
Total precip.	= 8.38 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(26.780 x 87) + (2.000 x 79) + (25.020 x 76) + (16.900 x 64)] / 70.700



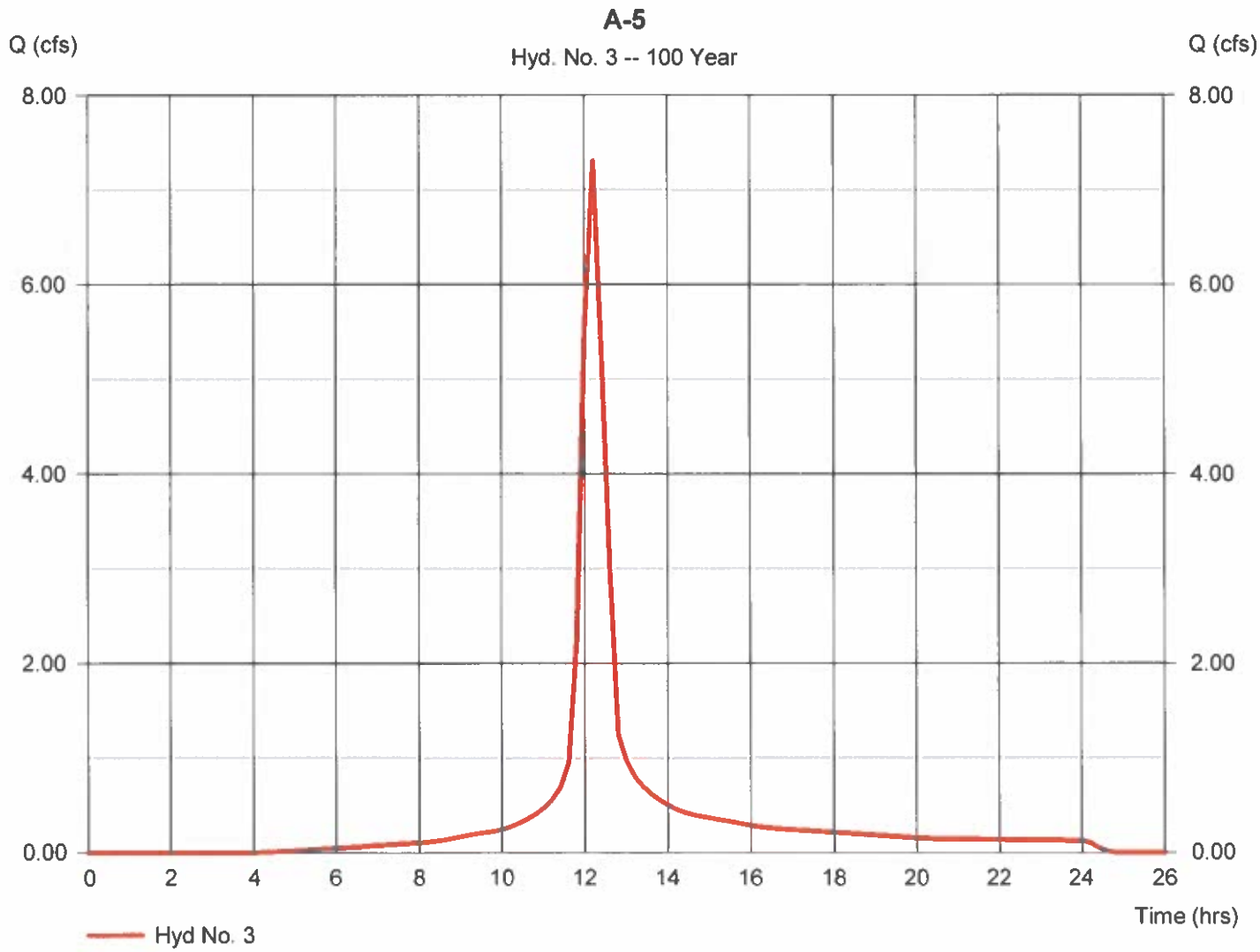
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020 Thursday, 10 / 21 / 2021

Hyd. No. 3

A-5

Hydrograph type	= SCS Runoff	Peak discharge	= 7.309 cfs
Storm frequency	= 100 yrs	Time to peak	= 12.20 hrs
Time interval	= 12 min	Hyd. volume	= 33,578 cuft
Drainage area	= 1.820 ac	Curve number	= 87
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 24.90 min
Total precip.	= 6.94 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



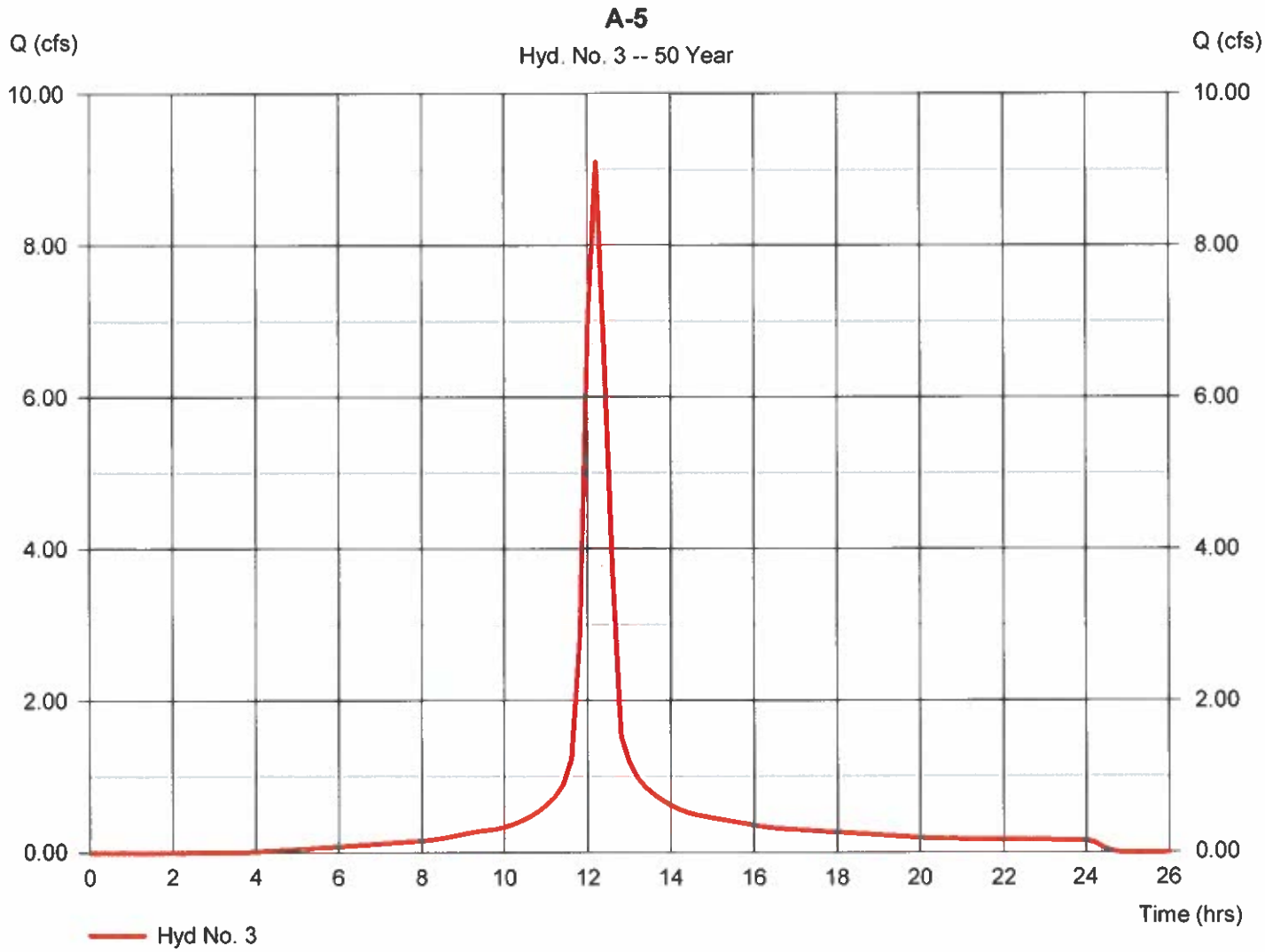
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020 Thursday, 10 / 21 / 2021

Hyd. No. 3

A-5

Hydrograph type	= SCS Runoff	Peak discharge	= 9.094 cfs
Storm frequency	= 500 yrs	Time to peak	= 12.20 hrs
Time interval	= 12 min	Hyd. volume	= 42,241 cuft
Drainage area	= 1.820 ac	Curve number	= 87
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 24.90 min
Total precip.	= 8.38 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



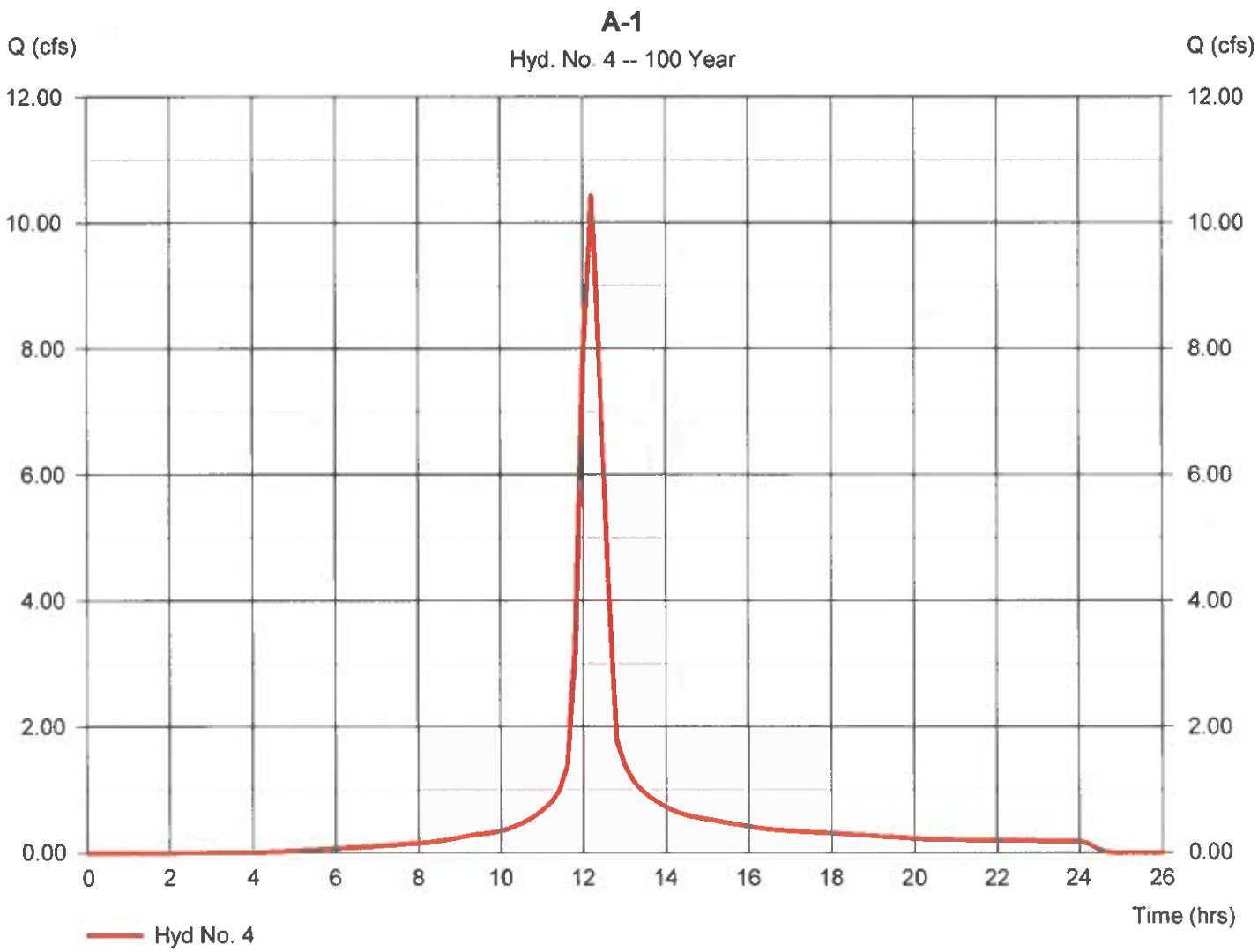
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020 Thursday, 10 / 21 / 2021

Hyd. No. 4

A-1

Hydrograph type	= SCS Runoff	Peak discharge	= 10.44 cfs
Storm frequency	= 100 yrs	Time to peak	= 12.20 hrs
Time interval	= 12 min	Hyd. volume	= 47,969 cuft
Drainage area	= 2.600 ac	Curve number	= 87
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 27.10 min
Total precip.	= 6.94 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



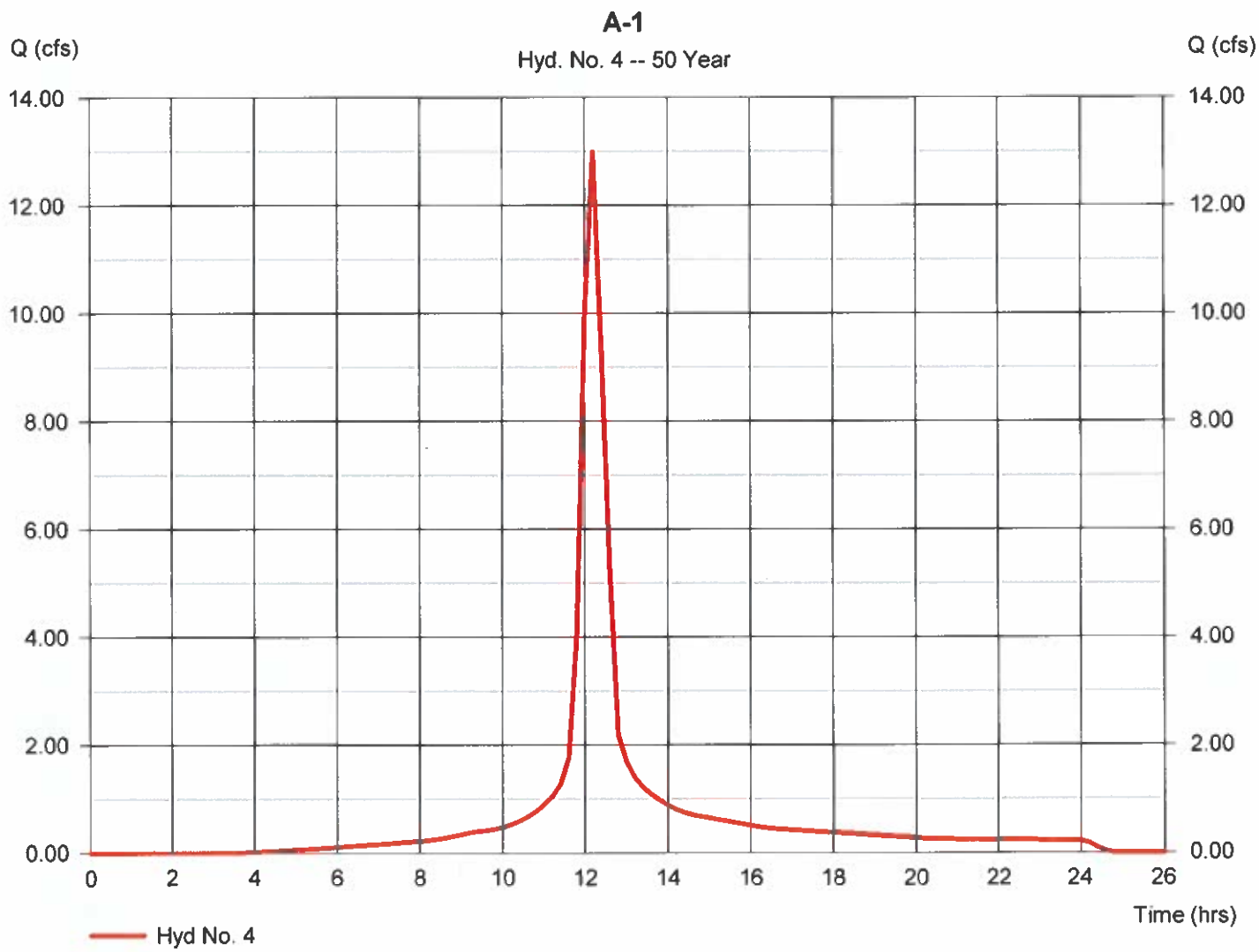
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020 Thursday, 10 / 21 / 2021

Hyd. No. 4

A-1

Hydrograph type	= SCS Runoff	Peak discharge	= 12.99 cfs
Storm frequency	= 500 yrs	Time to peak	= 12.20 hrs
Time interval	= 12 min	Hyd. volume	= 60,344 cuft
Drainage area	= 2.600 ac	Curve number	= 87
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 27.10 min
Total precip.	= 8.38 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



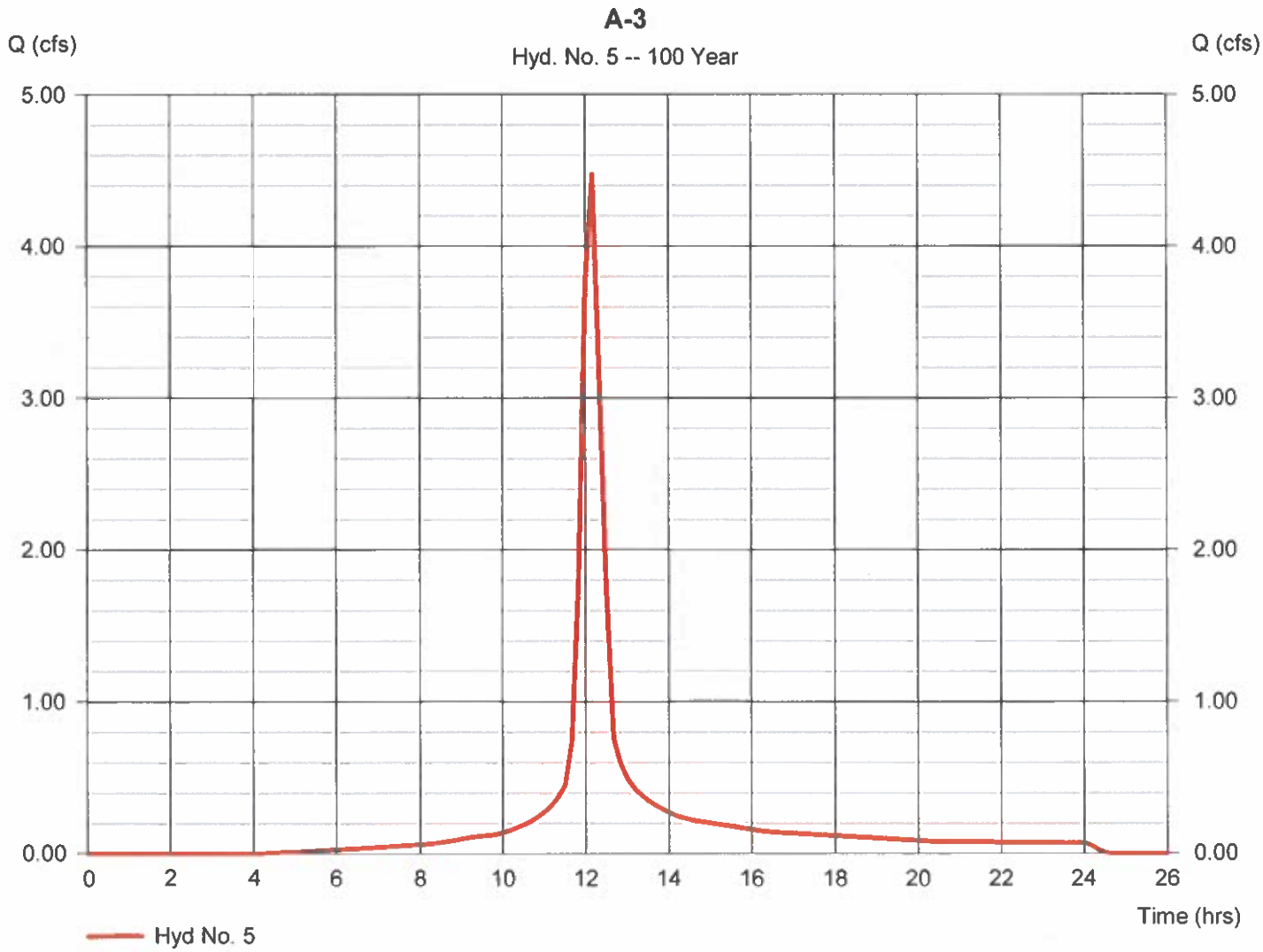
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020 Thursday, 10 / 21 / 2021

Hyd. No. 5

A-3

Hydrograph type	= SCS Runoff	Peak discharge	= 4.477 cfs
Storm frequency	= 100 yrs	Time to peak	= 12.17 hrs
Time interval	= 10 min	Hyd. volume	= 18,634 cuft
Drainage area	= 1.010 ac	Curve number	= 87
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 20.60 min
Total precip.	= 6.94 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



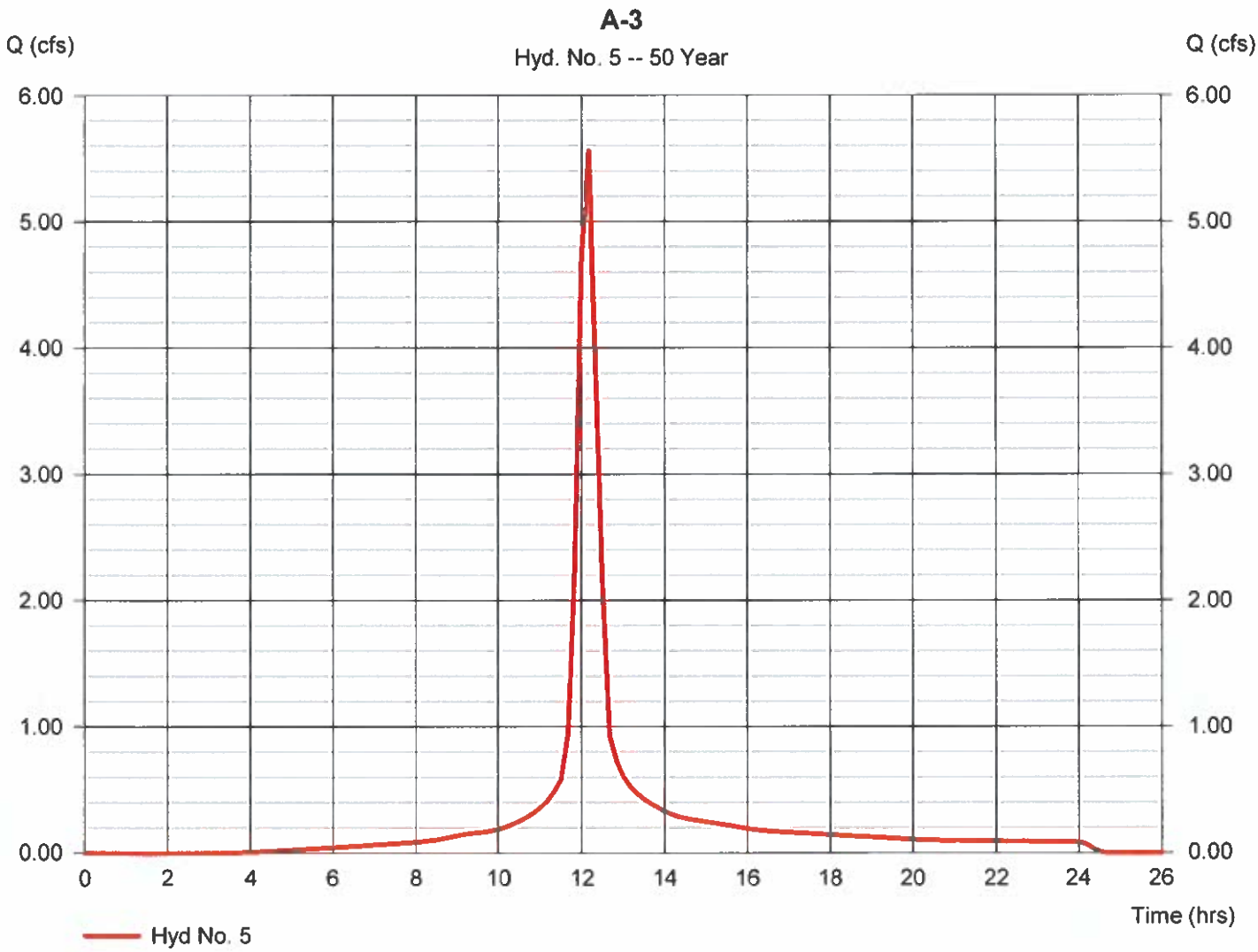
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020 Thursday, 10 / 21 / 2021

Hyd. No. 5

A-3

Hydrograph type	= SCS Runoff	Peak discharge	= 5.565 cfs
Storm frequency	= 500 yrs	Time to peak	= 12.17 hrs
Time interval	= 10 min	Hyd. volume	= 23,442 cuft
Drainage area	= 1.010 ac	Curve number	= 87
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 20.60 min
Total precip.	= 8.38 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



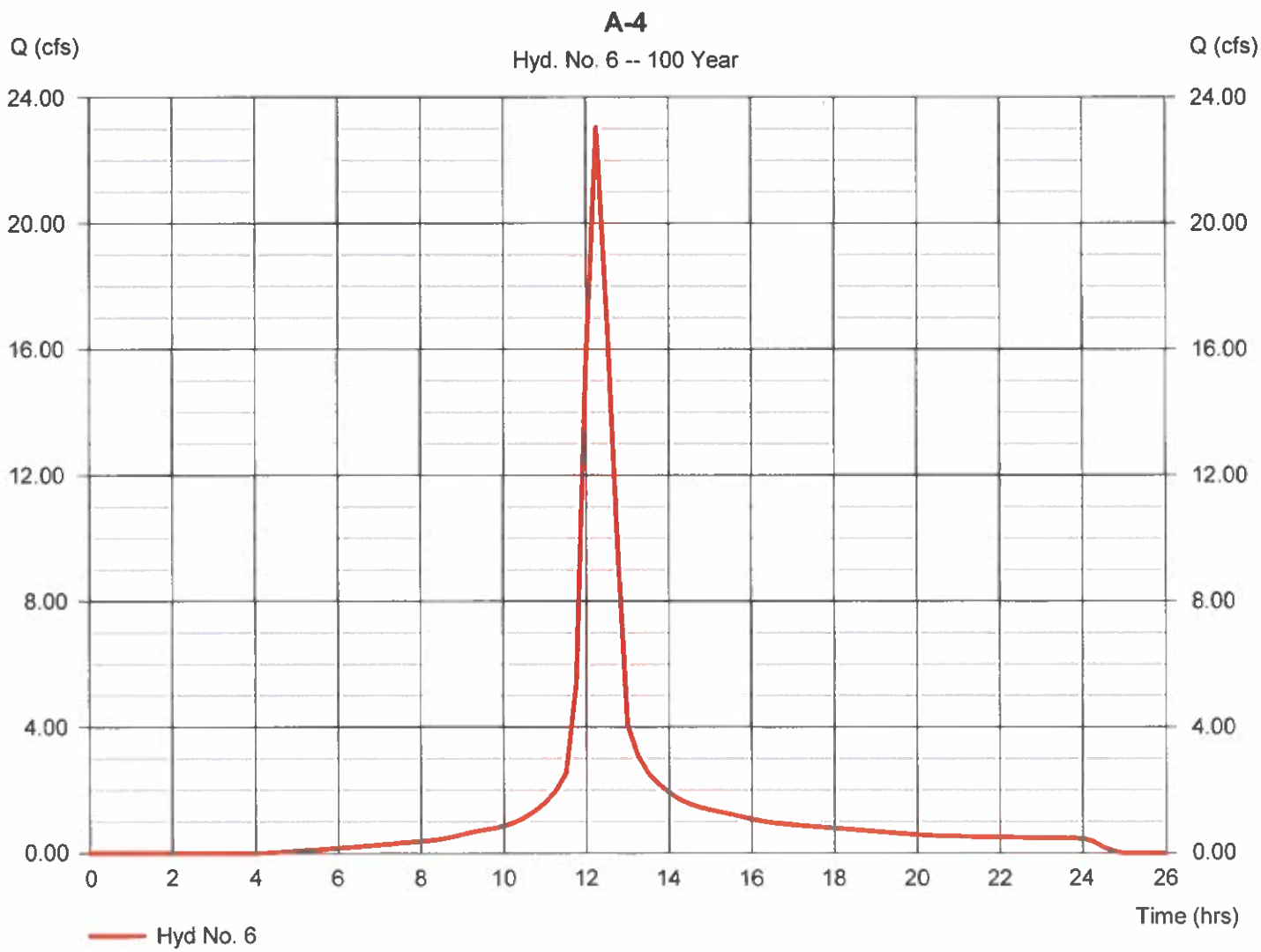
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020 Thursday, 10 / 21 / 2021

Hyd. No. 6

A-4

Hydrograph type	= SCS Runoff	Peak discharge	= 23.06 cfs
Storm frequency	= 100 yrs	Time to peak	= 12.25 hrs
Time interval	= 15 min	Hyd. volume	= 121,950 cuft
Drainage area	= 6.610 ac	Curve number	= 87
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 35.30 min
Total precip.	= 6.94 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



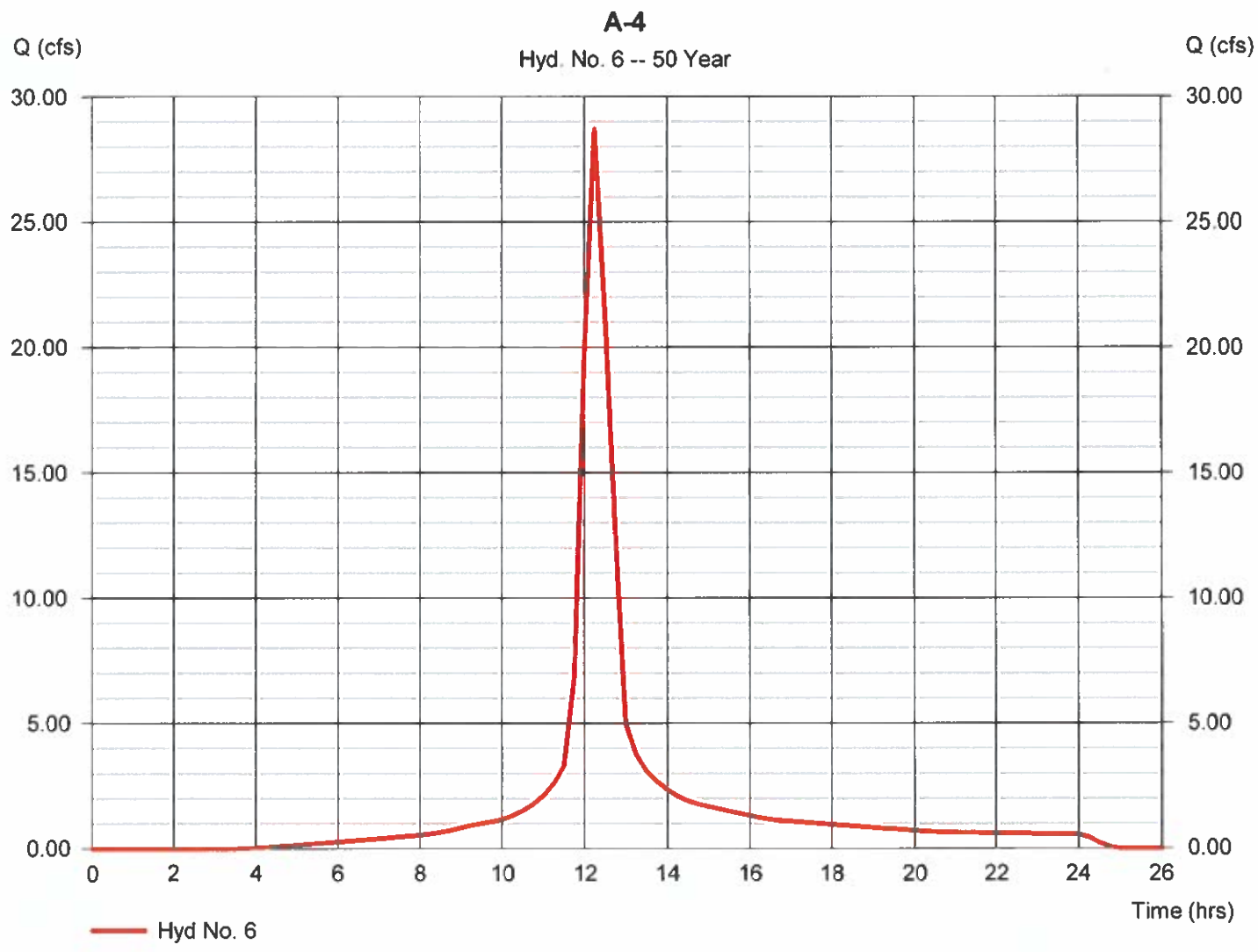
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020 Thursday, 10 / 21 / 2021

Hyd. No. 6

A-4

Hydrograph type	= SCS Runoff	Peak discharge	= 28.72 cfs
Storm frequency	= 500 yrs	Time to peak	= 12.25 hrs
Time interval	= 15 min	Hyd. volume	= 153,414 cuft
Drainage area	= 6.610 ac	Curve number	= 87
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 35.30 min
Total precip.	= 8.38 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Report

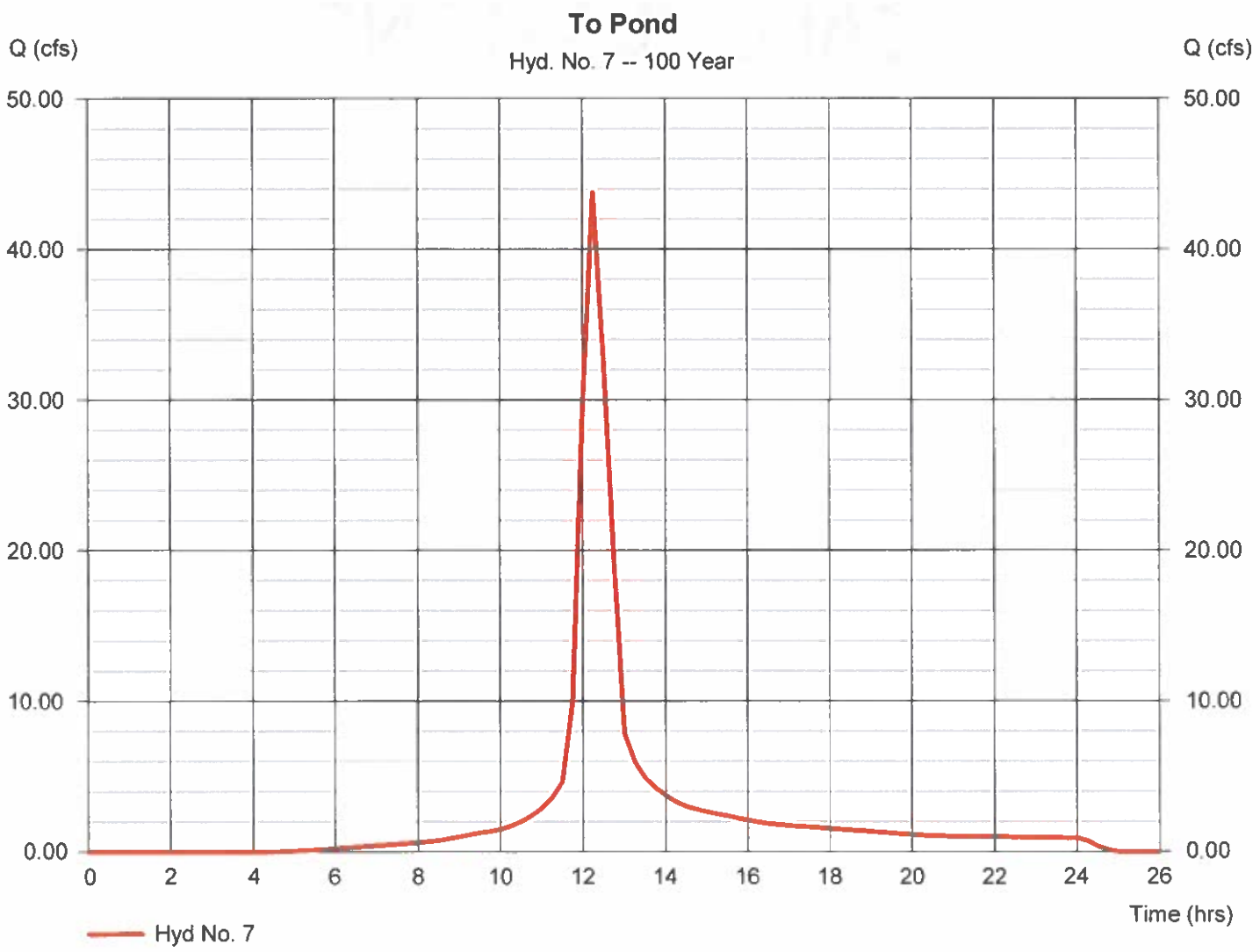
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020 Thursday, 10 / 21 / 2021

Hyd. No. 7

To Pond

Hydrograph type	= SCS Runoff	Peak discharge	= 43.80 cfs
Storm frequency	= 100 yrs	Time to peak	= 12.25 hrs
Time interval	= 15 min	Hyd. volume	= 229,840 cuft
Drainage area	= 13.000 ac	Curve number	= 85*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 34.80 min
Total precip.	= 6.94 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(2.780 x 76) + (10.220 x 87)] / 13.000



INITIAL VOLUME CALCULATIONS

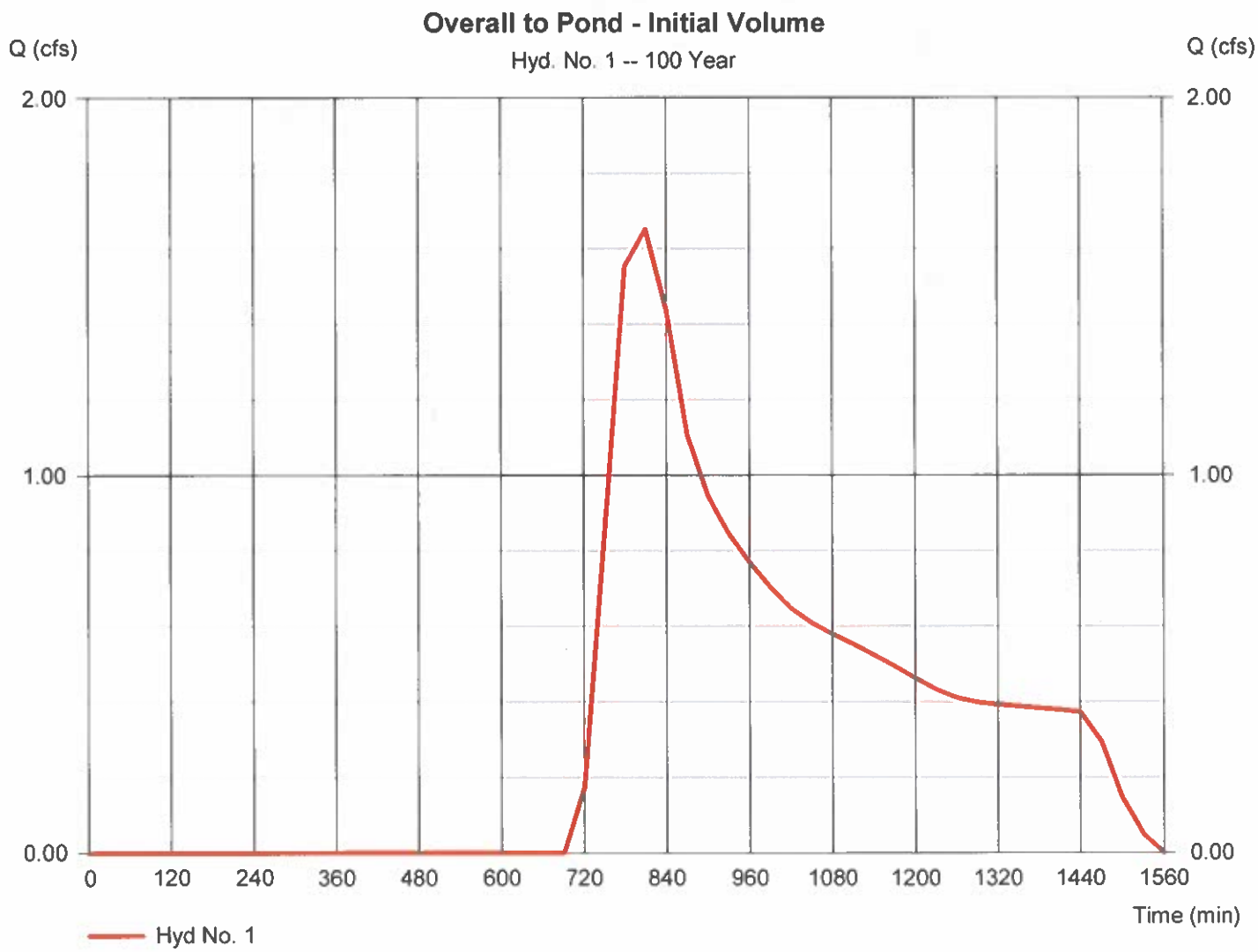
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020 Thursday, 10 / 21 / 2021

Hyd. No. 1

Overall to Pond - Initial Volume

Hydrograph type	= SCS Runoff	Peak discharge	= 1.652 cfs
Storm frequency	= 100 yrs	Time to peak	= 810 min
Time interval	= 30 min	Hyd. volume	= 31,622 cuft
Drainage area	= 70.700 ac	Curve number	= 76
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 61.00 min
Total precip.	= 1.40 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



Tc Calculations

TR55 Tc Worksheet

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020

Hyd. No. 1

Existing

Description	A		B		C		Totals
Sheet Flow							
Manning's n-value	= 0.060		0.011		0.011		
Flow length (ft)	= 300.0		0.0		0.0		
Two-year 24-hr precip. (in)	= 2.72		0.00		0.00		
Land slope (%)	= 0.67		0.00		0.00		
Travel Time (min)	**= 19.04**	**+**	**0.00**	**+**	**0.00**	**=**	**19.04**
Shallow Concentrated Flow							
Flow length (ft)	= 1600.00		0.00		0.00		
Watercourse slope (%)	= 0.67		0.00		0.00		
Surface description	= Unpaved		Paved		Paved		
Average velocity (ft/s)	=1.32		0.00		0.00		
Travel Time (min)	**= 20.19**	**+**	**0.00**	**+**	**0.00**	**=**	**20.19**
Channel Flow							
X sectional flow area (sqft)	= 0.00		0.00		0.00		
Wetted perimeter (ft)	= 0.00		0.00		0.00		
Channel slope (%)	= 0.00		0.00		0.00		
Manning's n-value	= 0.015		0.015		0.015		
Velocity (ft/s)	=0.00						
			0.00				
					0.00		
Flow length (ft)	({0})0.0		0.0		0.0		
Travel Time (min)	**= 0.00**	**+**	**0.00**	**+**	**0.00**	**=**	**0.00**

Total Travel Time, Tc ..... 39.20 min

TR55 Tc Worksheet

Hyd. No. 2

Post Development

Description	A		B		C		Totals
Sheet Flow							
Manning's n-value	= 0.150		0.011		0.011		
Flow length (ft)	= 100.0		0.0		0.0		
Two-year 24-hr precip. (in)	= 2.72		0.00		0.00		
Land slope (%)	= 0.50		0.00		0.00		
Travel Time (min)	**= 18.50**	**+**	**0.00**	**+**	**0.00**	**=**	**18.50**
Shallow Concentrated Flow							
Flow length (ft)	= 1700.00		0.00		0.00		
Watercourse slope (%)	= 0.50		0.00		0.00		
Surface description	= Unpaved		Paved		Paved		
Average velocity (ft/s)	=1.14		0.00		0.00		
Travel Time (min)	**= 24.83**	**+**	**0.00**	**+**	**0.00**	**=**	**24.83**
Channel Flow							
X sectional flow area (sqft)	= 20.57		0.00		0.00		
Wetted perimeter (ft)	= 48.70		0.00		0.00		
Channel slope (%)	= 0.40		0.00		0.00		
Manning's n-value	= 0.028		0.015		0.015		
Velocity (ft/s)	=1.89						
			0.00				
					0.00		
Flow length (ft)	({0})2000.0		0.0		0.0		
Travel Time (min)	**= 17.64**	**+**	**0.00**	**+**	**0.00**	**=**	**17.64**

Total Travel Time, Tc ..... 61.00 min

TR55 Tc Worksheet

Hyd. No. 3

A-5

Description	A		B		C		Totals
Sheet Flow							
Manning's n-value	= 0.410		0.011		0.011		
Flow length (ft)	= 60.0		0.0		0.0		
Two-year 24-hr precip. (in)	= 2.72		0.00		0.00		
Land slope (%)	= 1.00		0.00		0.00		
Travel Time (min)	**= 20.83**	**+**	**0.00**	**+**	**0.00**	**=**	**20.83**
Shallow Concentrated Flow							
Flow length (ft)	= 200.00		0.00		0.00		
Watercourse slope (%)	= 0.50		0.00		0.00		
Surface description	= Paved		Paved		Paved		
Average velocity (ft/s)	=1.44		0.00		0.00		
Travel Time (min)	**= 2.32**	**+**	**0.00**	**+**	**0.00**	**=**	**2.32**
Channel Flow							
X sectional flow area (sqft)	= 20.57		0.00		0.00		
Wetted perimeter (ft)	= 48.70		0.00		0.00		
Channel slope (%)	= 0.40		0.00		0.00		
Manning's n-value	= 0.028		0.015		0.015		
Velocity (ft/s)	=1.89						
			0.00				
					0.00		
Flow length (ft)	({0})200.0		0.0		0.0		
Travel Time (min)	**= 1.76**	**+**	**0.00**	**+**	**0.00**	**=**	**1.76**

Total Travel Time, Tc ..... 24.90 min

TR55 Tc Worksheet

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020

Hyd. No. 4

A-1

Description	A		B		C		Totals
Sheet Flow							
Manning's n-value	= 0.410		0.011		0.011		
Flow length (ft)	= 60.0		0.0		0.0		
Two-year 24-hr precip. (in)	= 2.72		0.00		0.00		
Land slope (%)	= 1.00		0.00		0.00		
Travel Time (min)	**= 20.83**	**+**	**0.00**	**+**	**0.00**	**=**	**20.83**
Shallow Concentrated Flow							
Flow length (ft)	= 200.00		0.00		0.00		
Watercourse slope (%)	= 0.50		0.00		0.00		
Surface description	= Paved		Paved		Paved		
Average velocity (ft/s)	=1.44		0.00		0.00		
Travel Time (min)	**= 2.32**	**+**	**0.00**	**+**	**0.00**	**=**	**2.32**
Channel Flow							
X sectional flow area (sqft)	= 20.57		0.00		0.00		
Wetted perimeter (ft)	= 48.70		0.00		0.00		
Channel slope (%)	= 0.40		0.00		0.00		
Manning's n-value	= 0.028		0.015		0.015		
Velocity (ft/s)	=1.89						
			0.00				
					0.00		
Flow length (ft)	({0})450.0		0.0		0.0		
Travel Time (min)	**= 3.97**	**+**	**0.00**	**+**	**0.00**	**=**	**3.97**

Total Travel Time, Tc ..... 27.10 min

TR55 Tc Worksheet

Hyd. No. 5

A-3

Description	A		B		C		Totals
Sheet Flow							
Manning's n-value	= 0.410		0.011		0.011		
Flow length (ft)	= 40.0		0.0		0.0		
Two-year 24-hr precip. (in)	= 2.72		0.00		0.00		
Land slope (%)	= 1.00		0.00		0.00		
Travel Time (min)	**= 15.06**	**+**	**0.00**	**+**	**0.00**	**=**	**15.06**
Shallow Concentrated Flow							
Flow length (ft)	= 100.00		0.00		0.00		
Watercourse slope (%)	= 0.50		0.00		0.00		
Surface description	= Paved		Paved		Paved		
Average velocity (ft/s)	=1.44		0.00		0.00		
Travel Time (min)	**= 1.16**	**+**	**0.00**	**+**	**0.00**	**=**	**1.16**
Channel Flow							
X sectional flow area (sqft)	= 20.57		0.00		0.00		
Wetted perimeter (ft)	= 48.70		0.00		0.00		
Channel slope (%)	= 0.40		0.00		0.00		
Manning's n-value	= 0.028		0.015		0.015		
Velocity (ft/s)	=1.89						
			0.00				
					0.00		
Flow length (ft)	({0})500.0		0.0		0.0		
Travel Time (min)	**= 4.41**	**+**	**0.00**	**+**	**0.00**	**=**	**4.41**

Total Travel Time, Tc ..... 20.60 min

TR55 Tc Worksheet

Hyd. No. 6

A-4

Description	A		B		C		Totals
Sheet Flow							
Manning's n-value	= 0.410		0.011		0.011		
Flow length (ft)	= 60.0		0.0		0.0		
Two-year 24-hr precip. (in)	= 2.72		0.00		0.00		
Land slope (%)	= 1.00		0.00		0.00		
Travel Time (min)	**= 20.83**	**+**	**0.00**	**+**	**0.00**	**=**	**20.83**
Shallow Concentrated Flow							
Flow length (ft)	= 200.00		0.00		0.00		
Watercourse slope (%)	= 0.50		0.00		0.00		
Surface description	= Paved		Paved		Paved		
Average velocity (ft/s)	=1.44		0.00		0.00		
Travel Time (min)	**= 2.32**	**+**	**0.00**	**+**	**0.00**	**=**	**2.32**
Channel Flow							
X sectional flow area (sqft)	= 20.57		0.00		0.00		
Wetted perimeter (ft)	= 48.70		0.00		0.00		
Channel slope (%)	= 0.40		0.00		0.00		
Manning's n-value	= 0.028		0.015		0.015		
Velocity (ft/s)	=1.89						
			0.00				
					0.00		
Flow length (ft)	({0})1380.0		0.0		0.0		
Travel Time (min)	**= 12.17**	**+**	**0.00**	**+**	**0.00**	**=**	**12.17**

Total Travel Time, Tc ..... 35.30 min

TR55 Tc Worksheet

Hyd. No. 7

To Pond

Description	A		B		C		Totals
Sheet Flow							
Manning's n-value	= 0.410		0.011		0.011		
Flow length (ft)	= 60.0		0.0		0.0		
Two-year 24-hr precip. (in)	= 2.72		0.00		0.00		
Land slope (%)	= 1.00		0.00		0.00		
Travel Time (min)	**= 20.83**	**+**	**0.00**	**+**	**0.00**	**=**	**20.83**
Shallow Concentrated Flow							
Flow length (ft)	= 200.00		0.00		0.00		
Watercourse slope (%)	= 0.50		0.00		0.00		
Surface description	= Unpaved		Paved		Paved		
Average velocity (ft/s)	=1.14		0.00		0.00		
Travel Time (min)	**= 2.92**	**+**	**0.00**	**+**	**0.00**	**=**	**2.92**
Channel Flow							
X sectional flow area (sqft)	= 20.57		0.00		0.00		
Wetted perimeter (ft)	= 48.70		0.00		0.00		
Channel slope (%)	= 0.50		0.00		0.00		
Manning's n-value	= 0.028		0.015		0.015		
Velocity (ft/s)	=2.11						
			0.00				
					0.00		
Flow length (ft)	({0})1400.0		0.0		0.0		
Travel Time (min)	**= 11.05**	**+**	**0.00**	**+**	**0.00**	**=**	**11.05**

Total Travel Time, Tc ..... 34.80 min

EXHIBIT C

CENTERLINE
ENGINEERING &
CONSULTING, LLC

Channel Report

Hydraflow Express Extension for Autodesk® Civil 3D® by Autodesk, Inc. Thursday, Oct 21 2021

Carter Ranch Trail Post-Development

User-defined

Invert Elev (ft)	= 100.00
Slope (%)	= 0.30
N-Value	= 0.028

Calculations

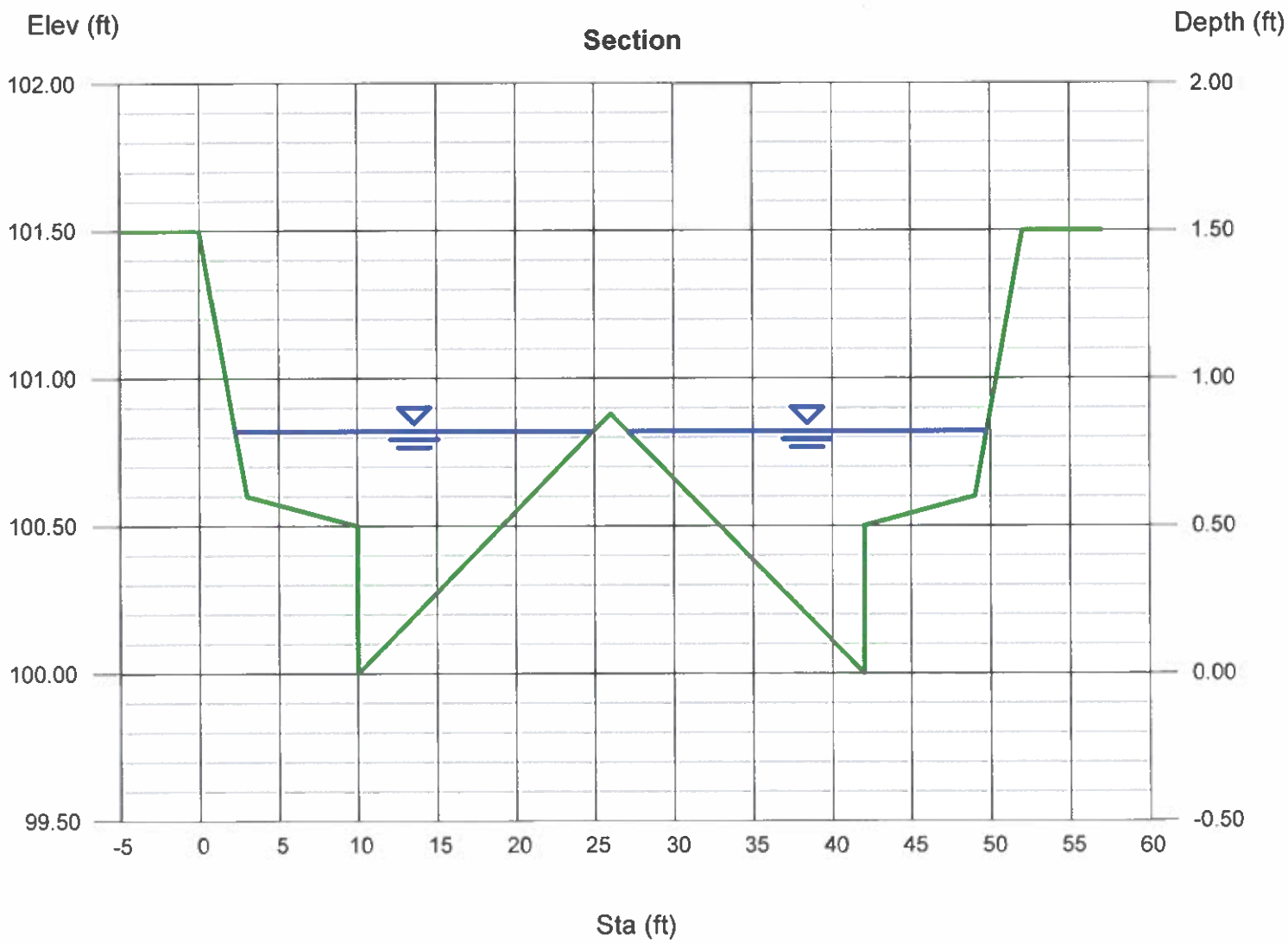
Compute by:	Known Q
Known Q (cfs)	= 23.06

Highlighted

Depth (ft)	= 0.82
Q (cfs)	= 23.06
Area (sqft)	= 16.17
Velocity (ft/s)	= 1.43
Wetted Perim (ft)	= 46.40
Crit Depth, Yc (ft)	= 0.64
Top Width (ft)	= 45.28
EGL (ft)	= 0.85

(Sta, El, n)-(Sta, El, n)...

(0.00, 101.50)-(3.00, 100.60, 0.040)-(10.00, 100.50, 0.040)-(10.00, 100.00, 0.040)-(26.00, 100.88, 0.020)-(42.00, 100.00, 0.020)-(42.00, 100.50, 0.040) -(49.00, 100.60, 0.040)-(52.00, 101.50, 0.040)



Channel Report

Hydraflow Express Extension for Autodesk® Civil 3D® by Autodesk, Inc. Thursday, Oct 21 2021

Carter Ranch Trail East Channel Post-Development

Trapezoidal

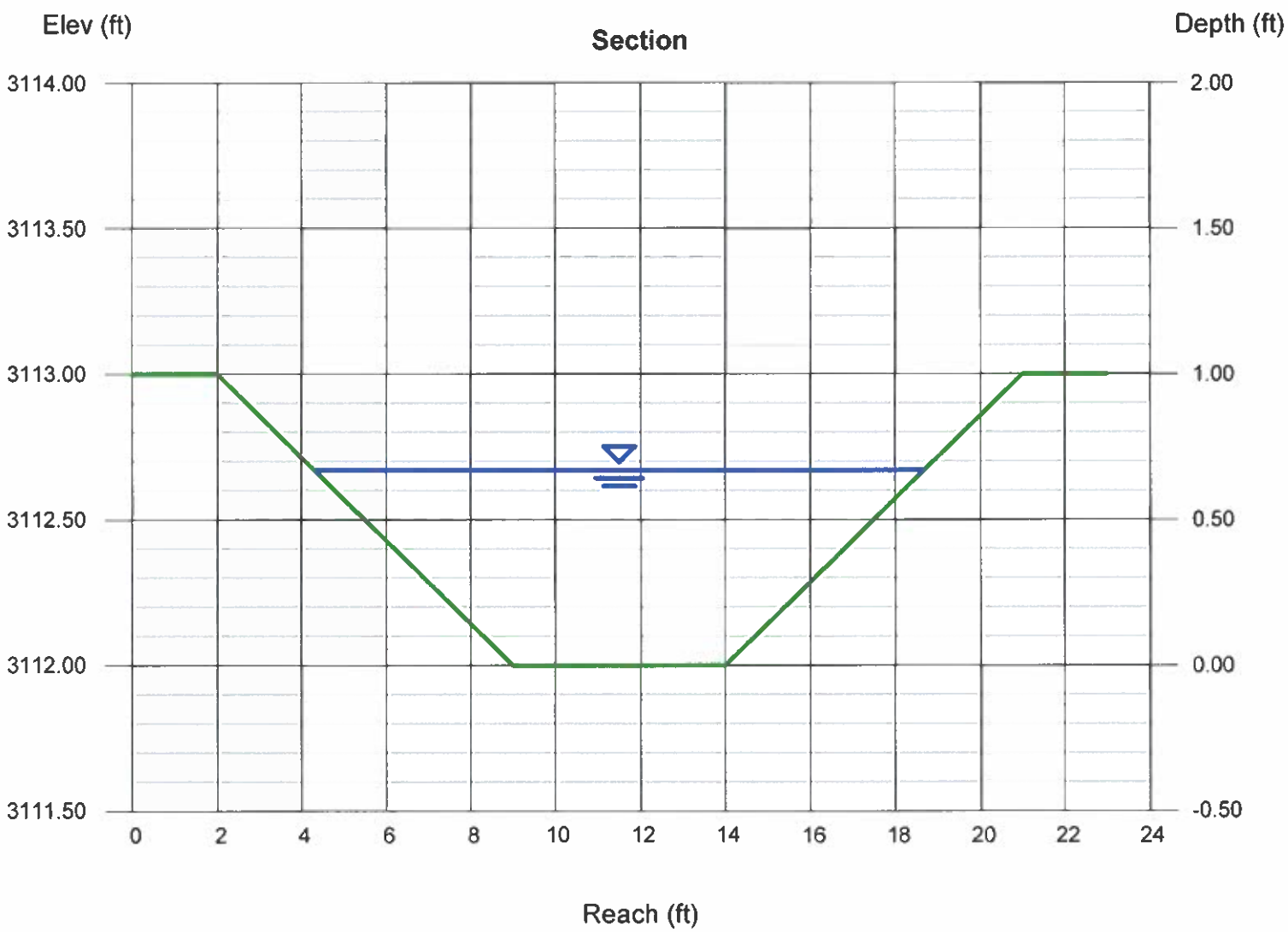
Bottom Width (ft)	= 5.00
Side Slopes (z:1)	= 7.00, 7.00
Total Depth (ft)	= 1.00
Invert Elev (ft)	= 3112.00
Slope (%)	= 1.50
N-Value	= 0.150

Calculations

Compute by:	Known Q
Known Q (cfs)	= 4.48

Highlighted

Depth (ft)	= 0.67
Q (cfs)	= 4.480
Area (sqft)	= 6.49
Velocity (ft/s)	= 0.69
Wetted Perim (ft)	= 14.48
Crit Depth, Yc (ft)	= 0.26
Top Width (ft)	= 14.38
EGL (ft)	= 0.68



Channel Report

Hydraflow Express Extension for Autodesk® Civil 3D® by Autodesk, Inc. Thursday, Oct 21 2021

Carter Ranch Trail West Channel Post-Development

Trapezoidal

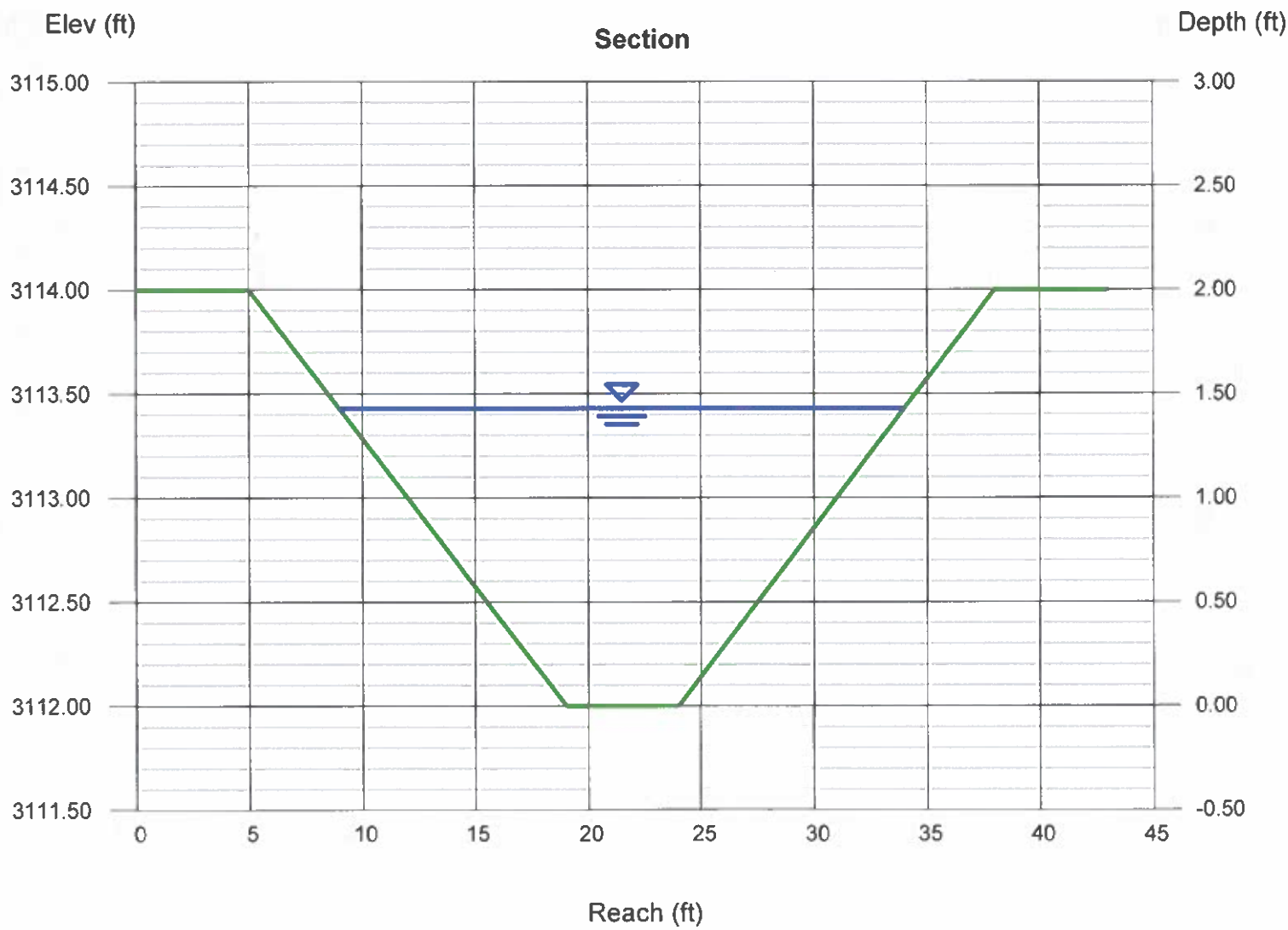
Bottom Width (ft)	= 5.00
Side Slopes (z:1)	= 7.00, 7.00
Total Depth (ft)	= 2.00
Invert Elev (ft)	= 3112.00
Slope (%)	= 1.50
N-Value	= 0.150

Calculations

Compute by:	Known Q
Known Q (cfs)	= 23.06

Highlighted

Depth (ft)	= 1.43
Q (cfs)	= 23.06
Area (sqft)	= 21.46
Velocity (ft/s)	= 1.07
Wetted Perim (ft)	= 25.22
Crit Depth, Yc (ft)	= 0.65
Top Width (ft)	= 25.02
EGL (ft)	= 1.45



Channel Report

Hydraflow Express Extension for Autodesk® Civil 3D® by Autodesk, Inc. Thursday, Oct 21 2021

Saint Tower Court Post-Development

User-defined

Invert Elev (ft)	= 100.00
Slope (%)	= 0.30
N-Value	= 0.029

Calculations

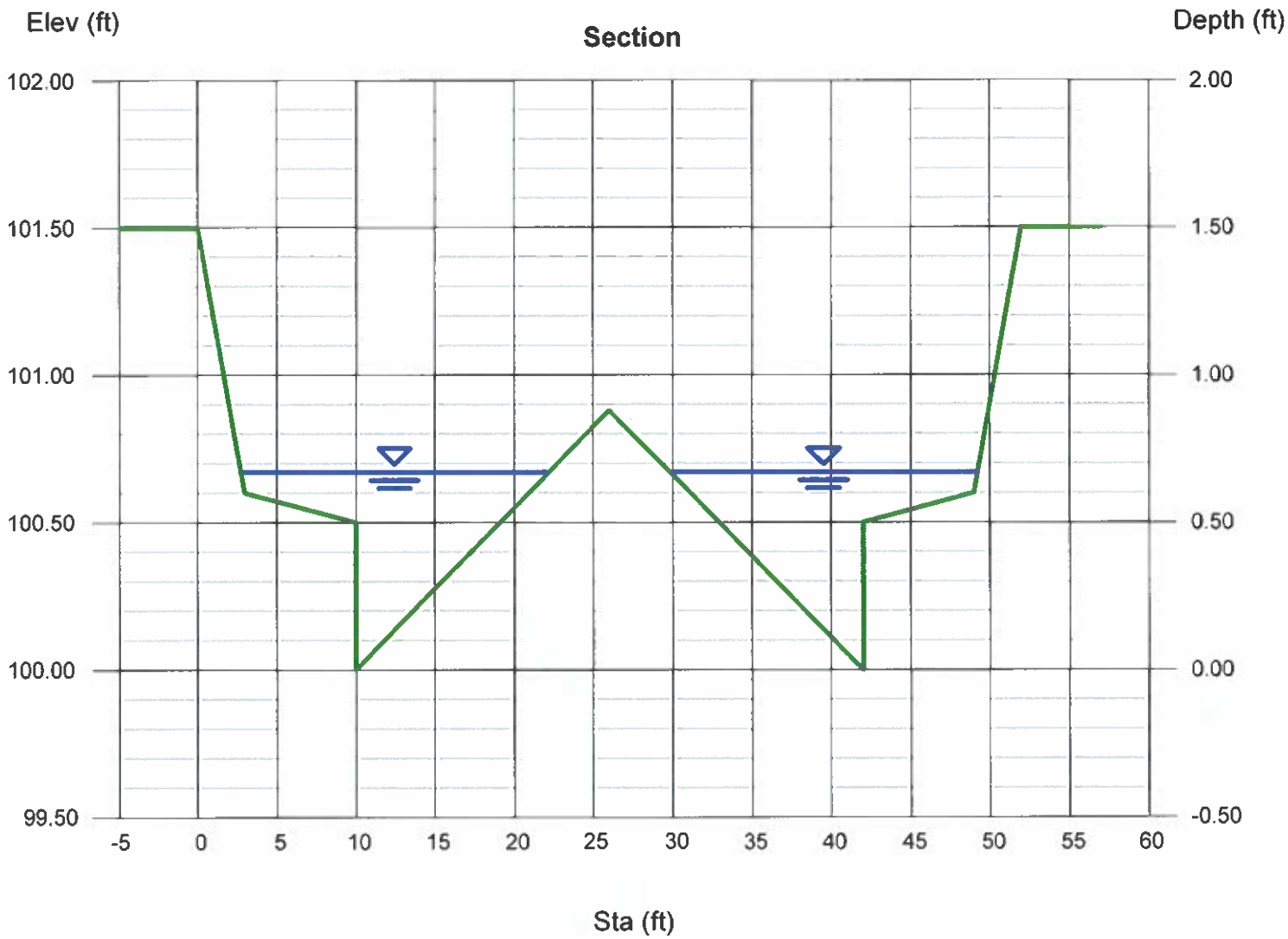
Compute by:	Known Q
Known Q (cfs)	= 10.44

Highlighted

Depth (ft)	= 0.67
Q (cfs)	= 10.44
Area (sqft)	= 9.86
Velocity (ft/s)	= 1.06
Wetted Perim (ft)	= 39.89
Crit Depth, Yc (ft)	= 0.46
Top Width (ft)	= 38.83
EGL (ft)	= 0.69

(Sta, El, n)-(Sta, El, n)...

(0.00, 101.50)-(3.00, 100.60, 0.040)-(10.00, 100.50, 0.040)-(10.00, 100.00, 0.040)-(26.00, 100.88, 0.020)-(42.00, 100.00, 0.020)-(42.00, 100.50, 0.040) -(49.00, 100.60, 0.040)-(52.00, 101.50, 0.040)



Channel Report

Hydraflow Express Extension for Autodesk® Civil 3D® by Autodesk, Inc. Thursday, Oct 21 2021

Saint Tower Court Channel Post-Development

Trapezoidal

Bottom Width (ft)	= 5.00
Side Slopes (z:1)	= 7.00, 7.00
Total Depth (ft)	= 1.50
Invert Elev (ft)	= 3112.00
Slope (%)	= 1.50
N-Value	= 0.200

Calculations

Compute by:	Known Q
Known Q (cfs)	= 10.44

Highlighted

Depth (ft)	= 1.14
Q (cfs)	= 10.44
Area (sqft)	= 14.80
Velocity (ft/s)	= 0.71
Wetted Perim (ft)	= 21.12
Crit Depth, Yc (ft)	= 0.42
Top Width (ft)	= 20.96
EGL (ft)	= 1.15

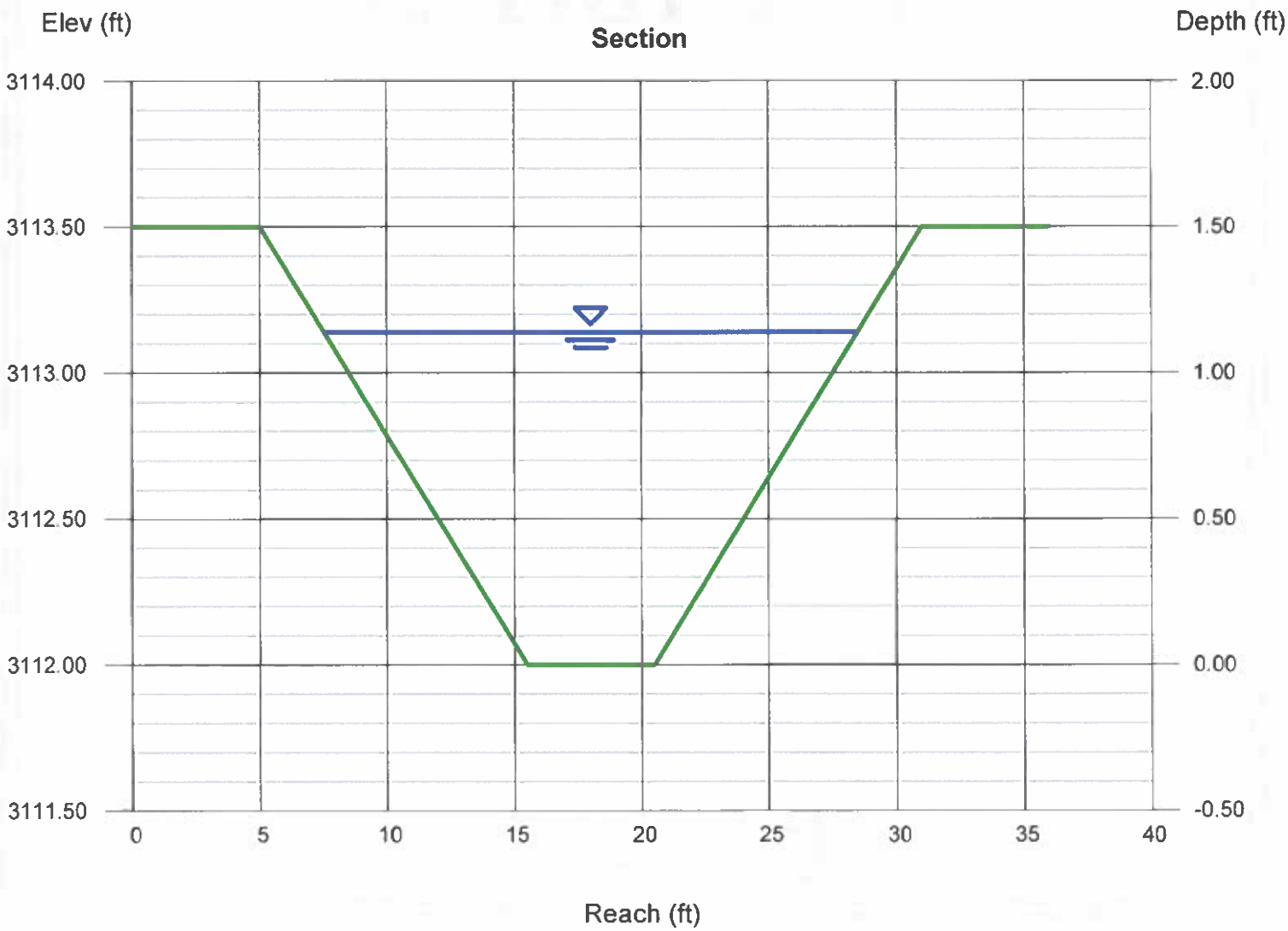


EXHIBIT D

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ENGINEERING &
CONSULTING, LLC

Map Scale: 1:2,330 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 30 60 120 180

Feet: 0 100 200 400 600

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 14N WGS84

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features

- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features

- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Lubbock County, Texas
Survey Area Data: Version 17, Jun 12, 2020

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jan 19, 2020—Jan 27, 2020

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres In AOI	Percent of AOI
AcA	Acuff loam, 0 to 1 percent slopes	2.7	12.9%
EcA	Estacado clay loam, 0 to 1 percent slopes	13.0	62.3%
MkB	Mansker clay loam, 1 to 3 percent slopes	4.7	22.5%
RaA	Randall clay, 0 to 1 percent slopes, occasionally ponded	0.5	2.3%
Totals for Area of Interest		**20.9**	**100.0%**

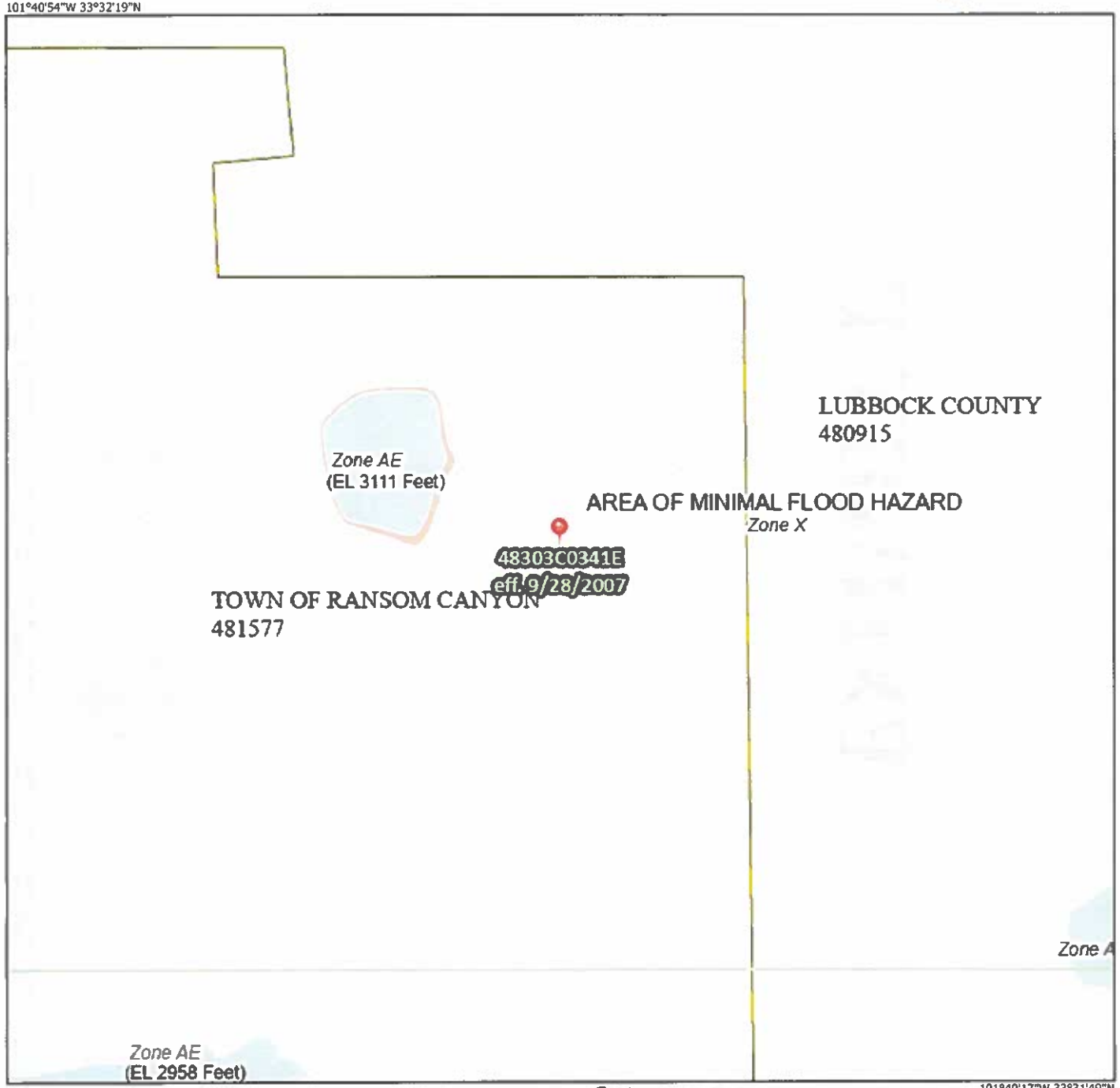
EXHIBIT E

CENTERLINE
ENGINEERING &
CONSULTING, LLC

National Flood Hazard Layer FIRMette

FEMA

101°40'54"W 33°32'19"N



101°40'17"W 33°31'49"N

0 250 500 1,000 1,500 2,000 Feet

1:6,000

Basemap: USGS National Map: Orthoimagery: Data refreshed October, 2020

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- B 20.2 17.5 Cross Sections with 1% Annual Chance Water Surface Elevation
- 6 Coastal Transect
- 513 Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 6/1/2021 at 9:45 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

EXHIBIT F

CENTERLINE
ENGINEERING &
CONSULTING, LLC

EXHIBIT F
Ransom Ranch Subdivision
Stormwater Management Technical Design Summary Report

CE&C No. 20-08-1182

PART 1 – Executive Summary Report

Section 1 – Contact Information:

Project Designer: Centerline Engineering & Consulting, LLC
8312 Upland Ave.
Lubbock, TX 79424
806-470-8686

Project Developer: Twin Flames Investments, LLC
4747 S Loop 289, Suite 210
Lubbock, TX 79424
806-410-1304

Section 2 – General Information:

This development is comprised of 61 residential lots and a common area to be constructed in Ransom Canyon, to the east of Spur Lane and to the north of Parklane Drive. The total area of the development is 13.989 acres.

Section 3 – Project Location:

The project site is in the City of Ransom Canyon. No portions of the site are in the 100-year floodplain (Zone X) and is not regulated under the National Flood Insurance Program. Refer to Exhibit E – Excerpt from FEMA FIRM Map # 48303C0341E, September 28, 2007.

Section 4 – Hydrologic Characteristics:

The existing project site is 100% poor grassland. The existing site slopes toward the west of the property. Discharges will all drain via sheet flow, shallow concentrated flow, and channel flow along proposed curb and gutter north long the proposed streets and east towards Spur Lane and the existing city park and playa lake. According to the NRCS Web Soil Survey, existing soils on site are all clay loam (refer to Exhibit C – Soils Map).

Section 5 – Stormwater Management:

According to the analysis performed in conjunction with this project, the peak flows from this development will slightly increase the peak flows of the existing site. The property is currently poor grassland and has slopes of 1-3% which drain toward the west of the site. The proposed development will match existing conditions to maintain existing flow paths and drainage areas. Stormwater from this project site will be conveyed by overland sheet flow to the proposed roadway.

Section 6 – Coordination and Permitting:

This development requires coordination with the City of Ransom Canyon.

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