ENGINEERING PLANS FOR THE DEVELOPMENT OF

THREE NEIGHBORHOODS

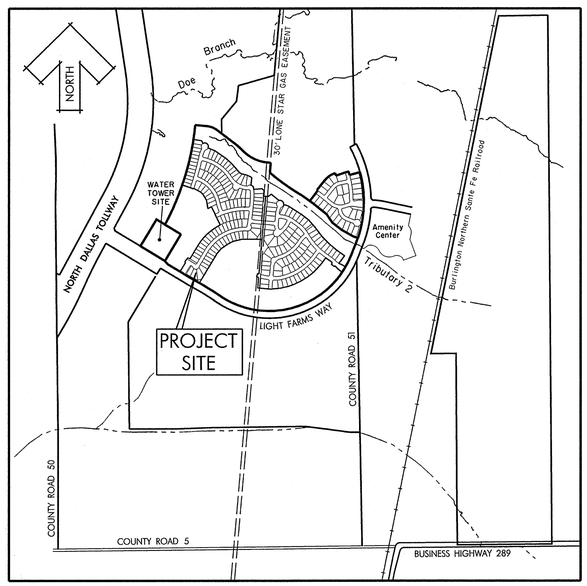
IN

LIGHT FARMS

THE INDIGO NEIGHBORHOOD
THE BLUESTEM NEIGHBORHOOD
THE GRANGE NEIGHBORHOOD

PHASE ONE

COLLIN COUNTY, TEXAS



LOCATION MAP
NTS

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RECORD DRAWING

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6-20-13

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GENERAL NOTES

1. ALL WORK SHALL CONFORM TO THE NORTH CENTRAL TEXAS COUNCIL OF GOVERNMENTS (NCTCOG) DETAILS & SPECIFICATIONS (CURRENT EDITION) THEREIN AND THE CITY OF CELINA'S ADDENDUM THERETO. SEE SUPPLEMENTARY CONDITIONS, SC-3.02.

2. BEFORE BEGINNING CONSTRUCTION, THE CONTRACTOR SHALL PREPARE A CONSTRUCTION SEQUENCE SCHEDULE. THE CONSTRUCTION SCHEDULE SHALL BE SUCH THAT THERE IS THE MINIMUM INTERFERENCE WITH TRAFFIC ALONG OR ADJACENT TO THE PROJECT.

3. CONSTRUCTION MAY NOT BE BEGUN EARLIER THAN 7:00 A.M. ON WEEKDAYS NOR CONTINUED AFTER DARK WITHOUT PERMISSION FROM THE CITY OF CELINA. CONSTRUCTION ON HOLIDAYS AND SATURDAY MUST BE APPROVED TWO DAYS IN ADVANCE, A FEE OF $300.00 A DAY FOR WORKING ON HOLIDAYS AND SATURDAY WILL BE ASSESSED PAYABLE TO THE CITY BEFORE WORK IS PREFORMED. WORK MAY NOT BE BEGIN BEFORE 8:00 A.M. AND WORK ON SUNDAY IS PROHIBITED WITHOUT SPECIAL PERMISSION AND PAYMENT OF FEES.

4. UTILITIES SHOWN ON THE PLANS WERE TAKEN FROM FIELD SURVEYS AND INFORMATION PROVIDED BY THE UTILITY COMPANIES. THE COMPLETENESS AND THE ACCURACY OF THIS DATA IS NOT GUARANTEED. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE LOCATION OF ALL UNDERGROUND UTILITIES AND STRUCTURES AND PROTECTING THEM FROM DAMAGE DURING CONSTRUCTION.

5. WORK MAY NOT BE BACKFILLED OR COVERED UNTIL THE CITY HAS INSPECTED IT, AS APPLICABLE.

6. THE OWNER WILL PAY FOR FIRST TIME MATERIAL TESTING. ANY RETESTING WILL BE AT CONTRACTOR'S EXPENSE. MATERIAL TESTING SHALL BE PERFORMED BY AN INDEPENDENT TESTING LABORATORY OF OWNER'S CHOICE. THE FOLLOWING MATERIAL TESTS SHALL BE PROVIDED BY THE CONTRACTOR:EMBANKMENT - ONE SOIL DENSITY TEST SHALL BE PERFORMED AT EACH LOCATION FOR EACH 500 C.Y. OF BACKFILL PLACED.

A. PAVEMENT SUB GRADE - ONE GRADATION TEST (WHERE LIME STABILIZED) AND ONE SOIL DENSITY TEST SHALL BE PERFORMED FOR EACH 100 LINEAR FEET OF PAVEMENT UNLESS OTHERWISE NOTED.

B. UTILITY TRENCH BACKFILL - ONE SOIL DENSITY TEST SHALL BE PERFORMED AS DIRECTED BY CITY OF CELINA. (EVERY 300 LF OF TRENCH)

C. CONCRETE TESTS:
(1). COMPRESSIVE STRENGTH - AS SPECIFIED IN THE N.C.T.C.O.G. SPECIFICATIONS OR CITY SPECIFICATIONS.
(2). AIR CONTENT - ONE TEST FOR EACH 25 C.Y. OF CONCRETE OR FRACTION THEREOF UNLESS OTHERWISE NOTED.
(3). SLUMP - ONE TEST FOR EACH 9 C.Y. UNLESS OTHERWISE NOTED.

D. THE CITY SHALL SELECT THE LOCATION AND DEPTH OF EACH SOIL DENSITY TEST, UNLESS OTHERWISE DIRECTED.

7. ALL EXCAVATION ON THE PROJECT IS UNCLASSIFIED.

8. TEMPORARY EROSION CONTROL SHALL BE USED TO MINIMIZE THE SPREAD OF SILT AND MUD FROM THE PROJECT ON TO EXISTING STREETS, ALLEYS, DRAINAGE WAYS AND PUBLIC AND PRIVATE PROPERTY. TEMPORARY EROSION CONTROLS MAY INCLUDE SILT FENCES, ROCK CHECK DAMS, STABILIZED CONSTRUCTION ENTRANCES, STRAW BALES, BERMS, DIKES, SWALES, STRIPS OF UNDISTURBED VEGETATION, CHECK DAMS AND OTHER METHODS AS REQUIRED BY THE CITY ADMINISTRATOR OR HIS REPRESENTATIVE AND SHALL CONFORM TO THE STORM WATER QUALITY BEST MANAGEMENT PRACTICES FOR CONSTRUCTION ACTIVITIES AS PUBLISHED BY THE NORTH CENTRAL TEXAS COUNCIL OF GOVERNMENTS.

9. FINISHED SLOPES ON PUBLIC RIGHTS-OF-WAY AND EASEMENTS SHALL NOT BE STEEPER THAN 4:1. ALL SLOPES STEEPER THAN 6:1 SHALL BE COVERED WITH EROSION CONTROL MATTING AND ARE HYDRO MULCHED AND MAINTAINED BY THE CONTRACTOR UNTIL GRASS COVERS ALL PARTS OF THE SLOPE.

10. THE CONTRACTOR SHALL MAINTAIN TWO-WAY TRAFFIC AT ALL TIMES ALONG THE PROJECT.

11. REMOVE, SALVAGE AND REPLACE ALL STREET AND TRAFFIC CONTROL SIGNS, WHICH MAY BE DAMAGED BY THE CONSTRUCTION OF THE PROJECT.

12. ALL TRENCHING AND EXCAVATION SHALL BE PERFORMED IN ACCORDANCE WITH OSHA STANDARDS.

13. PRIOR TO ANY CONSTRUCTION THE CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH THE CONTRACT DOCUMENTS AND SPECIFICATIONS, THE PLANS INCLUDING ALL NOTES, AND OTHER APPLICABLE STANDARDS OR SPECIFICATIONS RELEVANT TO THE PROPER COMPLETION OF THE WORK SPECIFIED. FAILURE ON THE PART OF THE CONTRACTOR TO FAMILIARIZE HIMSELF WITH ALL STANDARDS OR SPECIFICATIONS PERTAINING TO THIS WORK SHALL IN NO WAY RELIEVE THE CONTRACTOR OF RESPONSIBILITY FOR PERFORMING THE WORK IN ACCORDANCE WITH ALL SUCH APPLICABLE STANDARDS AND SPECIFICATIONS.

14. CONTRACTOR SHALL HAVE IN HIS POSSESSION, PRIOR TO CONSTRUCTION, ALL NECESSARY PERMITS, AND LICENSES, ETC. CONTRACTOR SHALL HAVE AT LEAST ONE SET OF APPROVED ENGINEERING PLANS AND SPECIFICATIONS ON-SITE AT ALL TIMES.

15. IN THE EVENT AN ITEM IS NOT COVERED IN THE NORTH CENTRAL TEXAS COUNCIL OF GOVERNMENTS (NCTCOG) STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, THE CONTRACTOR SHALL PROVIDE AN ALTERNATIVE TO THE OWNER AND ENGINEER. THE ENGINEER SHALL REVIEW AND APPROVE CONSTRUCTION MATERIALS, SHOP DRAWINGS AND SPECIFICATIONS.

16. CONSTRUCTION OBSERVATION WILL BE PERFORMED BY REPRESENTATIVES OF THE OWNER, ENGINEER, DISTRICT, GEOTECHNICAL ENGINEER, AND REVIEWING AUTHORITIES AND AGENCIES. UNRESTRICTED ACCESS SHALL BE PROVIDED TO THEM AT ALL TIMES. CONTRACTOR IS RESPONSIBLE FOR UNDERSTANDING AND SCHEDULING REQUIRED INSPECTIONS.

17. ALL CONTRACTORS MUST CONFINE THEIR ACTIVITIES TO THE WORK AREA. NO ENCROACHMENTS ONTO DEVELOPED OR UNDEVELOPED AREAS WILL BE ALLOWED, UNLESS SPECIFICALLY NOTED ON PLANS. ANY DAMAGE RESULTING THERE FROM SHALL BE CONTRACTOR'S RESPONSIBILITY TO REPAIR.

18. IT WILL BE THE RESPONSIBILITY OF EACH CONTRACTOR TO PROTECT ALL EXISTING PUBLIC AND PRIVATE UTILITIES THROUGHOUT THE CONSTRUCTION OF THIS PROJECT. CONTRACTOR SHALL CONTACT THE APPROPRIATE UTILITY COMPANIES FOR LINE LOCATIONS PRIOR TO COMMENCEMENT OF CONSTRUCTION AND SHALL ASSUME FULL LIABILITY TO THOSE COMPANIES FOR ANY DAMAGES CAUSED TO THEIR FACILITIES.

19. CONSTRUCTION STAKING WILL BE PERFORMED BY OWNER'S ENGINEER. SEE SUPPLEMENTARY CONDITIONS, SC-4.05.

20. IF UNFORESEEN PROBLEMS OR CONFLICTS ARE ENCOUNTERED IN THE CONSTRUCTION, FOR WHICH AN IMMEDIATE SOLUTION IS NOT APPARENT, THE ENGINEER AND OWNER SHALL BE NOTIFIED IMMEDIATELY.

21. CONTRACTORS SHALL BE RESPONSIBLE FOR FIELD LOCATIONS AND WORKING AROUND EXISTING UTILITIES AND IMPROVEMENTS. SEE SUPPLEMENTARY CONDITIONS, SC-4.02 AND SC-6.13.

22. TRAFFIC CONTROL MEASURES SHALL BE INSTALLED FOR ANY WORK ACTIVITY THAT TAKES PLACE ON OR ADJACENT TO ANY PUBLIC STREET OR ROADWAY. TRAFFIC CONTROL MEASURES SHALL CONFORM TO PART IV OF THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

23. THE CONTRACTOR SHALL PROVIDE A TRENCH SAFETY PLAN AND BE RESPONSIBLE FOR FIELD VERIFYING ALL EXISTING UTILITY LOCATIONS PRIOR TO HIS WORK.

24. ALL PIPE PRICES SHALL INCLUDE REQUIRED EMBEDMENT PER PLANS AND SPECIFICATIONS.

GRADING NOTES

1. HAUL ROADS ARE SUBSIDIARY TO THIS CONTRACT. SPECIAL CARE SHALL BE TAKEN TO INSTALL HAUL ROAD CROSSINGS ABOVE THE ATMOS GAS MAIN WHICH CROSSES THE PROJECT SITE. AT EACH AND EVERY HAUL ROAD OR CONSTRUCTION TRAFFIC CROSSING OF THE GAS MAIN THE CONTRACTOR SHALL INSTALL A BERM TO ACHIEVE AT LEAST FOUR ADDITIONAL FEET OF COVER OVER THE GAS MAIN AND TEN FEET EITHER SIDE OF THE GAS MAIN. THE WIDTH OF THE CROSSING SHALL BE LIMITED TO TWENTY FOUR FEET.

2. TOPSOIL STRIPPING & REPLACEMENT: THIS CONTRACT REQUIRES THAT A NOMINAL 3-INCH DEPTH OF TOPSOIL BE STRIPPED FROM ALL CLEARED AND GRUBBED AREAS. TOPSOIL STRIPPINGS SHALL BE INCORPORATED INTO LANDSCAPE AREAS OUTSIDE OVERBUILT PADS. IN STREET PARKWAYS, MEDIANS, OPEN SPACE, EARTHEN DRAINAGE DITCHES AND SWALES FOR ALL SUBDIVISIONS, A MINIMUM OF 4 INCHES OF TOPSOIL SHALL BE PLACED IN ADVANCE OF GRASSING OPERATIONS. THE GRADING OPERATIONS SHALL ACCOMMODATE TOPSOIL TO BE PLACED IN THESE DESIGNATED AREAS. STOCKPILED TOP SOIL SHALL BE PROTECTED FROM EROSION WITH APPROPRIATE EROSION CONTROL MEASURES AT ALL TIMES. ONCE THE EXCESS MATERIAL HAS BEEN PLACED AND COMPACTED THE TOP SOIL SHALL BE EVENLY REDISTRIBUTED ON TOP OF THE PLACED FILL BEFORE BEING REVEGETATED.

GRADING NOTES

3. REGARDING WORK SHALL BE CLOSELY COORDINATED WITH THE OWNER AND ENGINEER BEFORE AND AS THE WORK IS BEING ACCOMPLISHED. ONCE STARTED, THIS WORK SHALL BE PROSECUTED WITH DILIGENCE UNTIL COMPLETE.

4. ALL NEW WORK SHALL SLOPE UNIFORMLY BETWEEN SPOT ELEVATIONS UNLESS NOTED OTHERWISE. PROVIDE POSITIVE DRAINAGE ON ALL FINISH GRADES.

5. MASS GRADING: MASS GRADING OPERATIONS SHALL BE PERFORMED IN CONFORMANCE WITH THE RECOMMENDATIONS IN THE PRELIMINARY GEOTECHNICAL INVESTIGATIONS AS PROVIDED IN CONTRACT DOCUMENTS. COMPACTION OF ALL FILL MATERIAL SHALL BE A MINIMUM OF 95% OF STANDARD PROCTOR DENSITY AS DETERMINED BY ASTM D 698 OR AS REQUIRED IN THE PRELIMINARY GEOTECHNICAL INVESTIGATION. THE MOISTURE CONTENT OF ALL FILL MATERIAL SHALL BE NEAR ITS OPTIMUM MOISTURE CONTENT (ASTM D 698); DRY SOILS SHALL HAVE WATER ADDED AND WET SOILS SHALL BE AERATED, SO THAT ALL SOIL PLACEMENT WILL MEET DENSITY REQUIREMENTS.

6. CLEARING AREAS TO BE FILLED: IN AREAS TO BE FILLED, ALL TREES, STUMPS, BRUSH, ABANDONED STRUCTURES, ROOTS, TOPSOIL, VEGETATION, SEDIMENTS, LARGE ROCK FRAGMENTS, RUBBISH, AND ANY OTHER UNDESIRABLE OR DELETERIOUS MATTER SHOULD BE PROPERLY REMOVED AND DISPOSED OF. ALL TOPSOIL, ROOTS, OTHER VEGETATION AND LOOSE OR SOFT SOILS SHOULD BE STRIPPED TO A DEPTH OF 6 INCHES AND THE EXPOSED SURFACE SHOULD BE SCARIFIED TO AN ADDITIONAL DEPTH OF AT LEAST 6 INCHES. TO THE EXTENT PRACTICAL, IT IS RECOMMENDED THAT TREES SCHEDULED FOR REMOVAL IN THE VICINITY OF PROPOSED SLAB-ON-GRADE FOUNDATIONS BE REMOVED AS FAR IN ADVANCE OF SLAB CONSTRUCTION AS POSSIBLE. THIS WILL TEND TO RESTORE A MORE FAVORABLE SOIL MOISTURE EQUILIBRIUM WHICH WILL, IN TURN, TEND TO MINIMIZE THE POTENTIAL FOR GREATER THAN ANTICIPATED POST-CONSTRUCTION GROUND MOVEMENTS. TREES SHOULD BE EXCAVATED TO BELOW THEIR ROOT BALLS. THEN THE EXCAVATION SHOULD BE FILLED WITH SOIL SIMILAR TO THE SURROUNDING SOIL. THE FILL SHOULD BE CONSTRUCTED IN ACCORDANCE WITH THE RECOMMENDATIONS PRESENTED IN THE PRELIMINARY GEOTECHNICAL INVESTIGATION.

7. WATERING: WATERING OF EARTHWORK PLACED IN FILL AREAS MAY BE NECESSARY TO ACHIEVE THE SPECIFIED MOISTURE DENSITY REQUIREMENT, AND TO GERMINATE/SUSTAIN GRASS COVER IN AREAS TO RECEIVE A VEGETATIVE COVER AFTER GRADING IS COMPLETE. THE CONTRACTOR MAY REQUEST A FIRE HYDRANT METER FROM THE CITY OF CELINA FOR CONSTRUCTION WATER USE OR OBTAIN WATER FROM AN ALTERNATE SOURCE. NO EXTRA PAYMENT WILL BE MADE TO THE CONTRACTOR FOR WATER.

8. SWALE AND FINE GRADING OF LOTS: THE TOLERANCE FOR FINE GRADING OF THE LOT PADS AND OTHER AREAS UNDER THIS CONTRACT IS PLUS OR MINUS 0.30 FEET. SURFACES SHALL BE GRADED STRAIGHT AND SMOOTH BETWEEN CONTROL POINTS OR GRADES, WITHOUT BULGES OR DEPRESSIONS, AS DETAILED ON THE DRAWINGS. SEE REQUIREMENTS FOR TOPSOIL PLACEMENT IN NOTE #1 ABOVE.

9. SWALES ARE TO BE GRADED AS SHOWN ON THE GRADING PLANS. FINE GRADING CONSISTS OF CREATING A SMOOTH FINISHED LEVEL HOUSE PAD WITH A UNIFORM TRANSITION TO SIDE YARD SWALES AND FRONT YARD SLOPES TO THE RIGHT-OF-WAY AND CURB.

10. CONTRACTOR IS HEREBY DIRECTED TO ENSURE THAT ALL SWALES, AS SHOWN ON THE GRADING PLANS, ARE PROPERLY INSTALLED. AT LOCATIONS WHERE RETAINING WALLS EXIST AND/OR ARE PROPOSED BEHIND, BESIDE OR BETWEEN LOTS, SWALES MUST BE CREATED ON THE UPPER LOT DIRECTLY BEHIND THE WALL AND ON THE LOWER LOT ADJACENT TO THE WALL WHERE SHOWN TO CONVEY SURFACE DRAINAGE IN THE DIRECTION SHOWN ON THE GRADING PLAN.

11. REESTABLISHMENT OF VEGETATION: ESTABLISHMENT OF VEGETATION SHALL BE INITIATED IMMEDIATELY AFTER COMPLETING GRADING AND IN NO CASE LATER THAN 14 DAYS AFTER COMPLETION OF GRADING. THE CONTRACTOR WILL BE REQUIRED TO BROADCAST SEED AND FERTILIZER ON FINISHED LOTS. TILLING WILL NOT BE REQUIRED. THE SEED MIX SHALL BE 50% UNHULLED BERMUDA AND 50% FOXTAIL MILLET-GERMAN STRAIN R APPLIED AT A RATE OF 10 LBS. PER ACRE. 10-10-10 FERTILIZER SHALL BE APPLIED AT THE RATE OF 200 LBS. PER ACRE OR AS RECOMMENDED BY THE FERTILIZER MANUFACTURER. THE UNIT PRICE BID FOR "REVEGETATION OF GRADED LOTS" SHALL INCLUDE ALL COSTS ASSOCIATED WITH PROVIDING AND SPREADING SEED AND FERTILIZER. THE VEGETATION MUST ACHIEVE A COVER THAT IS 70 PERCENT OF THE NATIVE BACKGROUND VEGETATIVE COVER TO BE CONSIDERED FINAL STABILIZATION.

WATER AND SANITARY SEWER

1. WATER-JETTING OF UTILITY TRENCHES IS NOT AN ACCEPTABLE METHOD OF ACHIEVING REQUIRED COMPACTION.

2. ALL WATER MAINS SHALL BE PVC C900 DR-18. EMBEDMENT SHALL BE CLASS "B- 3" UNLESS OTHERWISE NOTED. CAST IRON FITTINGS, EMBEDMENT, AND THRUST BLOCKING ARE SUBSIDIARY TO THE UNIT PRICE.

3. WATER SERVICE FITTINGS: ALL WATER SERVICE FITTINGS SHALL BE COMPRESSION-TYPE AND ARE SUBSIDIARY TO THE UNIT PRICE FOR WATER LINE. FITTINGS SHALL BE MECHANICAL JOINT TYPE AND SHALL BE CLASS 250.

4. FIRE HYDRANT ASSEMBLY: FIRE HYDRANT ASSEMBLY SHALL INCLUDE A 6" PVC LEAD, 6" VALVE, FITTINGS, CONCRETE BLOCKING, AND THE FIRE HYDRANT.

5. WATER METERS: WATER METERS WILL BE SET AT A LATER DATE BY OTHERS. UTILITY CONTRACTOR WILL BE RESPONSIBLE FOR MAKING THE TAP, INSTALLING THE COPPER SERVICE LINE PER NCTCOG STANDARD DETAILS, PROVIDING THE CURB STOP AND DEADHEAD VALVES, AND PROPERLY PLACING A METER BOX. LOCATOR PADS SHALL BE PLACED AT ALL VALVE LOCATIONS. THE LOCATOR PAD SHALL BECOME THE PROPERTY OF THE CITY. THE TERM 'WATER METER BOX' AND 'WATER METER CAN' ARE USED INTERCHANGEABLY.

6. MARKING TAPE SHALL BE INSTALLED ONE FOOT ABOVE AND OVER PVC WATER LINES.

7. FITTINGS FOR PVC WATER LINES SHALL BE DUCTILE IRON AND BE ENCASED IN A POLYETHYLENE SHEATH, AND ARE SUBSIDIARY TO THE UNIT PRICE FOR WATER LINE.

8. ALL MECHANICAL JOINTS WILL BE RESTRAINED. (MEGA-LUG, ETC.)

9. VALVES, INCLUDING TAPPING VALVES SHALL BE RESILIENT SEAT GATE VALVES.

10. ALL DIRECT BURIAL VALVES SHALL BE PROVIDED WITH CAST IRON VALVE BOXES WITH PVC STACKS. VALVE STACKS SHALL BE VERTICAL AND CONCENTRIC WITH THE VALVE STEM. STAINLESS STEEL VALVE EXTENSIONS ARE REQUIRED ON ALL VALVES WHERE THE OPERATING NUT IS GREATER THAN 4 FEET BELOW FINISHED GRADE.

11. FIRE HYDRANTS SHALL BE WATEROUS OR EQUAL AS DIRECTED OR APPROVED BY THE CITY OF CELINA ON A CASE BY CASE BASIS AND FIELD PAINTED SILVER WITH BONNET AND CAPS COLOR-CODED TO PIPE SIZE.
A. SIX INCH LINE- SILVER BODY WITH RED BONNET AND CAPS.
B. EIGHT INCH LINE- SILVER BODY WITH BLUE BONNET AND CAPS.
C. TEN INCH LINE- SILVER BODY WITH GREEN BONNET AND CAPS.
D. TWELVE INCH AND LARGER- SILVER BODY WITH YELLOW BONNET AND CAPS.

12. ALL EXPOSED BOLTING ON ANY BURIED EQUIPMENT OR MATERIAL SHALL BE STAINLESS STEEL. INCLUDED ARE:
A. BONNET AND STUFFING BOX BOLTS ON VALVES.
B. SHOE BOLTS ON FIRE HYDRANTS.
C. FLANGE BOLTS.
D. "COR-TEN" MECHANICAL JOINT "T" BOLTS ARE ACCEPTABLE FOR DIRECT BURIAL SERVICE.

13. METER BOXES SHALL BE APPROVED BY THE CITY OF CELINA.

14. SAMPLING STATIONS 1 FOR EVERY 250 CONNECTIONS WILL BE FIELD PLACED DURING CONSTRUCTION.

15. SANITARY SEWER MAINS SHALL BE SDR 35 PVC, UNLESS OTHERWISE NOTED. CLASS H EMBEDMENT UNLESS OTHERWISE NOTED.
A. THE CONTRACTOR SHALL INSTALL AND MAINTAIN WATERTIGHT PLUGS IN ALL CONNECTIONS TO THE CITY'S SANITARY SEWER SYSTEM UNTIL THE CITY ACCEPTS THE PROJECT.
B. ALL SANITARY SEWER LINES AND MANHOLES SHALL BE LEAK TESTED AND VIDEO TESTED BEFORE THE PROJECT IS ACCEPTED. DEFLECTION TESTING OF PVC SEWER LINES IS REQUIRED.

16. SANITARY SEWER STUB-OUTS FROM MANHOLES SHALL BE FITTED WITH WATER TIGHT STOPPER OR CAP.

17. STUB-OUTS FROM MANHOLES SHALL BE A MINIMUM OF 5-FT LONG WITH CONCRETE CRADLE (FROM SAME POUR) UNDER THE ENTIRE LENGTH PER NCTCOG STANDARD DRAWING NO. 5020 AND 5030, DATED OCTOBER 2004, AND NCTCOG STANDARD DRAWING NO. 3010 CLASS "A" EMBEDMENT, DATED OCTOBER 2004.

18. ALL VALVES, FIRE HYDRANTS, METER BOXES, SEWER SERVICES, SEWER MANHOLES, AND SEWER CLEANOUTS REQUIRE CURB MARKS PER CITY STANDARDS.

STORM DRAINAGE CONSTRUCTION NOTES

1. STORM SEWER PIPE SHALL BE REINFORCED CONCRETE, CLASS III UNLESS OTHERWISE NOTED.

2. ALL STRUCTURAL CONCRETE SHALL BE CLASS "C" (3600 PSI COMPRESSIVE STRENGTH AT 28 DAYS), AIR ENTRAINED.

3. THE CONTRACTOR SHALL INSTALL PLUGS IN STORM SEWER LINES OR OTHERWISE PREVENT MUD FROM ENTERING THE STORM SEWER SYSTEM DURING CONSTRUCTION.

4. INLET BLOCKOUTS, VARIABLE CURB, AND INLET TOP WILL BE THE UTILITY CONTRACTOR'S RESPONSIBILITY FOLLOWING PAVING OPERATIONS. INLET BLOCKOUTS SHALL BE PLACED 3.5 FEET FROM BACK OF CURB FOR A DISTANCE OF TEN (10) FEET UPSTREAM (BOTH SIDES IN SAG CONDITIONS) AND FIVE (5) FEET DOWNSTREAM OF THE INSIDE FACE OF INLET. UNLESS OTHERWISE NOTED IN CONSTRUCTION PLANS.

5. STORM DRAINAGE PIPE AND HEADWALLS: UNLESS NOTED OTHERWISE ON THE PLANS, ALL STORM DRAINAGE PIPE SHALL BE CLASS III AND EMBEDMENT SHALL BE CLASS "C" PER NORTH CENTRAL TEXAS COUNCIL OF GOVERNMENTS STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, STANDARD DRAWING NO. 3040. THE UNIT PRICE SUPPLIED FOR THE CONSTRUCTION OF THE STORM HEADWALLS SHALL INCLUDE VALUE FOR THE NECESSARY EXCAVATION/GRADE-TO-DRAIN ACTIVITY CONSIDERED SUBSIDIARY TO THE INSTALLATION OF THE STORM OUTFALL STRUCTURES. THE EXCAVATED CHANNEL SHALL HAVE A MINIMUM 1% LONGITUDINAL SLOPE AND MINIMUM BOTTOM WIDTH OF TWICE THE WIDTH OF THE OUTFALLING PIPE OR BOX, UNLESS OTHERWISE NOTED, AND SHALL HAVE THE EMBANKMENTS SLOPED BACK AT A 3:1 SLOPE.

6. INLET BOTTOM CONSTRUCTION: WITHIN 24 HOURS OF THE COMPLETION OF THE CONSTRUCTED INLET BOTTOM, EROSION CONTROL MEASURES SHALL BE EMPLOYED AS SHOWN IN THE NCTCOG EROSION CONTROL DETAILS. INTERIM EROSION CONTROL MEASURES SHALL BE EMPLOYED UNTIL THE CONCRETE FOR THE INLET BASE HAS SET AND THE REQUIRED EROSION CONTROL MEASURES INSTALLED.

7. ROCK RIP RAP: THE PLACEMENT OF ROCK RIP-RAP AT STORM DRAINAGE OUTFALLS WILL BE DELAYED UNTIL THE COMPLETION OF ALL UTILITY WORK. THE ROCK RIP-RAP MAY ALSO BE DESIGNATED FOR PLACEMENT ON THE FRESH EMBANKMENTS TO STABILIZE THE SLOPES.

UTILITY SEPARATION NOTES

1. SEPARATION DISTANCES BETWEEN PUBLIC WATER SUPPLY PIPES AND SANITARY SEWER COLLECTION SYSTEMS OR MANHOLES MUST COMPLY WITH 30 TAC 217.53(D) AND 30TAC 290.44(E).

2. COLLECTION SYSTEM PIPES MUST BE INSTALLED IN TRENCHES SEPARATE FROM PUBLIC WATER SUPPLY TRENCHES.

3. COLLECTION SYSTEM PIPES MUST BE NO CLOSER THAN NINE FEET IN ANY DIRECTION TO A PUBLIC WATER SUPPLY LINE.

4. WHERE THE NINE-FOOT SEPARATION DISTANCE CANNOT BE ACHIEVED, THE FOLLOWING CRITERIA SHALL APPLY.

A. MINIMUM SANITARY SEWER PIPE SEGMENT LENGTH SHALL BE AT LEAST 18-FEET WHERE THE NINE-FOOT SEPARATION DISTANCE CANNOT BE ACHIEVED.

B. WHERE A NEW POTABLE WATERLINE CROSSES AN EXISTING, NON-PRESSURE RATED SANITARY SEWER MAIN OR LATERAL, ONE SEGMENT OF THE WATERLINE PIPE SHALL BE CENTERED OVER THE SANITARY SEWER MAIN OR LATERAL SUCH THAT THE JOINTS OF THE WATERLINE PIPE ARE EQUIDISTANT AND AT LEAST NINE FEET HORIZONTALLY FROM THE CENTERLINE OF THE SANITARY SEWER MAIN OR LATERAL. THE POTABLE WATERLINE SHALL BE AT LEAST TWO FEET ABOVE THE SANITARY SEWER MAIN OR LATERAL. WHENEVER POSSIBLE, THE CROSSING SHALL BE CENTERED BETWEEN THE JOINTS OF THE SANITARY SEWER MAIN OR LATERAL. IF THE EXISTING SANITARY SEWER MAIN OR LATERAL IS DISTURBED OR SHOWS SIGNS OF LEAKING, IT SHALL BE REPLACED FOR AT LEAST NINE FEET IN BOTH DIRECTIONS (18 FEET TOTAL) WITH AT LEAST 150 PSI PRESSURE RATED PIPE.

C. WHERE A NEW POTABLE WATERLINE CROSSES A NEW, NON-PRESSURE RATED SANITARY SEWER MAIN OR LATERAL AND THE STANDARD PIPE SEGMENT LENGTH OF THE SANITARY SEWER MAIN OR LATERAL IS AT LEAST 18 FEET, ONE SEGMENT OF THE WATERLINE PIPE SHALL BE CENTERED OVER THE SANITARY SEWER MAIN OR LATERAL SUCH THAT THE JOINTS OF THE WATERLINE PIPE ARE EQUIDISTANT AND AT LEAST NINE FEET HORIZONTALLY FROM THE CENTERLINE OF THE SANITARY SEWER MAIN OR LATERAL. THE POTABLE WATERLINE SHALL BE AT LEAST TWO FEET ABOVE THE SANITARY SEWER MAIN OR LATERAL. WHENEVER POSSIBLE, THE CROSSING SHALL BE CENTERED BETWEEN THE JOINTS OF THE SANITARY SEWER MAIN OR LATERAL. THE SANITARY SEWER PIPE SHALL HAVE A MINIMUM PIPE STIFFNESS OF 115 PSI AT 5.0% DEFLECTION. THE SANITARY SEWER MAIN OR LATERAL SHALL BE EMBEDDED IN CEMENT STABILIZED SAND FOR THE TOTAL LENGTH OF ONE PIPE SEGMENT PLUS 12 INCHES BEYOND THE JOINT ON EACH END. WHERE SHOWN, THE SANITARY SEWER LINE SHALL BE CONSTRUCTED OF 150 PSI PRESSURE RATED PIPE.

D. WHERE CEMENT STABILIZED SAND BEDDING IS REQUIRED, THE CEMENT STABILIZED SAND SHALL HAVE A MINIMUM OF 10% CEMENT PER CUBIC YARD OF CEMENT STABILIZED SAND MIXTURE, BASED ON LOOSE DRY WEIGHT VOLUME (AT LEAST 2.5 BAGS OF CEMENT PER CUBIC YARD OF MIXTURE). THE CEMENT STABILIZED SAND BEDDING SHALL BE A MINIMUM OF SIX INCHES ABOVE AND FOUR INCHES BELOW THE SANITARY SEWER MAIN OR LATERAL.

E. WHEN A NEW WATERLINE CROSSES UNDER A SANITARY SEWER MAIN OR LATERAL, ALL SECTIONS OF WATERLINE WITHIN NINE FEET HORIZONTALLY OF THE SANITARY SEWER MAIN OR LATERAL SHALL BE ENCASED IN AN 18-FOOT (OR LONGER) SECTION OF PIPE. FLEXIBLE ENCASING PIPE SHALL HAVE A MINIMUM PIPE STIFFNESS OF 115 PSI AT 5.0% DEFLECTION. THE ENCASING PIPE SHALL BE CENTERED ON THE WATERLINE AND SHALL BE AT LEAST TWO NOMINAL PIPE DIAMETERS LARGER THAN THE SANITARY SEWER MAIN OR LATERAL. THE SPACE AROUND THE CARRIER PIPE SHALL BE SUPPORTED AT FIVE-FOOT (OR LESS) INTERVALS WITH SPACERS OR BE FILLED TO THE SPRINGLINE WITH WASHED SAND. EACH END OF THE CASING SHALL BE SEALED WITH WATERTIGHT NON-SHRINK CEMENT GROUT OR A MANUFACTURED WATERTIGHT SEAL. IN LIEU OF THE ENCASEMENT, THE WATERLINE CAN ALSO BE CONSTRUCTED OF DUCTILE IRON OR STEEL PIPE WITH MECHANICAL OR WELDED JOINTS AS APPROPRIATE. AN ABSOLUTE MINIMUM SEPARATION DISTANCE OF ONE FOOT BETWEEN THE WATERLINE AND THE SANITARY SEWER MAIN OR LATERAL SHALL BE PROVIDED.

F. WATERLINE AND SANITARY SEWER MAIN OR LATERAL MANHOLE OR CLEANOUT SEPARATION: THE SEPARATION DISTANCE FROM A POTABLE WATERLINE TO A SANITARY SEWER MAIN OR LATERAL MANHOLE OR CLEANOUT SHALL BE A MINIMUM OF NINE FEET. WHERE THE NINE-FOOT SEPARATION DISTANCE CANNOT BE ACHIEVED, THE POTABLE WATERLINE SHALL BE ENCASED IN A JOINT OF AT LEAST 150 PSI PRESSURE CLASS PIPE AT LEAST 18 FEET LONG AND TWO NOMINAL SIZES LARGER THAN THE NEW CONVEYANCE. THE SPACE AROUND THE CARRIER PIPE SHALL BE SUPPORTED AT FIVE-FOOT INTERVALS WITH SPACERS OR BE FILLED TO THE SPRINGLINE WITH WASHED SAND. THE ENCASEMENT PIPE SHALL BE CENTERED ON THE CROSSING AND BOTH ENDS SEALED WITH CEMENT GROUT OR MANUFACTURED SEALANT.

G. LOCATION OF FIRE HYDRANTS: FIRE HYDRANTS SHALL NOT BE INSTALLED WITHIN NINE FEET VERTICALLY OR HORIZONTALLY OF ANY SANITARY SEWER MAIN, SANITARY SEWER LATERAL, OR SANITARY SEWER SERVICE LINE REGARDLESS OF CONSTRUCTION.

STATE OF TEXAS
KEVIN N. CARLSON
89232
LICENSED
PROFESSIONAL ENGINEER
6-20-13

Huitt-Zollars, Inc.
Firm Registration No. F-761

RECORD DRAWING

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GENERAL NOTES

LIGHT FARMS

LFC Land Company LLC

Collin County Municipal Utility District No. 1

COLLIN COUNTY, TEXAS

HUITT-ZOLLARS

DESIGN	CHECKED	DATE	SCALE	NOTES	JOB NO.	SHT. NO.
HZI	HZI		NA		01-3905-26	2

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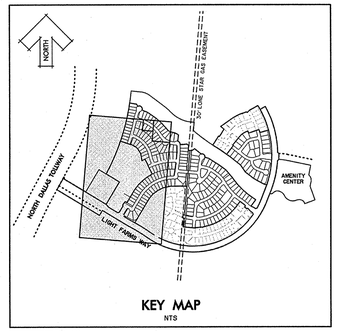
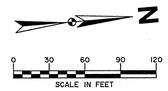
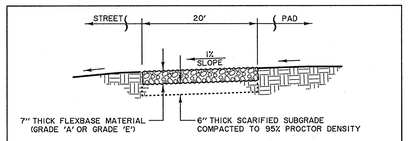






TYPICAL SECTION
TEMPORARY EMERGENCY ACCESS ROAD
N.T.S.

STONE WALL (1' TO 3' HIGH)
LANDSCAPE / RETAINING WALL
Not to Scale

NOTE:
RETAINING WALL FACE OR BACK SHALL BE CONSTRUCTED A MIN. OF 6" FROM PROPERTY LINE/R.O.W. LINE. REFER TO STRUCTURAL DESIGN OF WALL BY OTHERS FOR WALLS GREATER THAN 3 FT. OF HEIGHT.

BASIS OF VERTICAL DATUM - NAVD 1988 based on National Geodetic Survey Benchmarks N-185 (Elevation 650.78') and H263 (Elevation - 643.81')

BENCHMARKS:

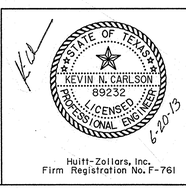
TBM #39
Square cut on curb inlet, east side of North Dallas Tollway at the northeast corner of intersection with Light Farms Boulevard. Elev. 639.57' (Set 4/4/08)

HZI Control Monument #4
5/8 inch iron rod set in concrete with aluminum cap, north side of Light Farms Way at 1418 feet left of centerline Station 30+39. Elev. 630.40'

NOTE:
ALL DISTURBED AREAS MUST BE PERMANENTLY STABILIZED BY HYDROMULCH OR BROADCAST SEEDING PER NCTGOG STANDARDS TO REESTABLISH VEGETATION UNDER THE DIRECTION OF THE ENGINEER / DEVELOPER.

NOTE:
Top of Curb grades are shown to the nearest tenth of a foot (0.1) for rough grading purposes. Paving plans shall be used for the final pavement grade construction.

LEGEND	
630	EXISTING CONTOUR
34.1	PROPOSED SPOT ELEVATION
57.70 TC	PROPOSED TOP CURB ELEVATION
57.70 TC	EXISTING TOP CURB ELEVATION
FP	FINISH PAD ELEVATION
→	SURFACE FLOW DIRECTION
- - - -	EXPOSED BEAM
———	PROPOSED RETAINING WALL
TW	TOP OF WALL ELEVATION
BW	BOTTOM OF WALL ELEVATION



Huitt-Zollars, Inc.
Firm Registration No. F-761

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GRADING PLAN

LIGHT FARMS

LFC Land Company LLC

Collin County Municipal Utility District No. 1

COLLIN COUNTY, TEXAS

HUITT-ZOLLARS

DESIGN	CHECKED	DATE	SCALE	NOTES	JOB NO.	SHT. NO.
HZI	HZI		1"=60'		01-3905-26	6

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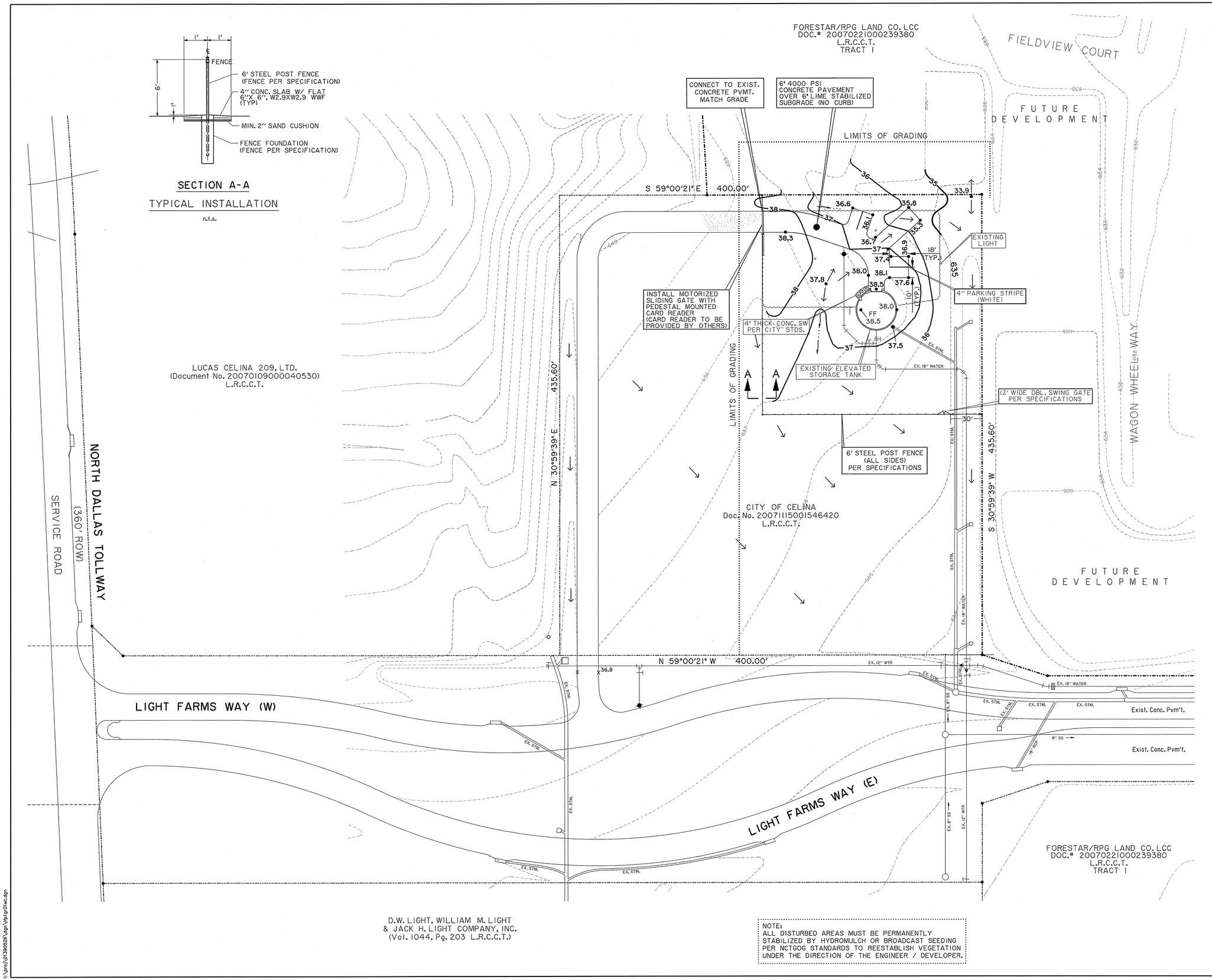

SECTION A-A

TYPICAL INSTALLATION

n.t.s.

NOTE:
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LEGEND

EXISTING CONTOUR	690
PROPOSED CONTOUR	605
SURFACE FLOW ARROW	→
PROPOSED SPOT ELEVATION	• 31.2
LIMIT OF GRADING	.....

BASIS OF VERTICAL DATUM - NAVD 1988 based on National Geodetic Survey Benchmarks N-185 (Elevation 650.78') and H263 (Elevation - 643.81')

BENCHMARKS:

TBM #39
Square cut on curb inlet, east side of North Dallas Tollway at the northeast corner of intersection with Light Farms Boulevard. Elev. 639.57' (Set 4/4/08)

HZI Control Monument #7
5/8 inch iron rod set in concrete with aluminum cap, northeasterly side of Light Farms Way at 168 feet left of centerline Station 11+49 Elev. 632.76'

STATE OF TEXAS
KEVIN N. CARLSON
89232
LICENSED
PROFESSIONAL ENGINEER
6-20-13

Huitt-Zollars, Inc.
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WATER TOWER SITE
GRADING & PAVING IMPROVEMENTS

LIGHT FARMS

LFC Land Company LLC

Collin County Municipal Utility District No. 1

COLLIN COUNTY, TEXAS

HUITT-ZOLLARS

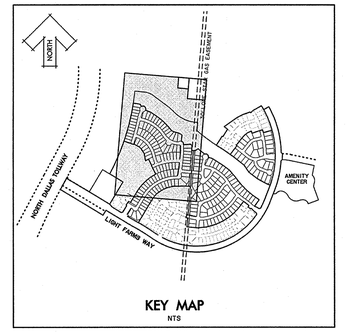
DESIGN	CHECKED	DATE	SCALE	NOTES	JOB NO.	SHT. NO.
HZI	HZI		1"=40'		01-3905-26	6A

GRADING & PAVING IMPROVEMENTS

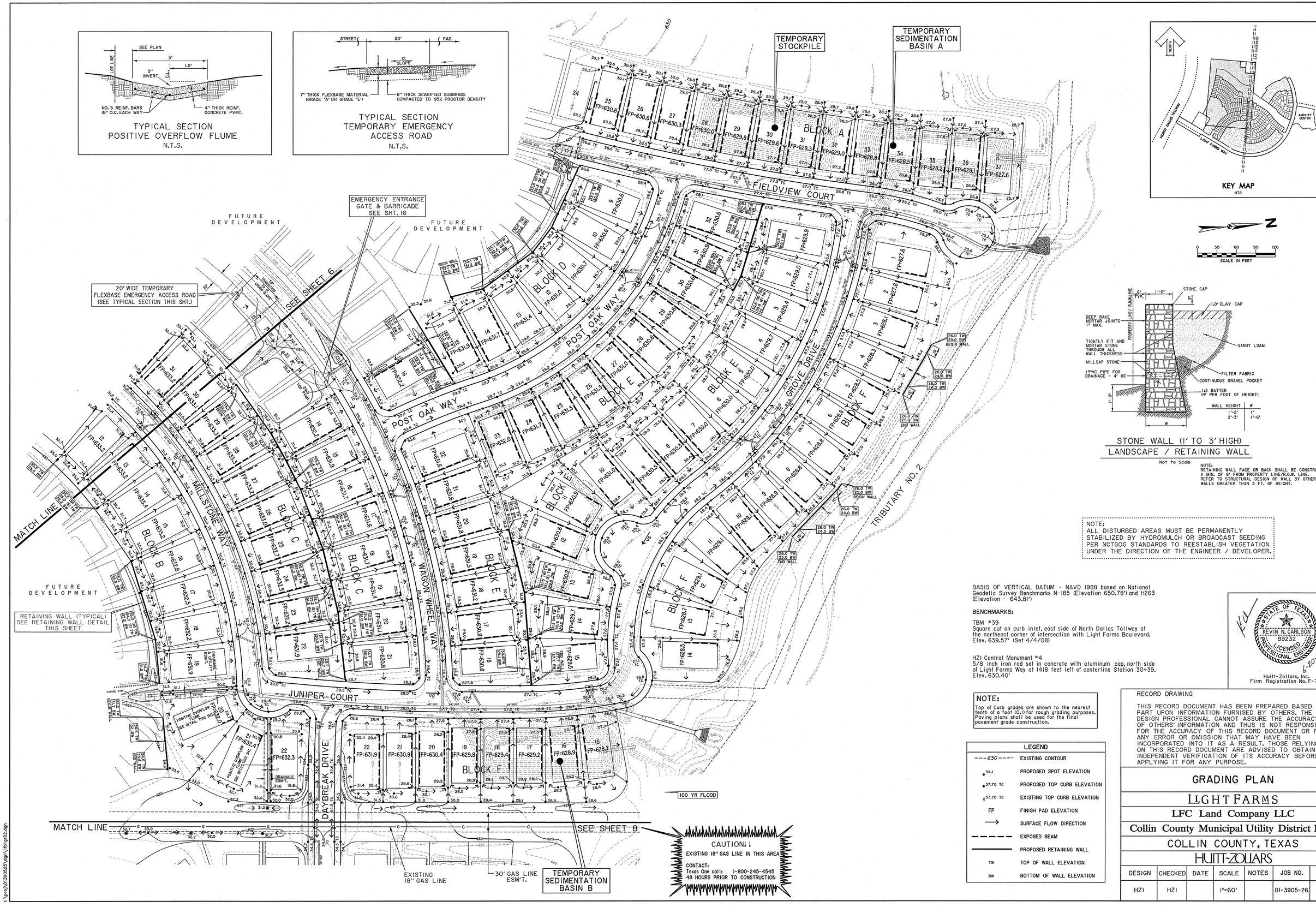
P-201301-01

TYPICAL SECTION
POSITIVE OVERFLOW FLUME
N.T.S.

TYPICAL SECTION
TEMPORARY EMERGENCY
ACCESS ROAD
N.T.S.



KEY MAP
NTS



N

0 30 60 90 120
SCALE IN FEET

STONE WALL (1' TO 3' HIGH)
LANDSCAPE / RETAINING WALL

Not to Scale

NOTE:
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BASIS OF VERTICAL DATUM - NAVD 1988 based on National Geodetic Survey Benchmarks N-185 (Elevation 650.78') and H263 (Elevation - 643.81')

BENCHMARKS:

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HZI Control Monument #4
5/8 inch iron rod set in concrete with aluminum cap, north side of Light Farms Way at 1418 feet left of centerline Station 30+39. Elev. 630.40'

NOTE:
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LEGEND	
630	EXISTING CONTOUR
34.1	PROPOSED SPOT ELEVATION
57.70 TC	PROPOSED TOP CURB ELEVATION
57.70 TC	EXISTING TOP CURB ELEVATION
FP	FINISH PAD ELEVATION
	SURFACE FLOW DIRECTION
	EXPOSED BEAM
	PROPOSED RETAINING WALL
TW	TOP OF WALL ELEVATION
BW	BOTTOM OF WALL ELEVATION

STATE OF TEXAS
KEVIN N. CARLSON
89232
LICENSED PROFESSIONAL ENGINEER
6-20-13

Huitt-Zollars, Inc.
Firm Registration No. F-761

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GRADING PLAN

LIGHT FARMS

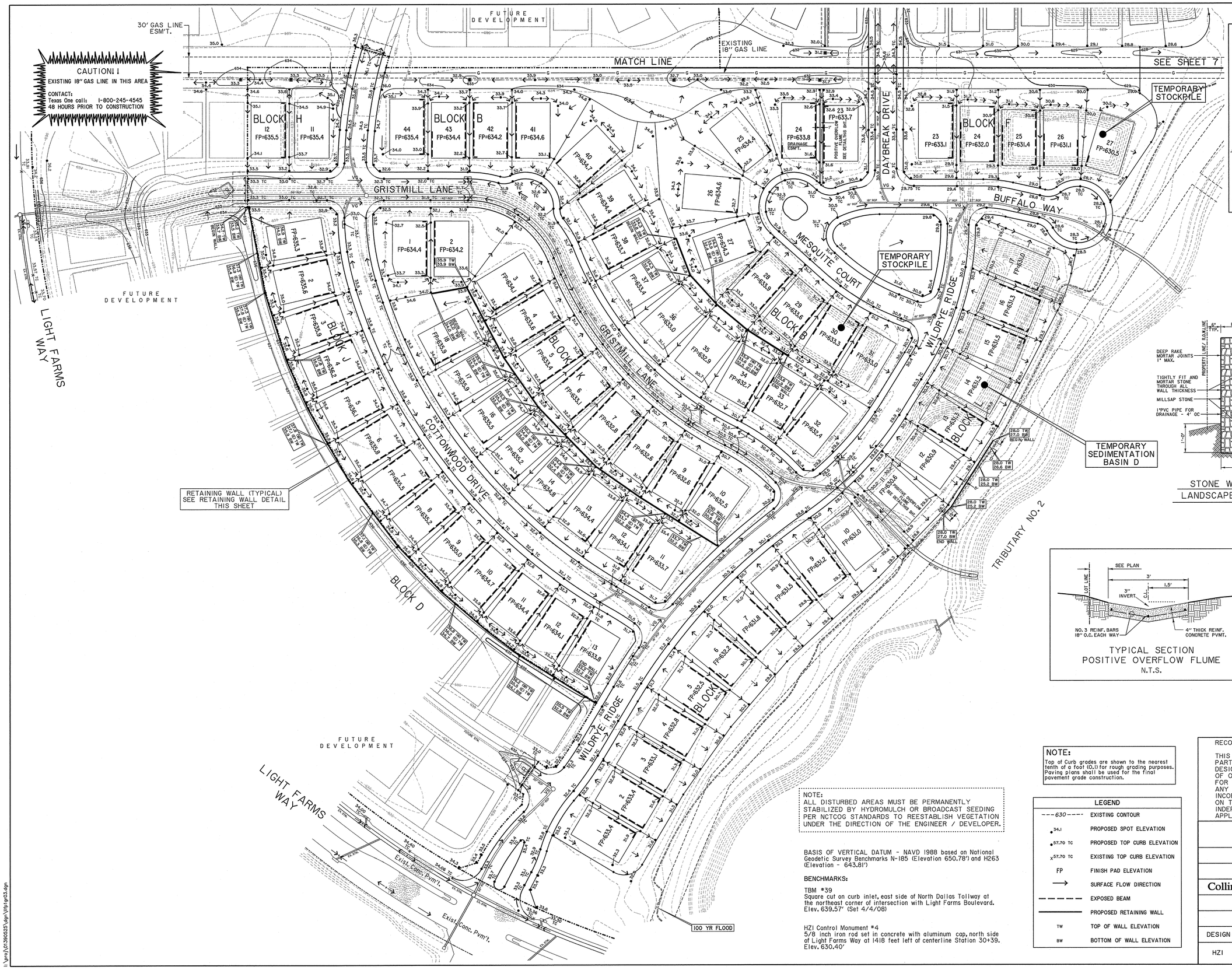
LFC Land Company LLC

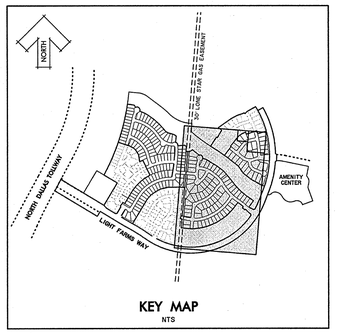
Collin County Municipal Utility District No. 1

COLLIN COUNTY, TEXAS

HUITT-ZOLLARS

DESIGN	CHECKED	DATE	SCALE	NOTES	JOB NO.	SHT. NO.
HZI	HZI		1"=60'		01-3905-26	7





KEY MAP
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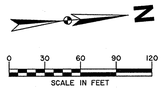

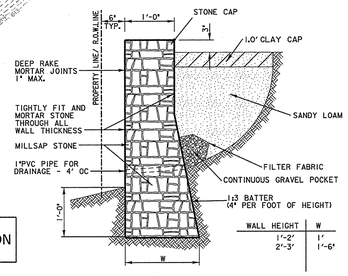

STONE WALL (1' TO 3' HIGH)
LANDSCAPE / RETAINING WALL
Not to Scale

NOTE:
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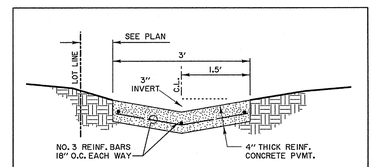

TYPICAL SECTION
POSITIVE OVERFLOW FLUME
N.T.S.

STATE OF TEXAS
KEVIN N. CARLSON
89232
LICENSED PROFESSIONAL ENGINEER
6-20-13

Huitt-Zollars, Inc.
Firm Registration No. F-761

NOTE:
Top of Curb grades are shown to the nearest tenth of a foot (0.1) for rough grading purposes. Paving plans shall be used for the final pavement grade construction.

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BASIS OF VERTICAL DATUM - NAVD 1988 based on National Geodetic Survey Benchmarks N-185 (Elevation 650.78') and H263 (Elevation - 643.81')

BENCHMARKS:

TBM #39
Square cut on curb inlet, east side of North Dallas Tollway at the northeast corner of intersection with Light Farms Boulevard. Elev. 639.57' (Set 4/4/08)

HZI Control Monument #4
5/8 inch iron rod set in concrete with aluminum cap, north side of Light Farms Way at 1418 feet left of centerline Station 30+39. Elev. 630.40'

LEGEND

---630---	EXISTING CONTOUR
•34.1	PROPOSED SPOT ELEVATION
•57.70 TC	PROPOSED TOP CURB ELEVATION
x57.70 TC	EXISTING TOP CURB ELEVATION
FP	FINISH PAD ELEVATION
→	SURFACE FLOW DIRECTION
— — —	EXPOSED BEAM
———	PROPOSED RETAINING WALL
TW	TOP OF WALL ELEVATION
BW	BOTTOM OF WALL ELEVATION

RECORD DRAWING

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GRADING PLAN

LIGHT FARMS

LFC Land Company LLC

Collin County Municipal Utility District No. 1

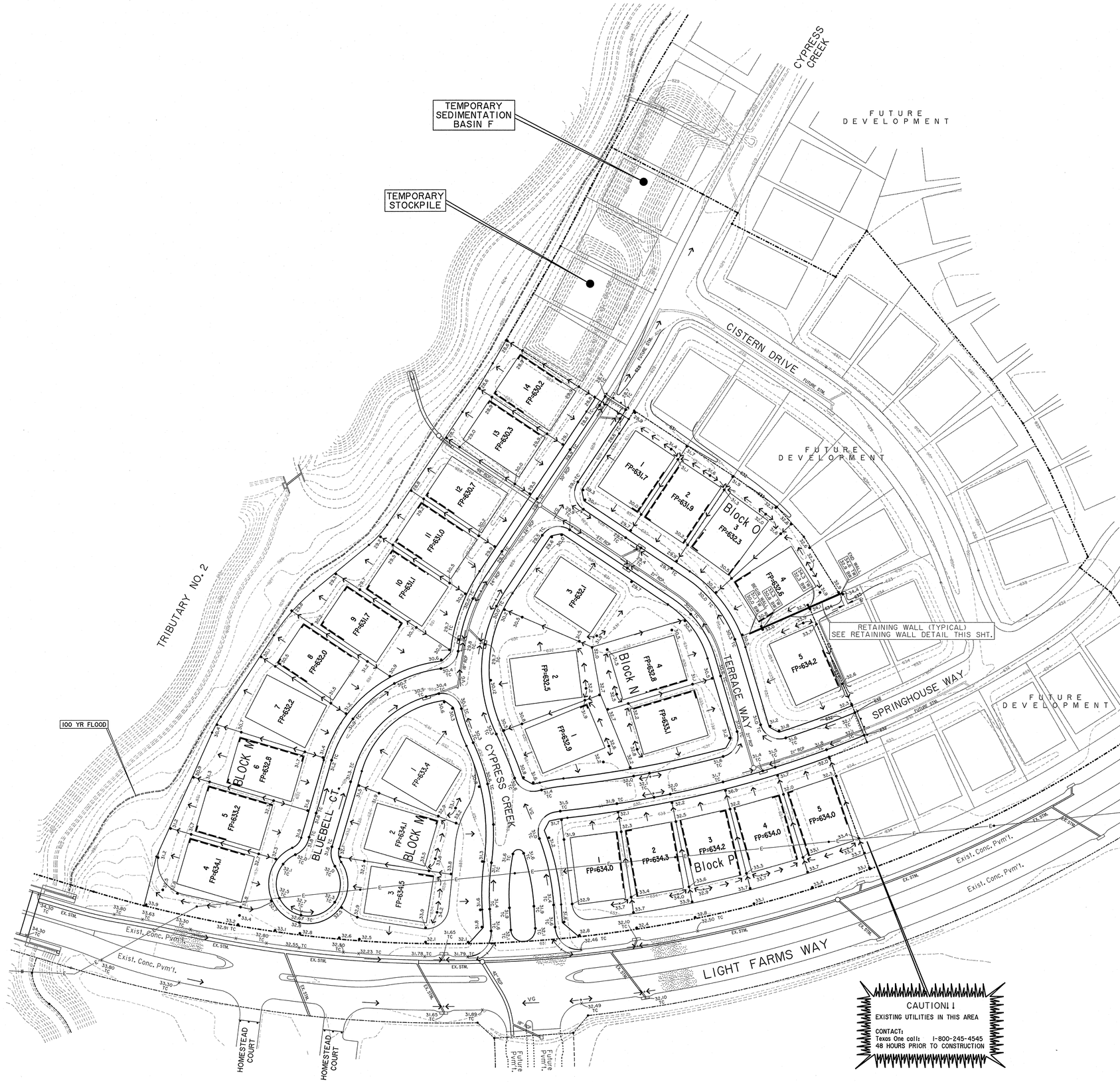
COLLIN COUNTY, TEXAS

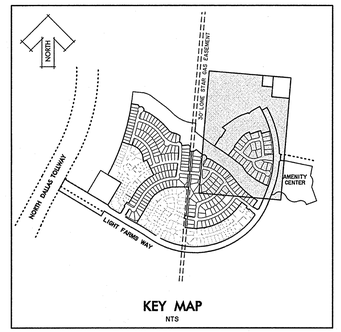
HUITT-ZOLLARS

DESIGN	CHECKED	DATE	SCALE	NOTES	JOB NO.	SHT. NO.
HZI	HZI		1"=60'		01-3905-26	8

GRADING PLAN

P-201301-01





N

0 30 60 90 120
SCALE IN FEET

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630	EXISTING CONTOUR
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FP	FINISH PAD ELEVATION
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TW	TOP OF WALL ELEVATION
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STATE OF TEXAS
KEVIN N. CARLSON
89232
LICENSED PROFESSIONAL ENGINEER
6-20-13

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GRADING PLAN

LIGHT FARMS

LFC Land Company LLC

Collin County Municipal Utility District No. 1

COLLIN COUNTY, TEXAS

HUITT-ZOLLARS

DESIGN	CHECKED	DATE	SCALE	NOTES	JOB NO.	SHT. NO.
HZI	HZI		1"=60'		01-3905-26	9

GRADING PLAN

P-201301-01

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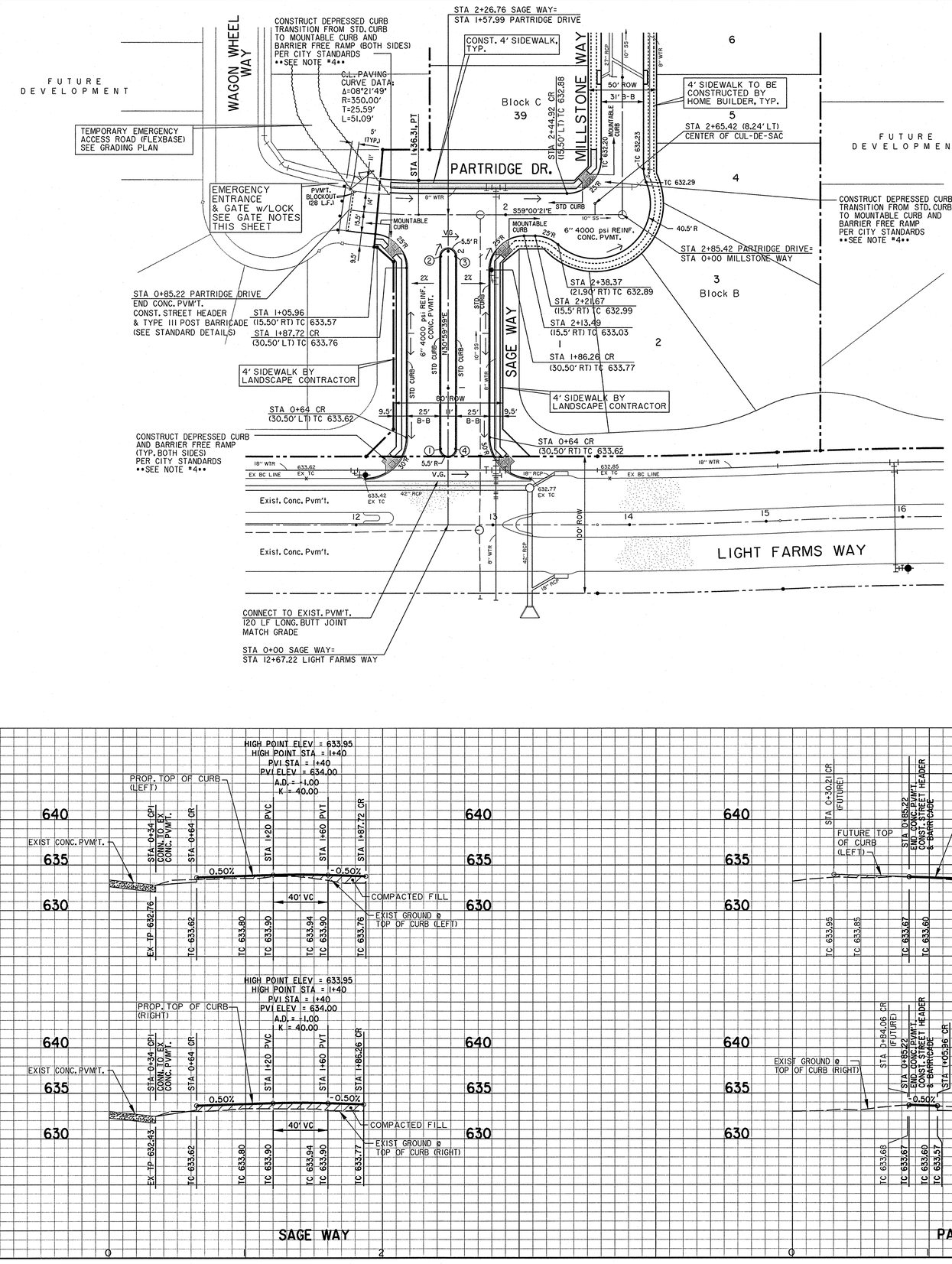
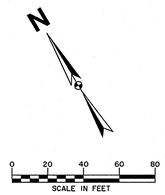
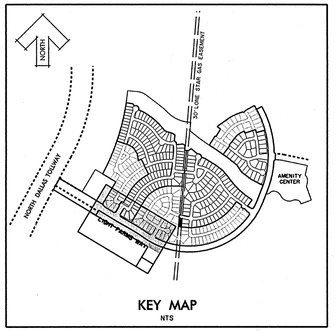


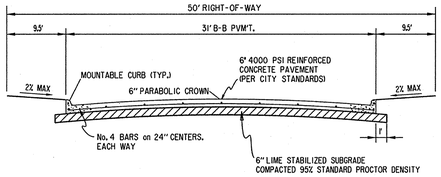
GATE NOTES:

1. THE MINIMUM GATE WIDTH SHALL BE 20 FEET.
2. GATES SHALL BE OF THE SWINGING OR SLIDING TYPE.
3. CONSTRUCTION OF GATES SHALL BE OF MATERIALS THAT ALLOW MANUAL OPERATION BY ONE PERSON.
4. GATE COMPONENTS SHALL BE MAINTAINED IN AN OPERATIVE CONDITION AT ALL TIMES AND REPLACED OR REPAIRED WHEN DEFECTIVE.
5. ELECTRIC GATES SHALL BE EQUIPPED WITH A MEANS OF OPENING THE GATE BY FIRE DEPARTMENT PERSONNEL FOR EMERGENCY ACCESS. EMERGENCY OPENING DEVICES SHALL BE APPROVED BY THE FIRE CODE OFFICIAL.
6. MANUAL OPENING GATES SHALL NOT BE LOCKED WITH A PADLOCK OR CHAIN AND PADLOCK UNLESS THEY ARE CAPABLE OF BEING OPENED BY MEANS OF FORCIBLE ENTRY TOOLS OR WHEN A KEY BOX CONTAINING THE KEY(S) TO THE LOCK IS INSTALLED AT THE GATE LOCATION.
7. LOCKING DEVICE SPECIFICATIONS SHALL BE SUBMITTED FOR APPROVAL BY THE FIRE CODE OFFICIAL.





KEY MAP
NTS



TYPICAL STREET SECTION
(50' R.O.W. - 31' B-B)
N.T.S.

CENTER LINE STATION OFF-SET:

①	STA 0+55.50	5.50' LT.	TC 634.08
②	STA 1+96.26	5.50' LT.	TC 634.22
③	STA 1+96.26	5.50' RT.	TC 634.22
④	STA 0+55.50	5.50' RT.	TC 634.08

NOTE:

1. ALL DIMENSIONS ARE FROM BACK OF CURB.
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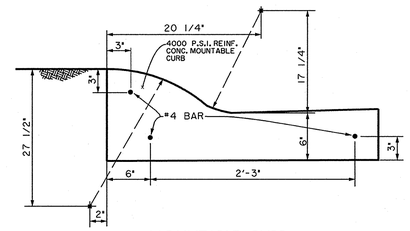
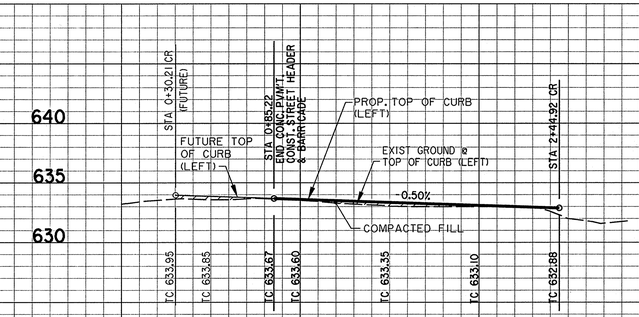
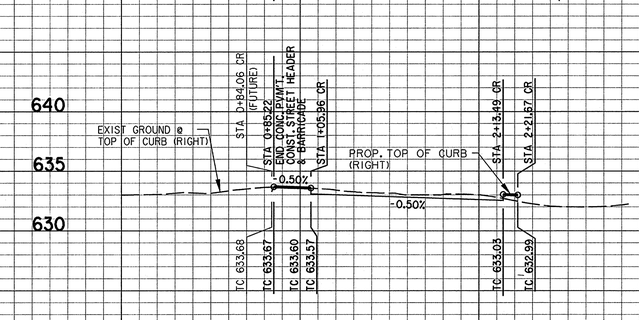
4. PAVERS WITHIN BARRIER FREE RAMPS SHALL BE PAVESTONE ADA PAVERS. (TERRA COTTA BLEND)



MOUNTABLE CURB DETAILS
NTS

SAGE WAY
0 1 2





PARTRIDGE DRIVE
0 1 2 3

BASIS OF VERTICAL DATUM - NAVD 1988 based on National Geodetic Survey Benchmarks N-185 (Elevation 650.78') and H263 (Elevation - 643.81')

BENCHMARKS:

TBM #39
Square cut on curb inlet, east side of North Dallas Tollway at the northeast corner of intersection with Light Farms Boulevard. Elev. 639.57' (Set 4/4/08)

HZI Control Monument #7
5/8 inch iron rod set in concrete with aluminum cap, northeasterly side of Light Farms Way at 168 feet left of centerline Station 11+49 Elev. 632.76'

STATE OF TEXAS
KEVIN N. CARLSON
89232
LICENSED
PROFESSIONAL ENGINEER
6-20-13

Huitt-Zollars, Inc.
Firm Registration No. F-761

RECORD DRAWING

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PAVING PLAN & PROFILE
SAGE WAY & PARTRIDGE DRIVE

LIGHT FARMS

LFC Land Company LLC

Collin County Municipal Utility District No. 1

COLLIN COUNTY, TEXAS

HUITT-ZOLLARS

DESIGN	CHECKED	DATE	SCALE	NOTES	JOB NO.	SHT. NO.
HZI	HZI		H: 1"=40' V: 1"= 6'		01-3905-26	10

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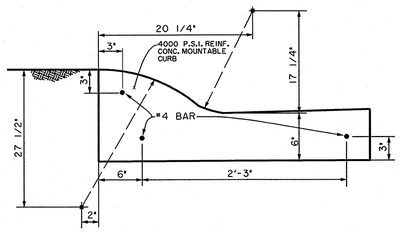
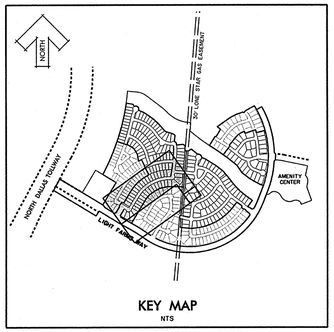
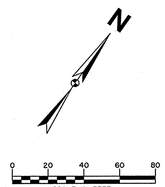
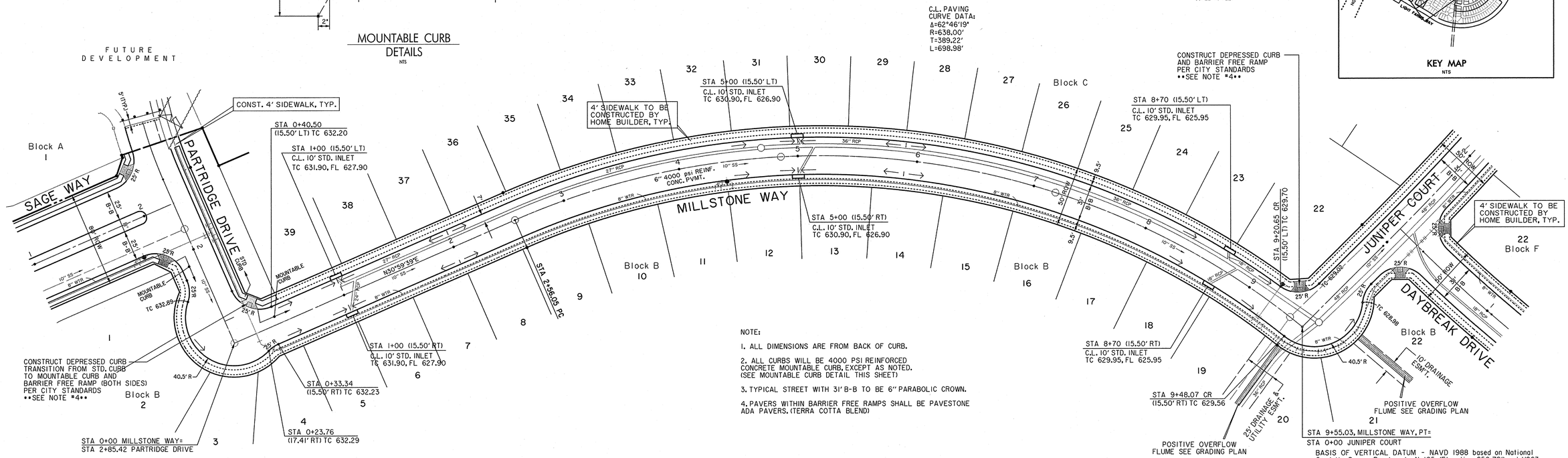


MOUNTABLE CURB DETAILS
NTS



KEY MAP
NTS





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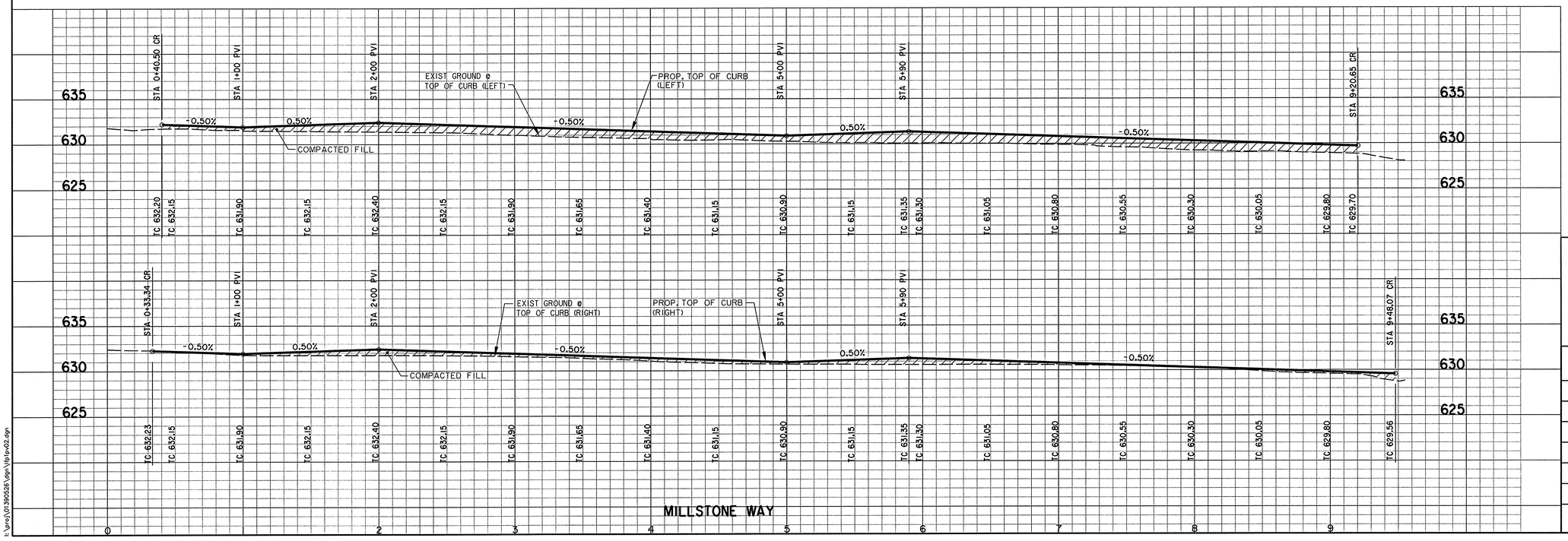

BASIS OF VERTICAL DATUM - NAVD 1988 based on National Geodetic Survey Benchmarks N-185 (Elevation 650.78') and H263 (Elevation - 643.81')

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PAVING PLAN & PROFILE
MILLSTONE WAY

LIGHT FARMS

LFC Land Company LLC

Collin County Municipal Utility District No. 1

COLLIN COUNTY, TEXAS

HUITT-ZOLLARS

DESIGN	CHECKED	DATE	SCALE	NOTES	JOB NO.	SHT. NO.
HZI	HZI		H: 1"=40' V: 1"= 6'		01-3905-26	11

MILLSTONE WAY

P-201301-01

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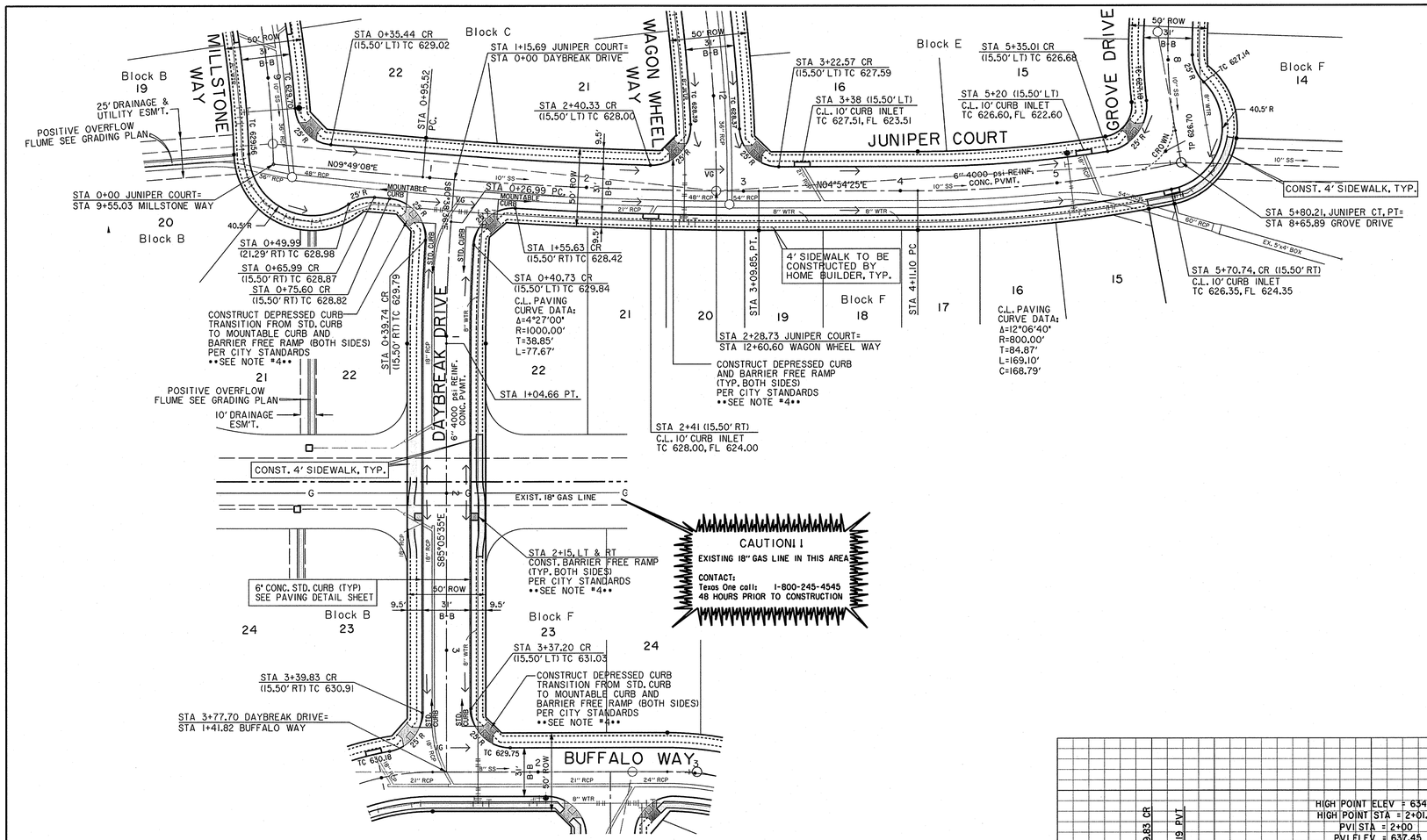

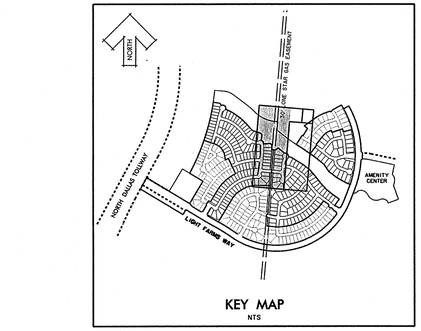

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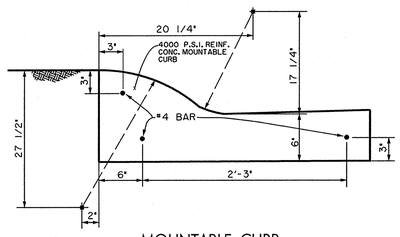

MOUNTABLE CURB DETAILS
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STATE OF TEXAS
KEVIN N. CARLSON
89232
LICENSED PROFESSIONAL ENGINEER
6-20-13

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PAVING PLAN & PROFILE
JUNIPER COURT & DAYBREAK DRIVE

LIGHT FARMS

LFC Land Company LLC

Collin County Municipal Utility District No. 1

COLLIN COUNTY, TEXAS

HUITT-ZOLLARS

DESIGN	CHECKED	DATE	SCALE	NOTES	JOB NO.	SHT. NO.
HZI	HZI		H: 1"=40' V: 1"=6'		01-3905-26	12

JUNIPER COURT & DAYBREAK DRIVE

P-201301-01

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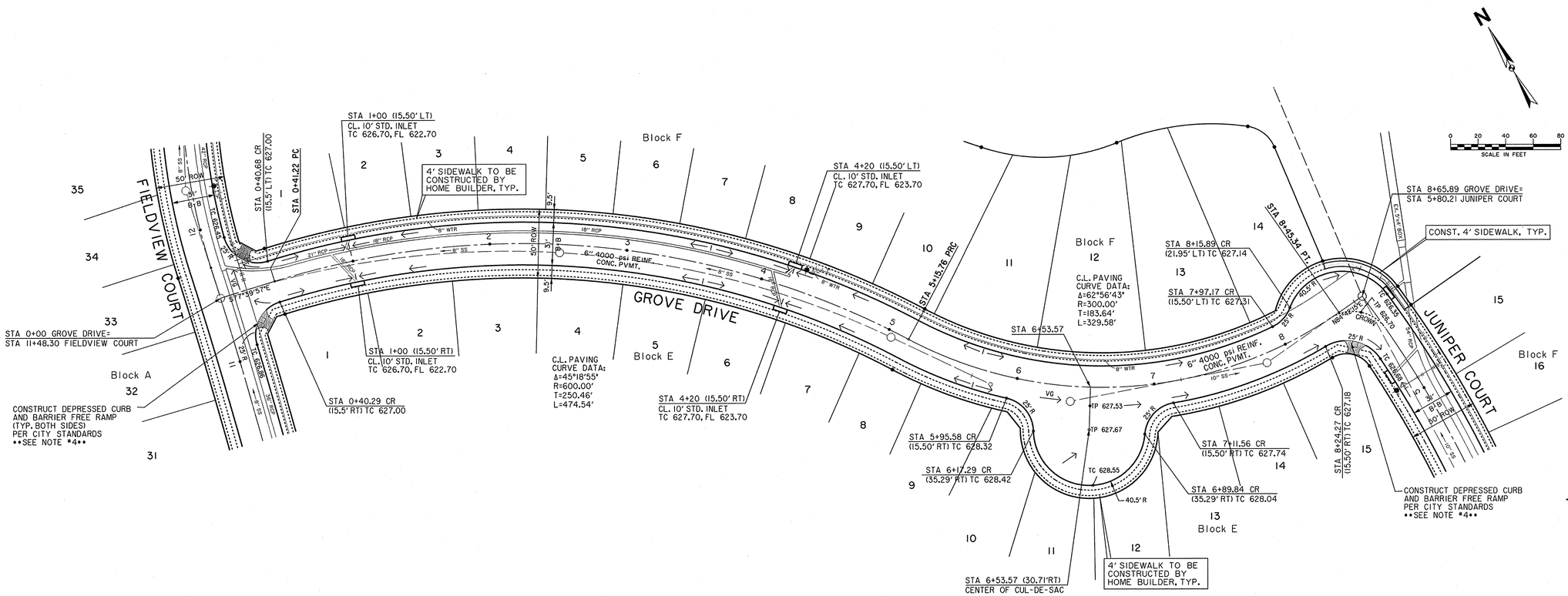

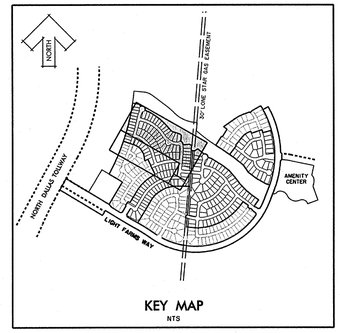

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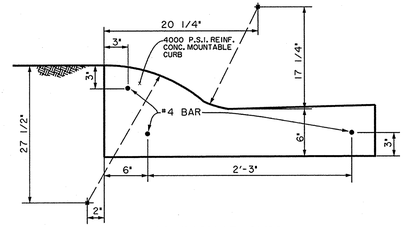

MOUNTABLE CURB DETAILS
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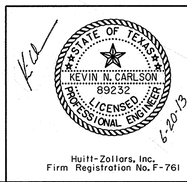

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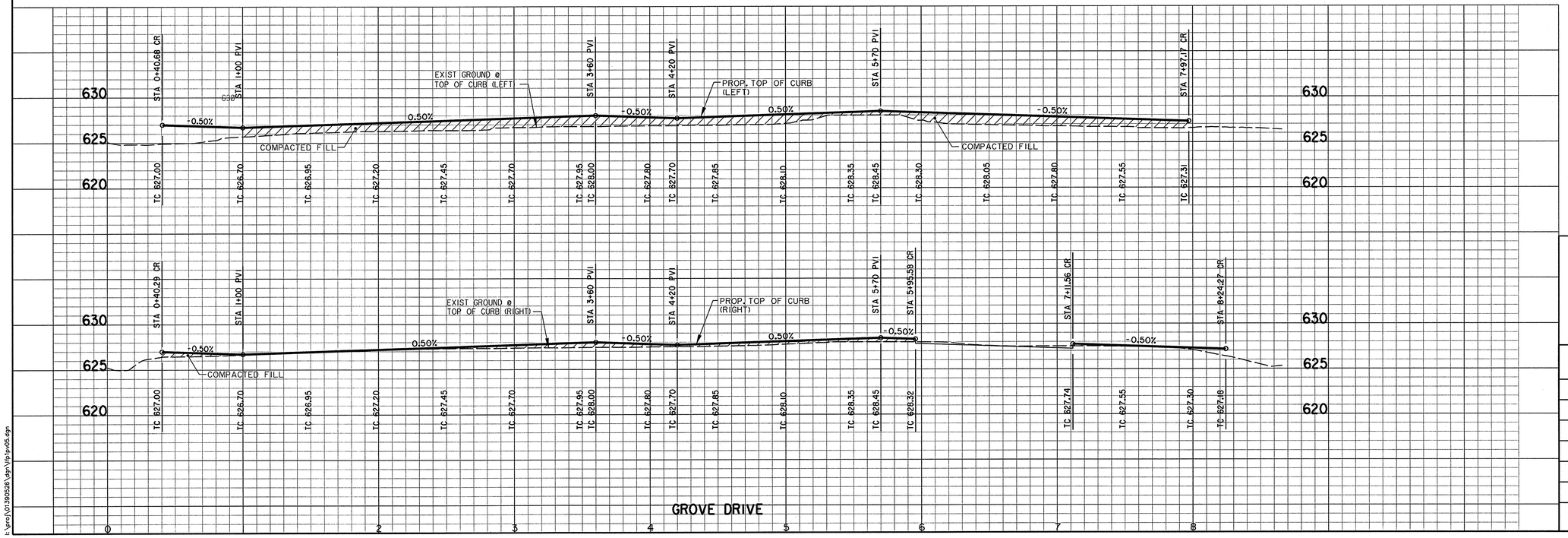

PAVING PLAN & PROFILE
GROVE DRIVE

LIGHT FARMS

LFC Land Company LLC

Collin County Municipal Utility District No. 1

COLLIN COUNTY, TEXAS

HUITT-ZOLLARS

DESIGN	CHECKED	DATE	SCALE	NOTES	JOB NO.	SHT. NO.
HZI	HZI		H: 1"=40' V: 1"=6'		01-3905-26	13

GROVE DRIVE

P-201301-01

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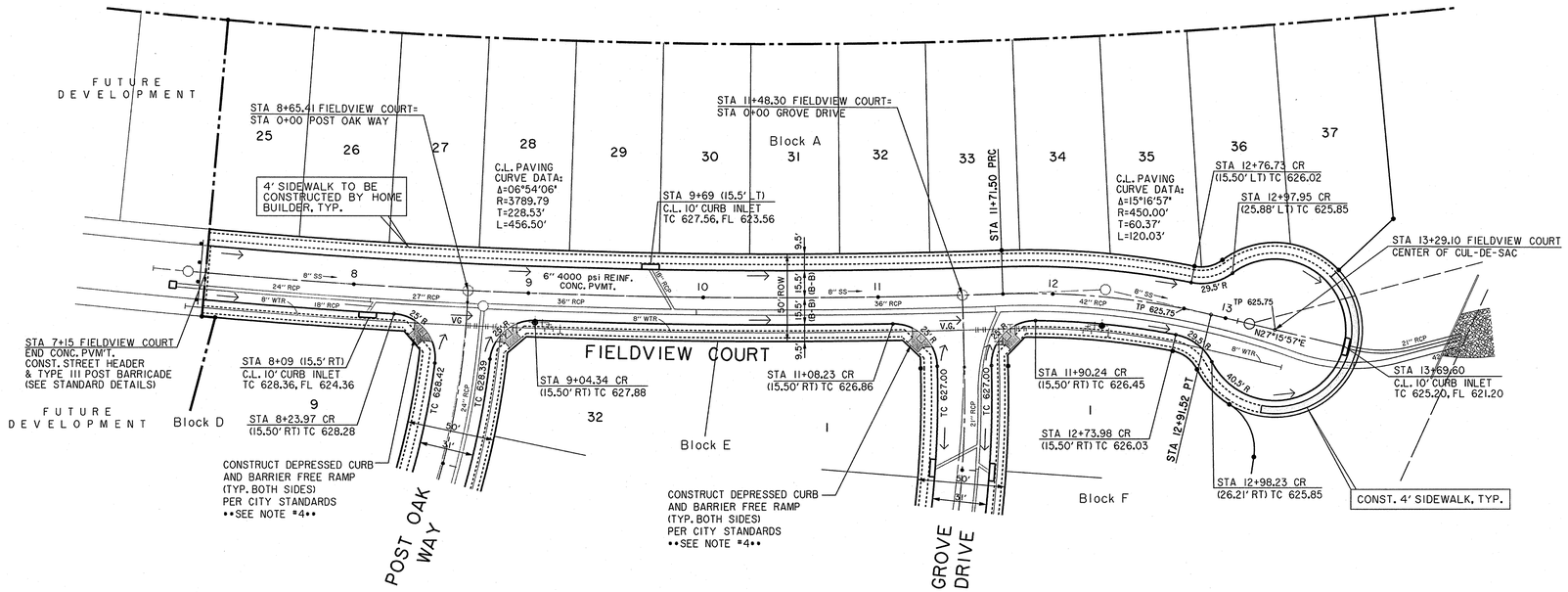

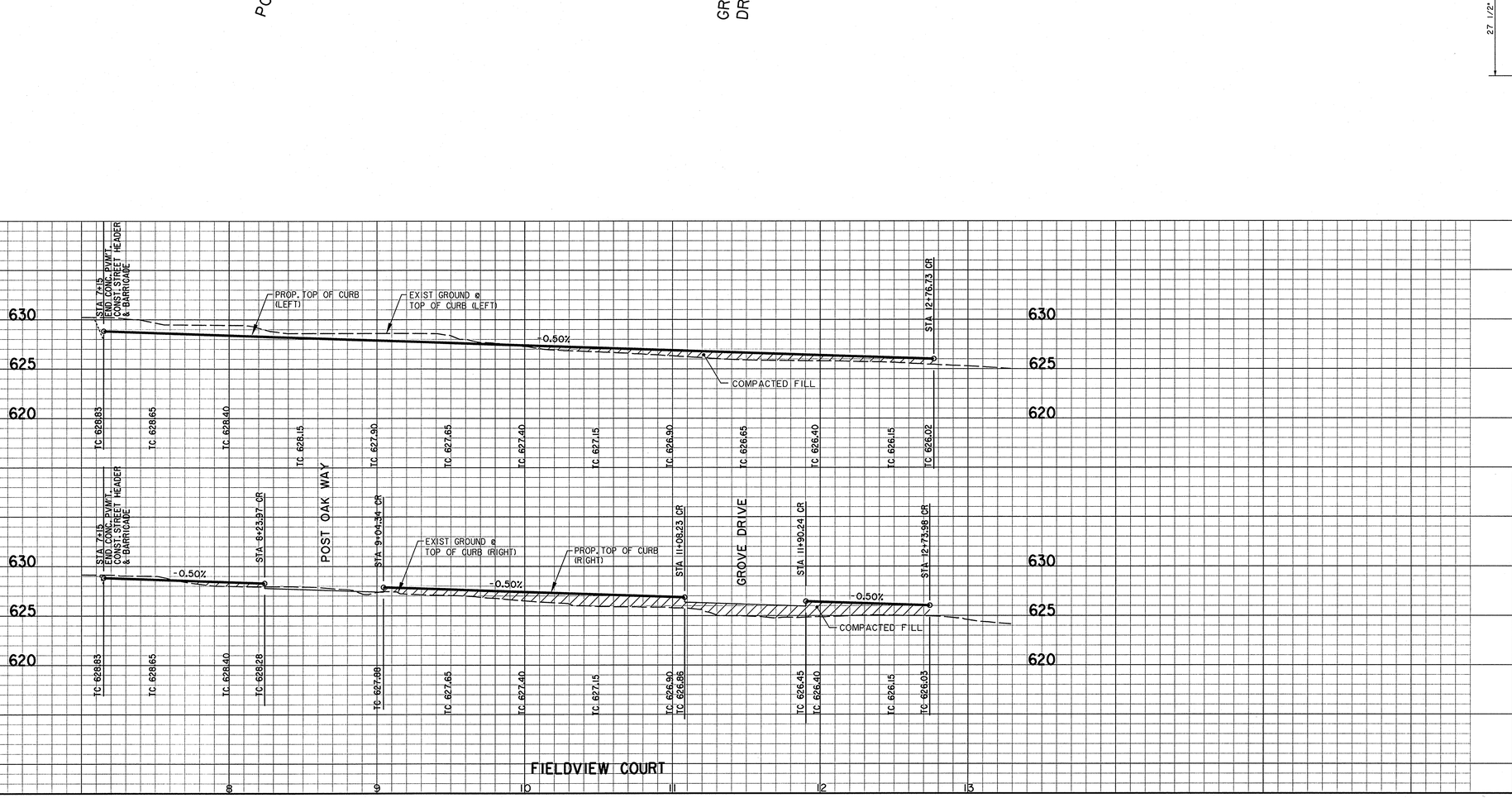

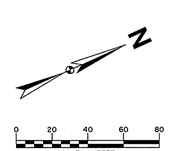

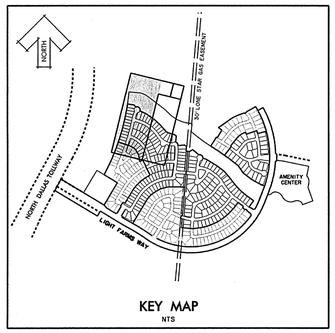

KEY MAP
NTS

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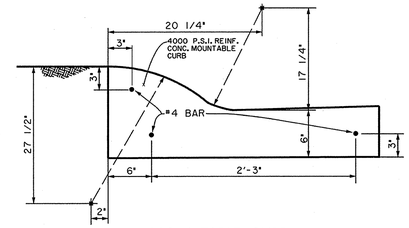

MOUNTABLE CURB DETAILS
NTS

BASIS OF VERTICAL DATUM - NAVD 1988 based on National Geodetic Survey Benchmarks N-185 (Elevation 650.78') and H263 (Elevation - 643.81')

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KEVIN N. CARLSON
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LICENSED PROFESSIONAL ENGINEER
6-20-13

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PAVING PLAN & PROFILE
FIELDVIEW COURT

LIGHT FARMS

LFC Land Company LLC

Collin County Municipal Utility District No. 1

COLLIN COUNTY, TEXAS

HUITT-ZOLLARS

DESIGN	CHECKED	DATE	SCALE	NOTES	JOB NO.	SHT. NO.
HZI	HZI		H: 1"=40' V: 1"=6'		01-3905-26	14

FIELDVIEW COURT

P-201301-01

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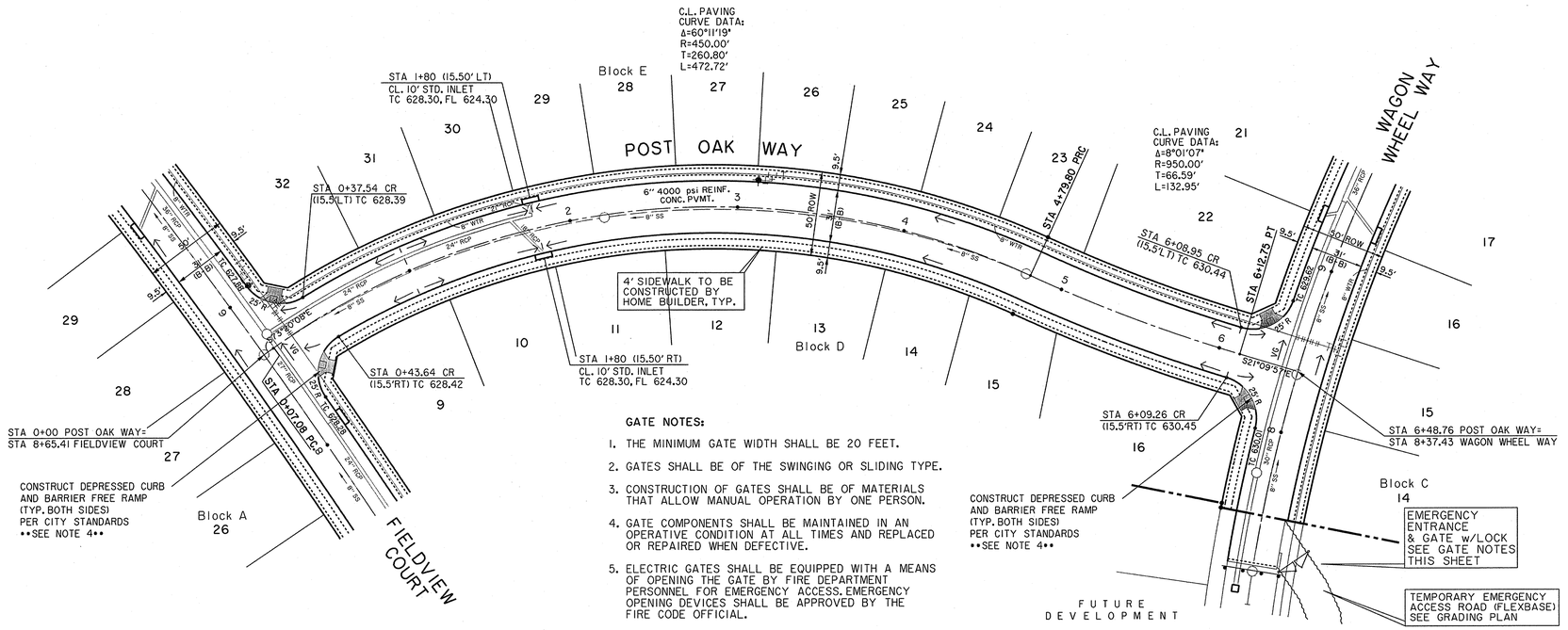

GATE NOTES:

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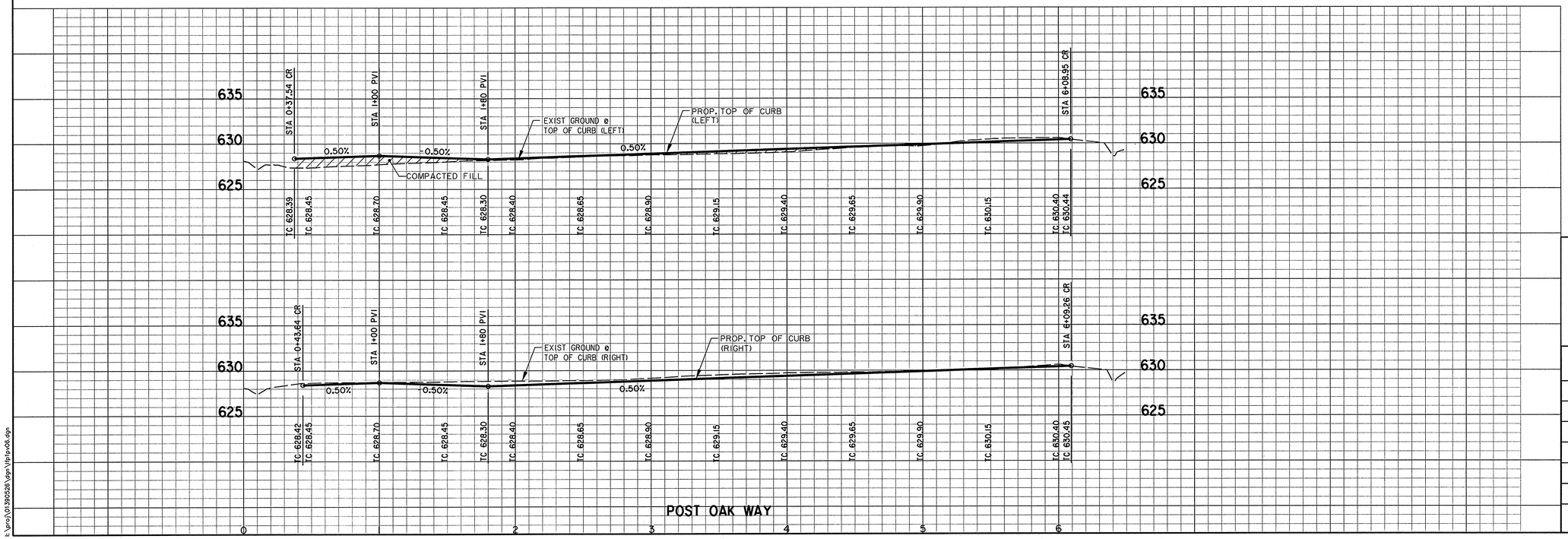
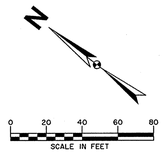
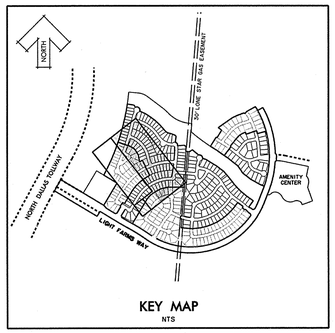
4. GATE COMPONENTS SHALL BE MAINTAINED IN AN OPERATIVE CONDITION AT ALL TIMES AND REPLACED OR REPAIRED WHEN DEFECTIVE.
5. ELECTRIC GATES SHALL BE EQUIPPED WITH A MEANS OF OPENING THE GATE BY FIRE DEPARTMENT PERSONNEL FOR EMERGENCY ACCESS. EMERGENCY OPENING DEVICES SHALL BE APPROVED BY THE FIRE CODE OFFICIAL.
6. MANUAL OPENING GATES SHALL NOT BE LOCKED WITH A PADLOCK OR CHAIN AND PADLOCK UNLESS THEY ARE CAPABLE OF BEING OPENED BY MEANS OF FORCIBLE ENTRY TOOLS OR WHEN A KEY BOX CONTAINING THE KEY(S) TO THE LOCK IS INSTALLED AT THE GATE LOCATION.
7. LOCKING DEVICE SPECIFICATIONS SHALL BE SUBMITTED FOR APPROVAL BY THE FIRE CODE OFFICIAL.







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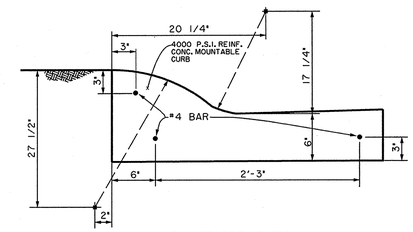

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PAVING PLAN & PROFILE
POST OAK WAY

LIGHT FARMS

LFC Land Company LLC

Collin County Municipal Utility District No. 1

COLLIN COUNTY, TEXAS

HUITT-ZOLLARS

DESIGN	CHECKED	DATE	SCALE	NOTES	JOB NO.	SHT. NO.
HZI	HZI		H: 1"=40' V: 1"=6'		01-3905-26	15

POST OAK WAY

P-201301-01

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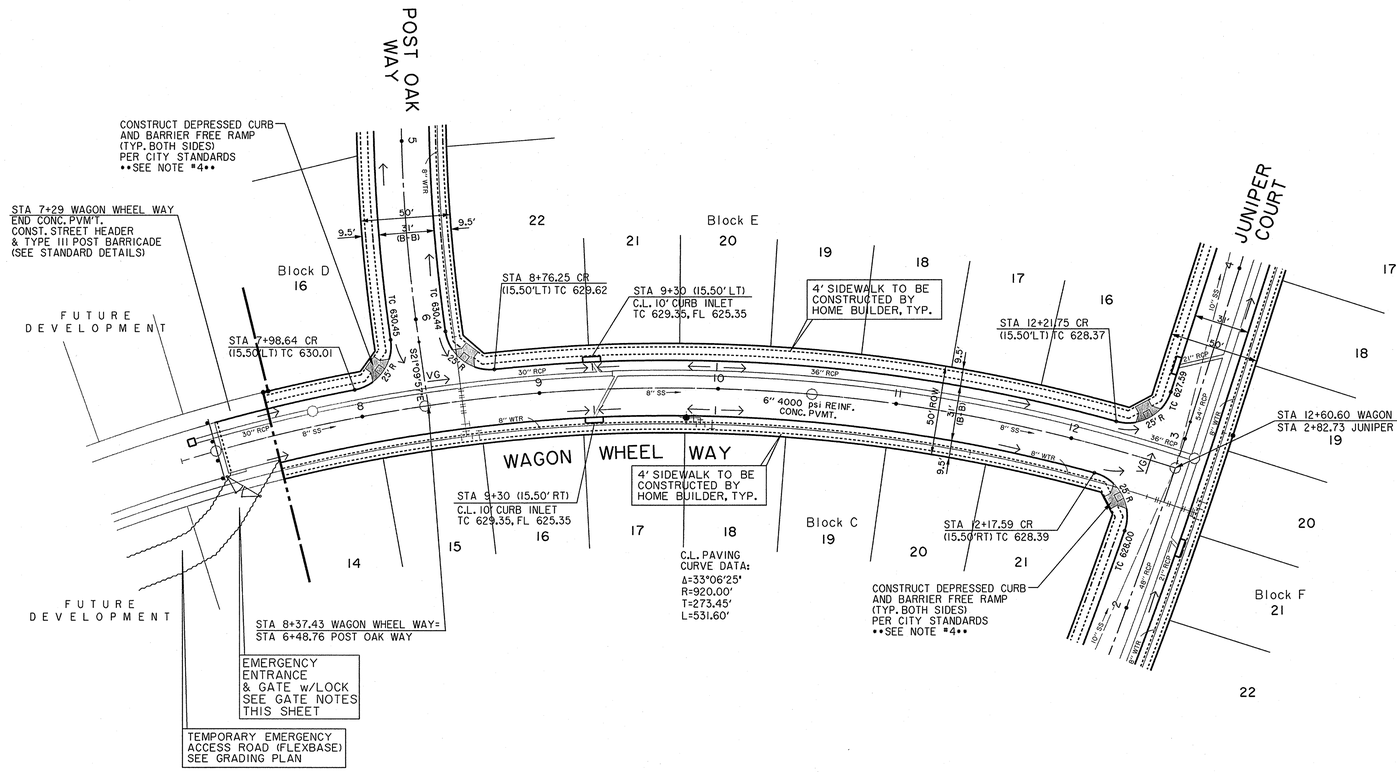

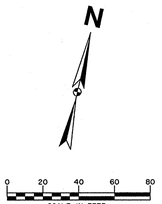

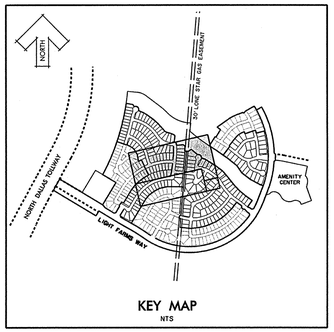

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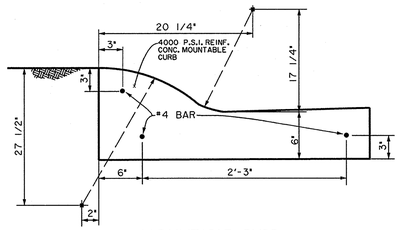
3. CONSTRUCTION OF GATES SHALL BE OF MATERIALS THAT ALLOW MANUAL OPERATION BY ONE PERSON.
4. GATE COMPONENTS SHALL BE MAINTAINED IN AN OPERATIVE CONDITION AT ALL TIMES AND REPLACED OR REPAIRED WHEN DEFECTIVE.
5. ELECTRIC GATES SHALL BE EQUIPPED WITH A MEANS OF OPENING THE GATE BY FIRE DEPARTMENT PERSONNEL FOR EMERGENCY ACCESS. EMERGENCY OPENING DEVICES SHALL BE APPROVED BY THE FIRE CODE OFFICIAL.
6. MANUAL OPENING GATES SHALL NOT BE LOCKED WITH A PADLOCK OR CHAIN AND PADLOCK UNLESS THEY ARE CAPABLE OF BEING OPENED BY MEANS OF FORCIBLE ENTRY TOOLS OR WHEN A KEY BOX CONTAINING THE KEY(S) TO THE LOCK IS INSTALLED AT THE GATE LOCATION.
7. LOCKING DEVICE SPECIFICATIONS SHALL BE SUBMITTED FOR APPROVAL BY THE FIRE CODE OFFICIAL.



MOUNTABLE CURB DETAILS
NTS

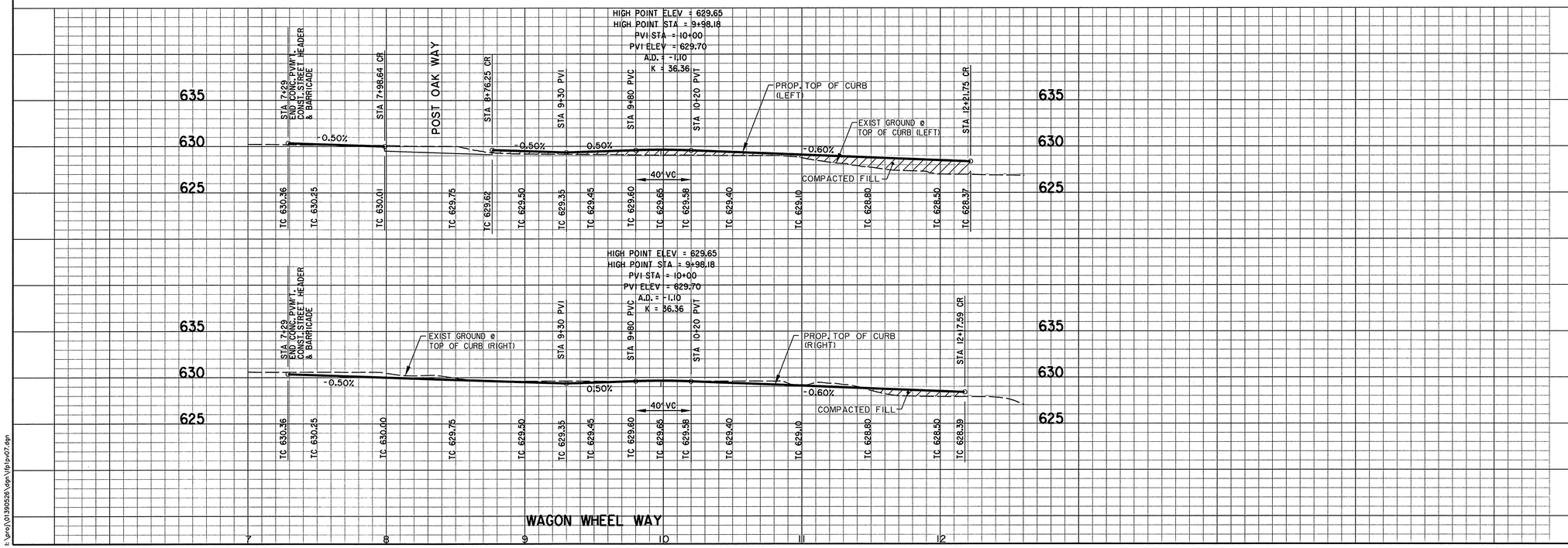
BASIS OF VERTICAL DATUM - NAVD 1988 based on National Geodetic Survey Benchmarks N-185 (Elevation 650.78') and H263 (Elevation - 643.81')

BENCHMARKS:

TBM #39
Square cut on curb inlet, east side of North Dallas Tollway at the northeast corner of intersection with Light Farms Boulevard. Elev. 639.57' (Set 4/4/08)

HZI Control Monument #4
5/8 inch iron rod set in concrete with aluminum cap, north side of Light Farms Way at 1418 feet left of centerline Station 30+39. Elev. 630.40'

Huitt-Zollars, Inc.
Firm Registration No. F-761



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PAVING PLAN & PROFILE
WAGON WHEEL WAY

LIGHT FARMS

LFC Land Company LLC

Collin County Municipal Utility District No. 1

COLLIN COUNTY, TEXAS

HUITT-ZOLLARS

DESIGN	CHECKED	DATE	SCALE	NOTES	JOB NO.	SHT. NO.
HZI	HZI		H: 1"=40' V: 1"=6'		01-3905-26	16

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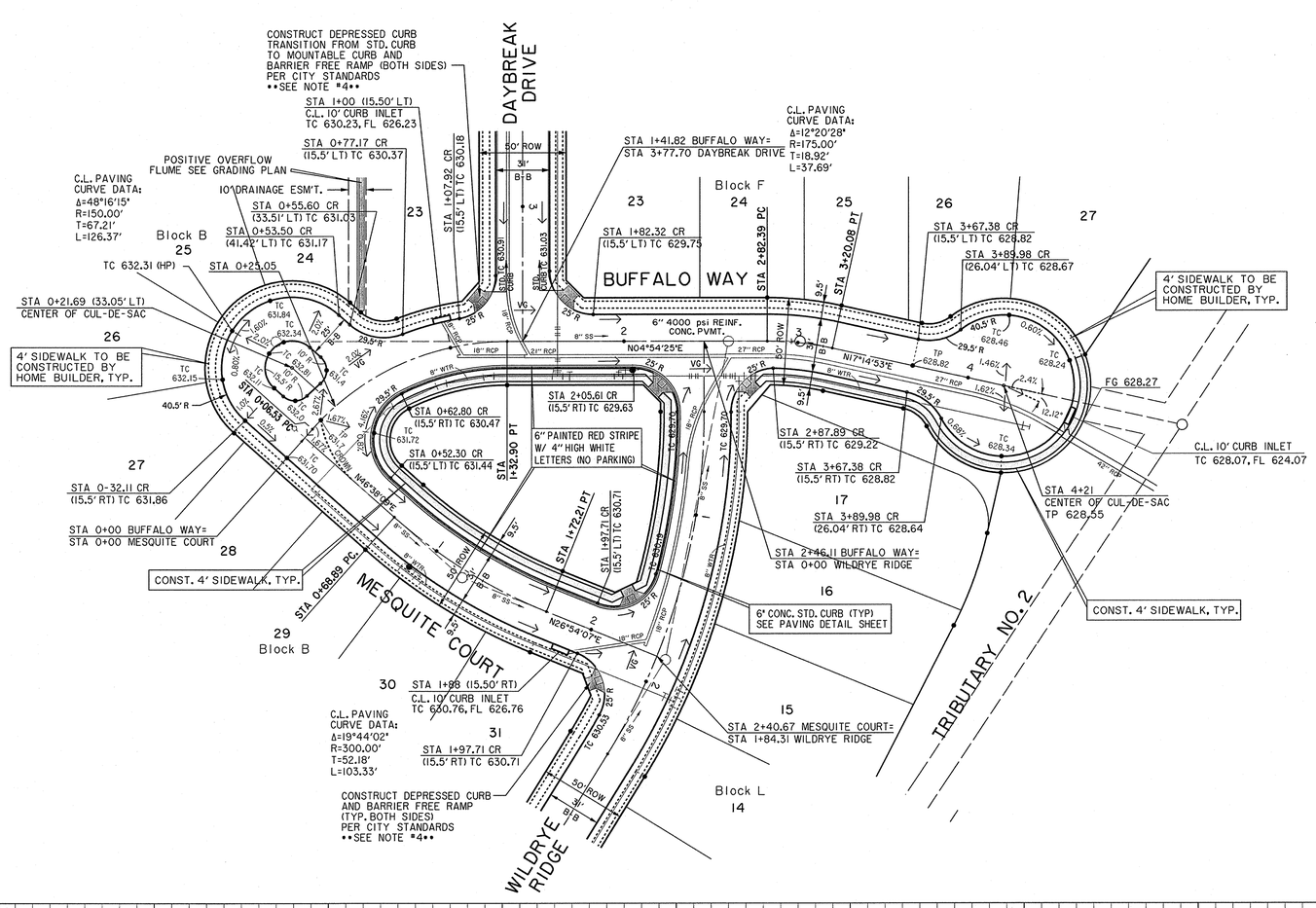

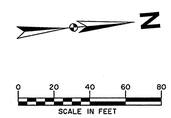

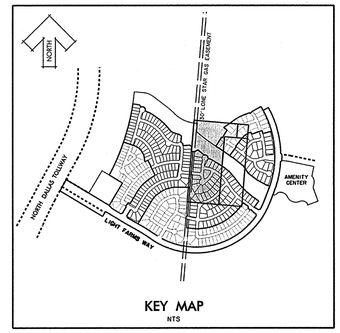

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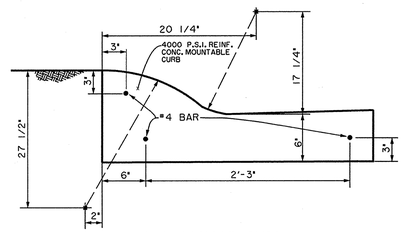

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STATE OF TEXAS
KEVIN N. CARLSON
89232
LICENSED
CIVIL ENGINEER
6-20-13

Huitt-Zollars, Inc.
Firm Registration No. F-761

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PAVING PLAN & PROFILE
BUFFALO WAY & MESQUITE COURT

LIGHT FARMS

LFC Land Company LLC

Collin County Municipal Utility District No. 1

COLLIN COUNTY, TEXAS

HUITT-ZOLLARS

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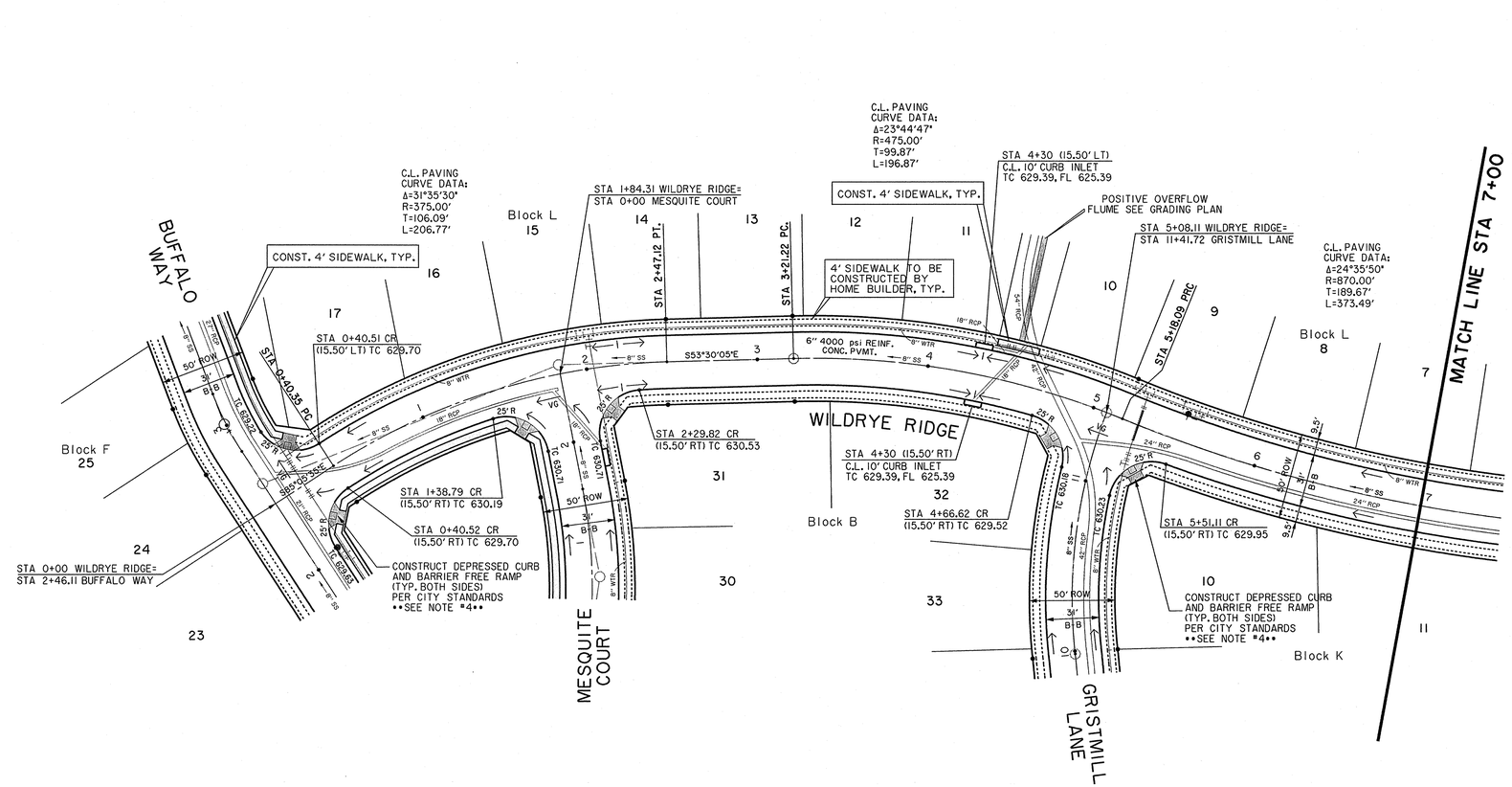

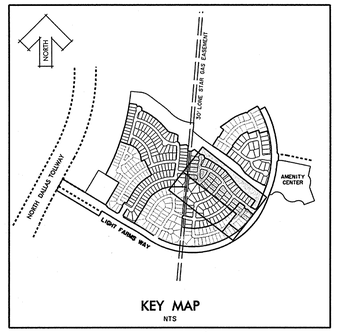

KEY MAP
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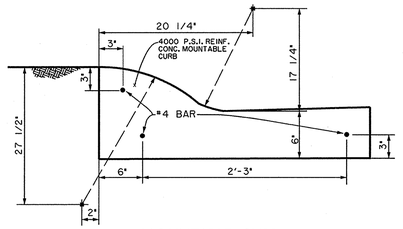
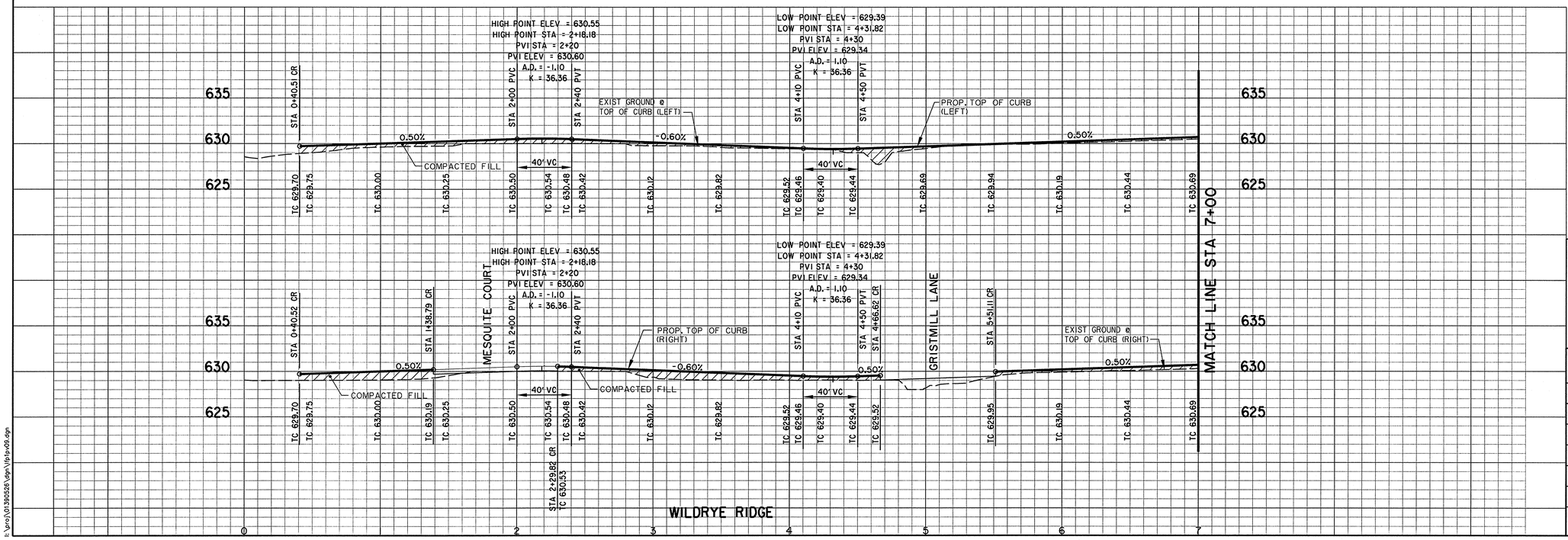


MOUNTABLE CURB DETAILS
NTS



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STATE OF TEXAS
KEVIN N. CARLSON
89232
LICENSED PROFESSIONAL ENGINEER
6-20-13

Huitt-Zollars, Inc.
Firm Registration No. F-761

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PAVING PLAN & PROFILE
WILDRYE RIDGE

LIGHT FARMS

LFC Land Company LLC

Collin County Municipal Utility District No. 1

COLLIN COUNTY, TEXAS

HUITT-ZOLLARS

DESIGN	CHECKED	DATE	SCALE	NOTES	JOB NO.	SHT. NO.
HZI	HZI		H: 1"=40' V: 1"=6'		01-3905-26	18

WILDRYE RIDGE

P-201301-01

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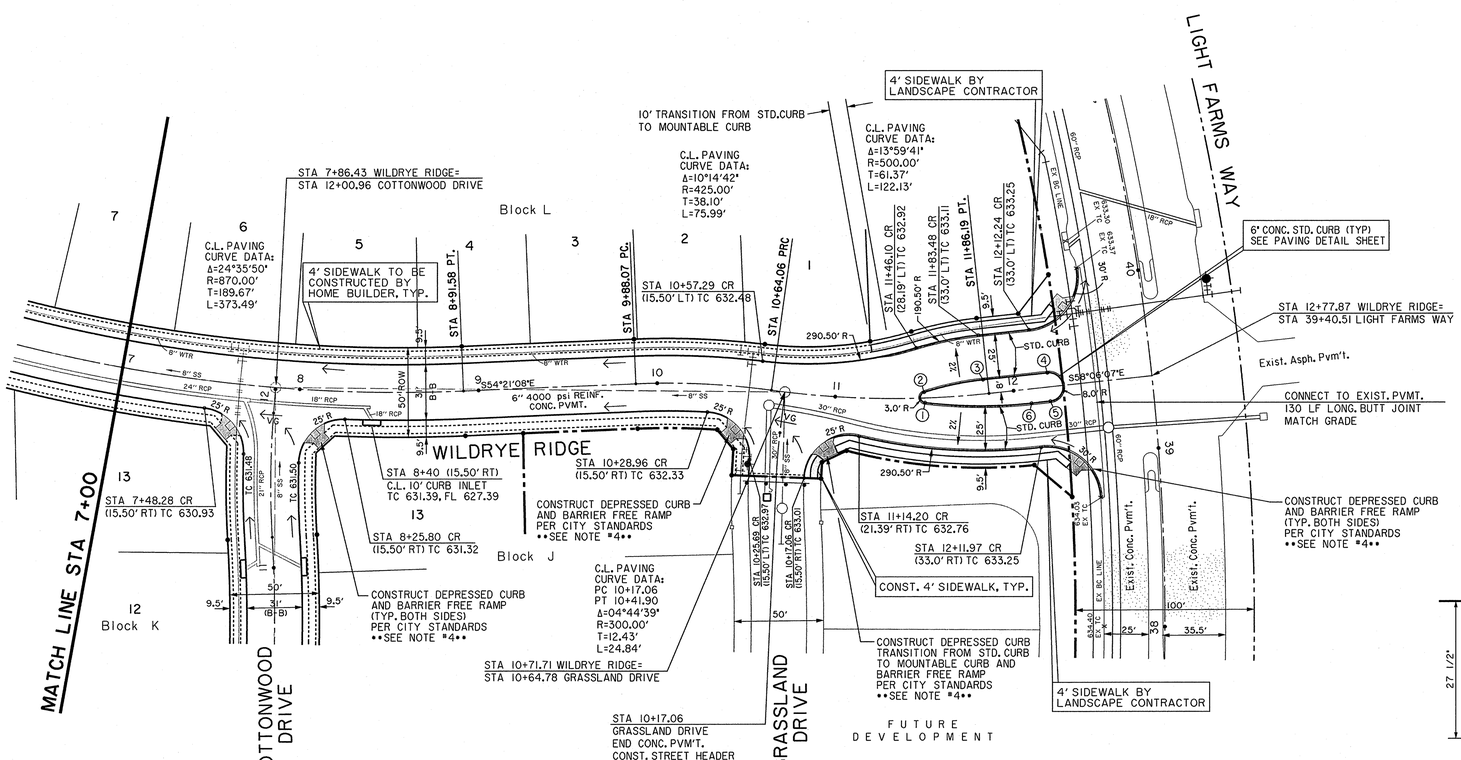

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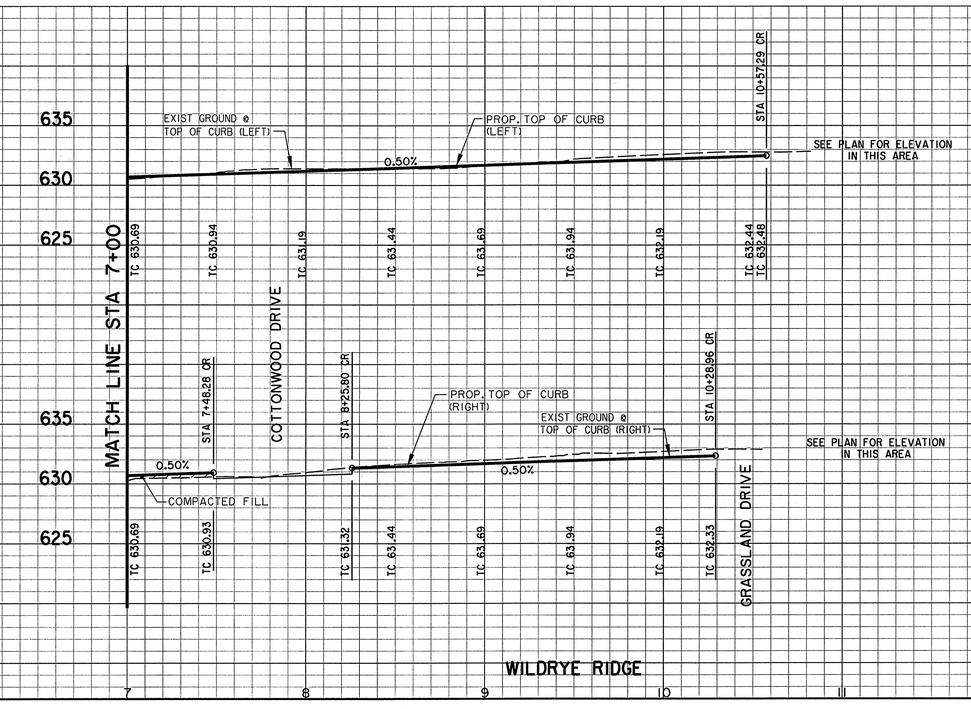
CENTER LINE STATION OFF-SET:

①	STA 11+50.20	2.60' RT.	TC 633.44
②	STA 11+49.83	3.25' LT.	TC 633.44
③	STA 11+83.62	7.99' LT.	TC 633.61
④	STA 12+19.85	8.0' LT.	TC 633.79
⑤	STA 12+19.87	8.0' RT.	TC 633.79
⑥	STA 12+09.31	8.0' LT.	TC 633.74



BASIS OF VERTICAL DATUM - NAVD 1988 based on National Geodetic Survey Benchmarks N-185 (Elevation 650.78') and H263 (Elevation - 643.81')

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STATE OF TEXAS
KEVIN N. CARLSON
89232
LICENSED PROFESSIONAL ENGINEER
6-20-13

Huitt-Zollars, Inc.
Firm Registration No. F-761

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PAVING PLAN & PROFILE
WILDRYE RIDGE (Cont.)

LIGHT FARMS

LFC Land Company LLC

Collin County Municipal Utility District No. 1

COLLIN COUNTY, TEXAS

HUITT-ZOLLARS

DESIGN	CHECKED	DATE	SCALE	NOTES	JOB NO.	SHT. NO.
HZI	HZI		H: 1"=40' V: 1"=6'		01-3905-26	19

P-201301-01

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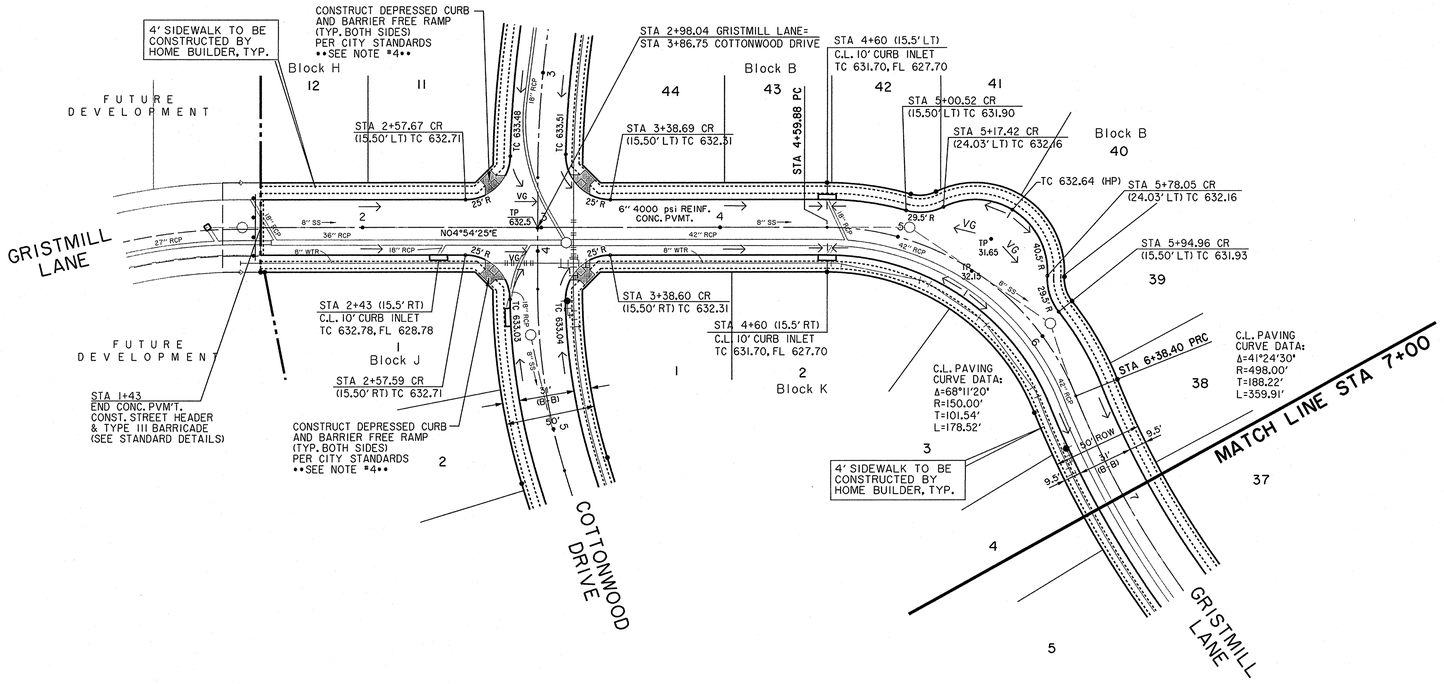

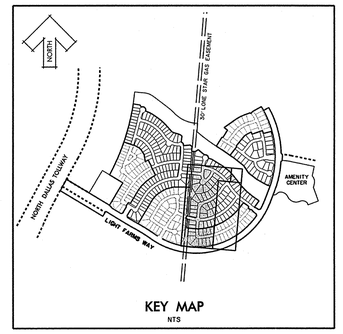

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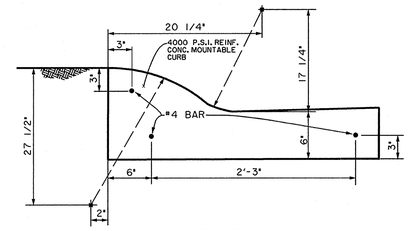
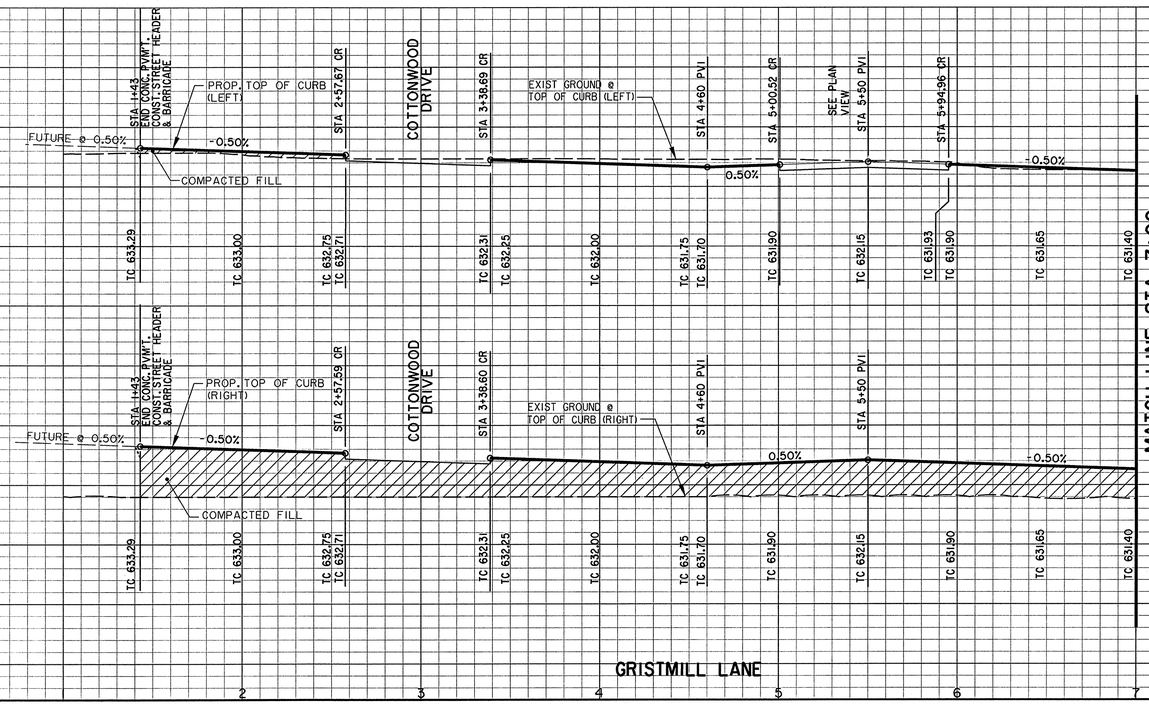


MOUNTABLE CURB DETAILS
NTS



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5/8 inch iron rod set in concrete with aluminum cap, north side of Light Farms Way at 408.50 feet left of centerline Station 24+57. Elev. 632.52'

STATE OF TEXAS
KEVIN N. CARLSON
89232
LICENSED PROFESSIONAL ENGINEER
6-2013

Huitt-Zollars, Inc.
Firm Registration No. F-761

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PAVING PLAN & PROFILE
GRISTMILL LANE

LIGHT FARMS

LFC Land Company LLC

Collin County Municipal Utility District No. 1

COLLIN COUNTY, TEXAS

HUITT-ZOLLARS

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HZI	HZI		H: 1"=40' V: 1"=6'		01-3905-26	20

GRISTMILL LANE

P-201301-01

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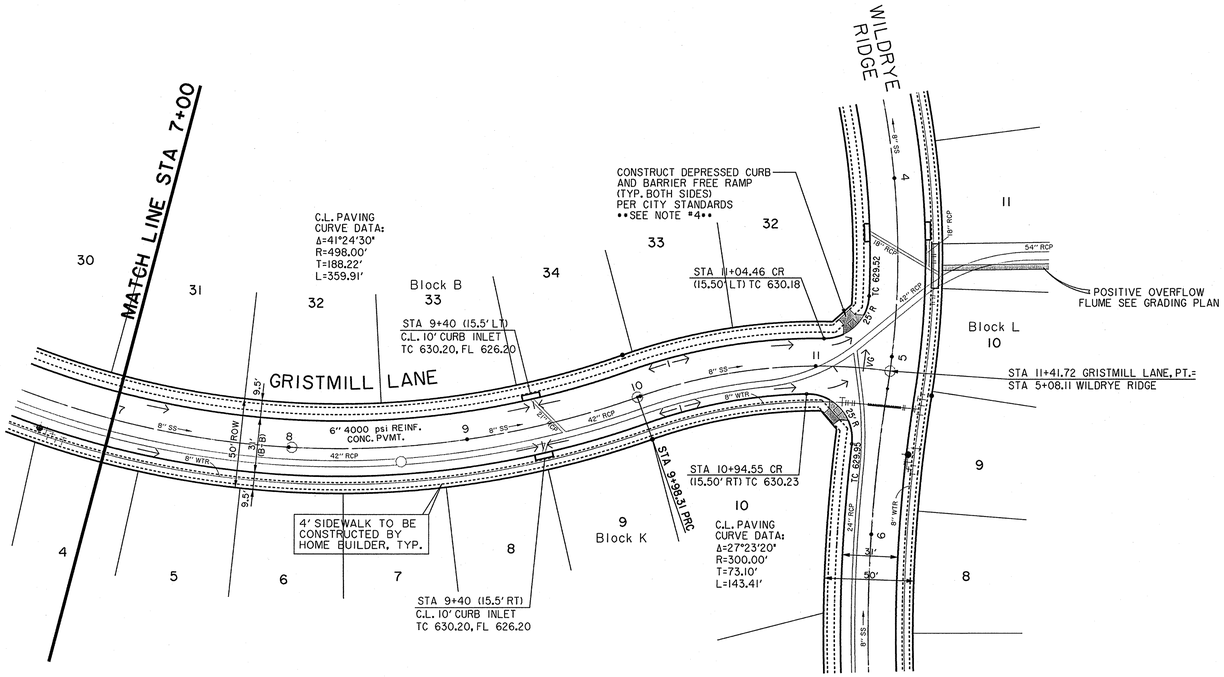

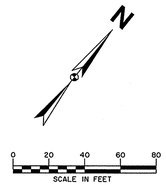

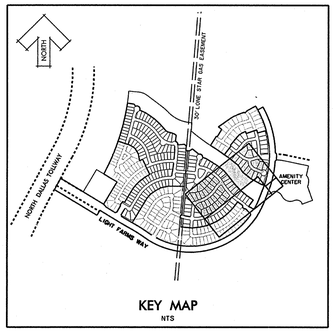

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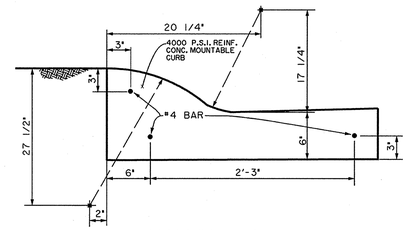

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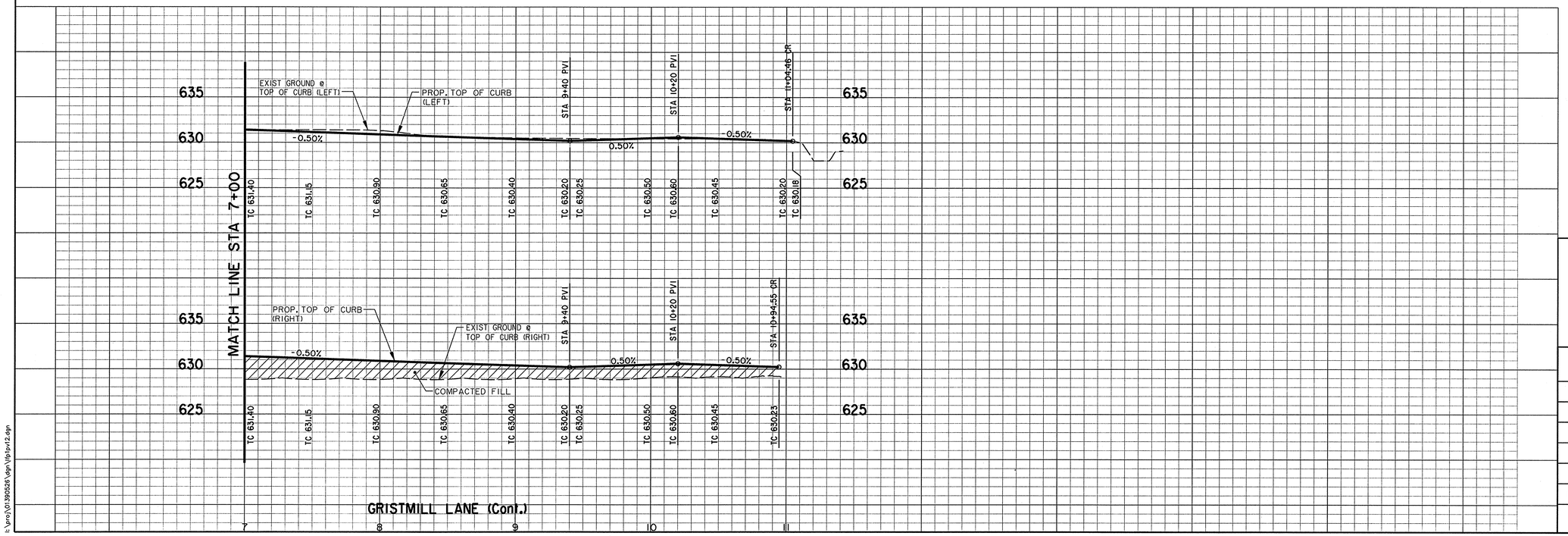

STATE OF TEXAS
KEVIN N. CARLSON
89232
LICENSED PROFESSIONAL ENGINEER
6-20-13

Huitt-Zollars, Inc.
Firm Registration No. F-761

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PAVING PLAN & PROFILE
GRISTMILL LANE (Cont.)

LIGHT FARMS

LFC Land Company LLC

Collin County Municipal Utility District No. 1

COLLIN COUNTY, TEXAS

HUITT-ZOLLARS

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GRISTMILL LANE (Cont.)

P-201301-01

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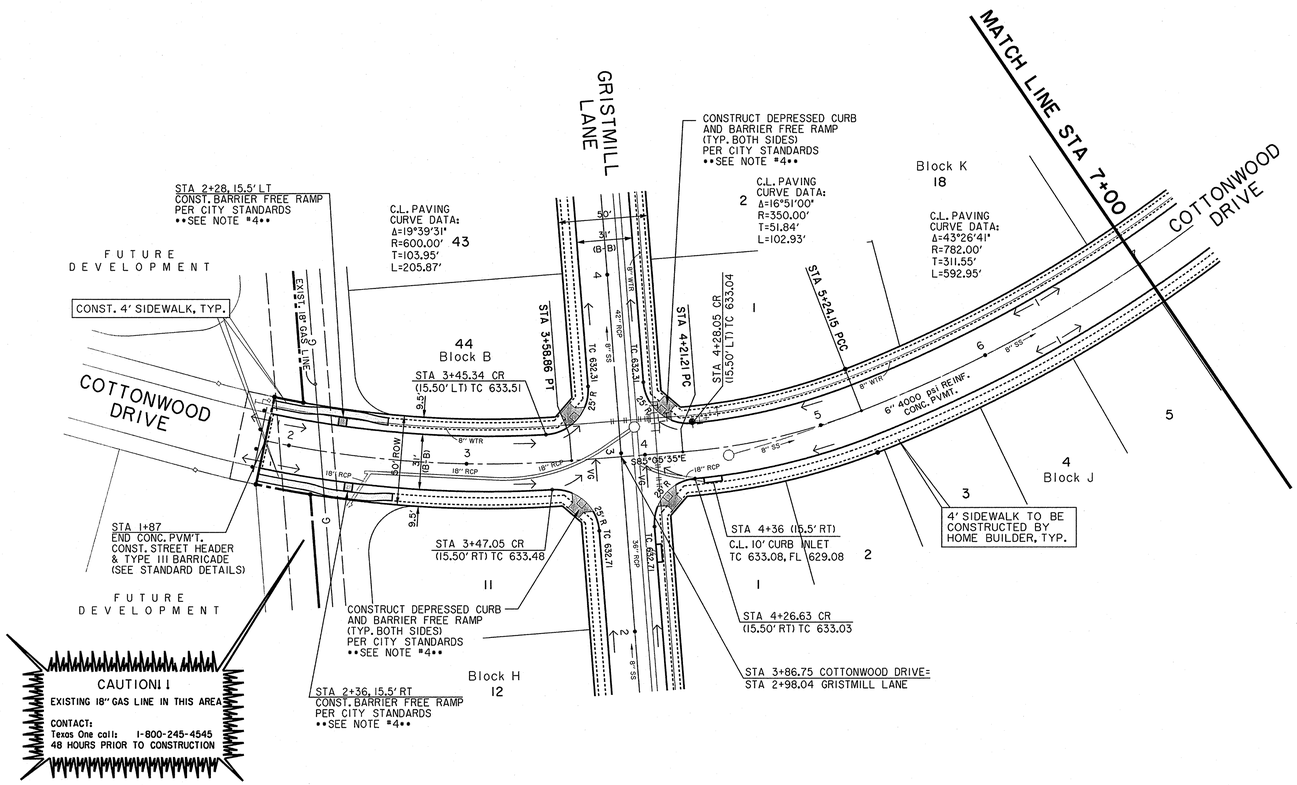

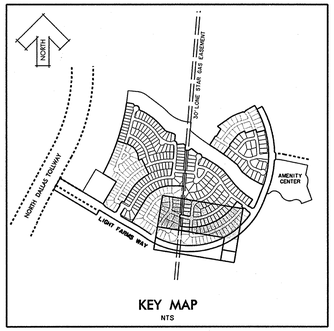

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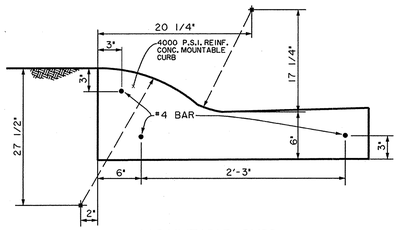

MOUNTABLE CURB DETAILS
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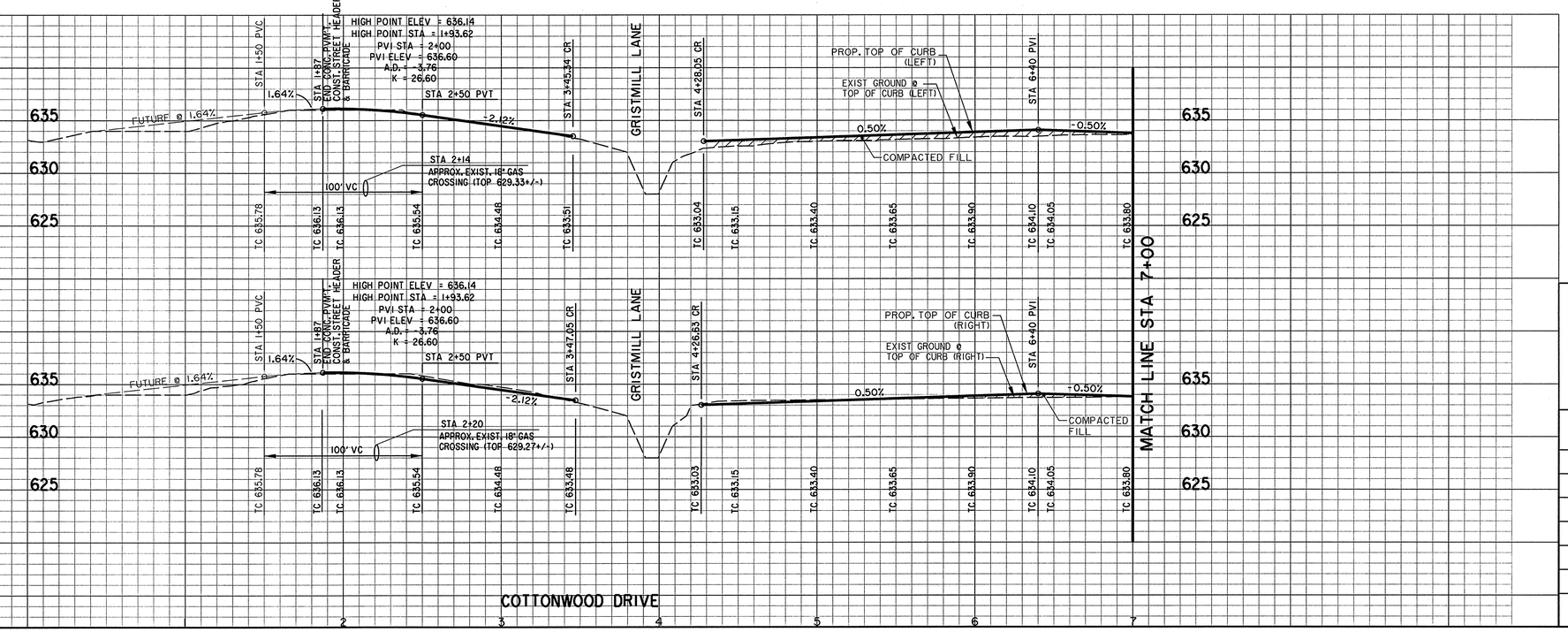

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STATE OF TEXAS
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89232
LICENSED
PROFESSIONAL ENGINEER
6-20-13

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PAVING PLAN & PROFILE
COTTONWOOD DRIVE

LIGHT FARMS

LFC Land Company LLC

Collin County Municipal Utility District No. 1

COLLIN COUNTY, TEXAS

HUITT-ZOLLARS

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COTTONWOOD DRIVE

P-201301-01

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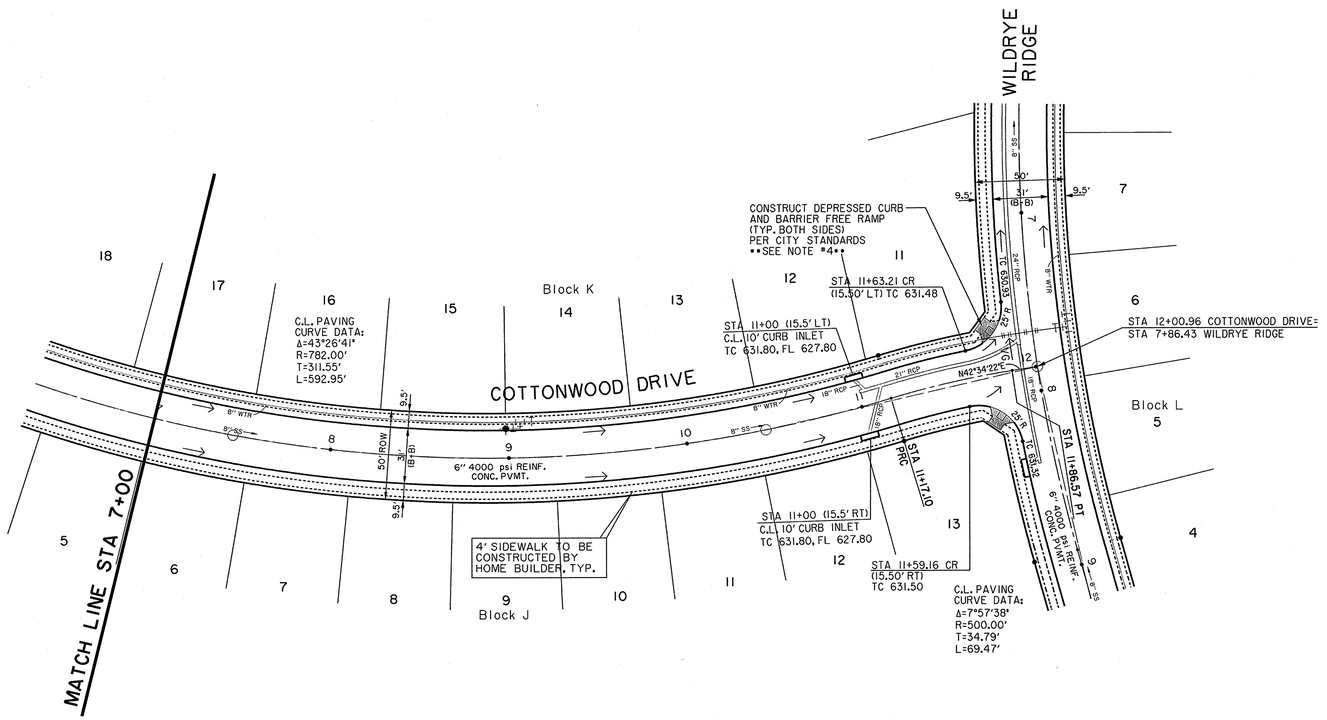

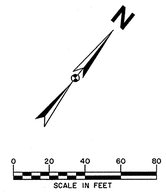

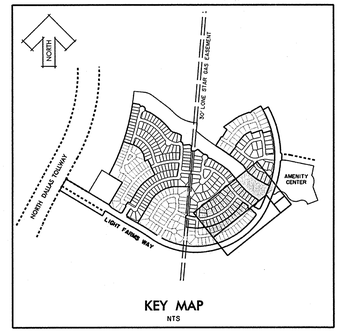

KEY MAP
NTS

NOTE:

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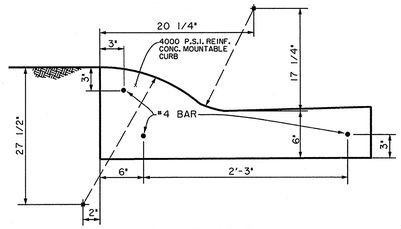


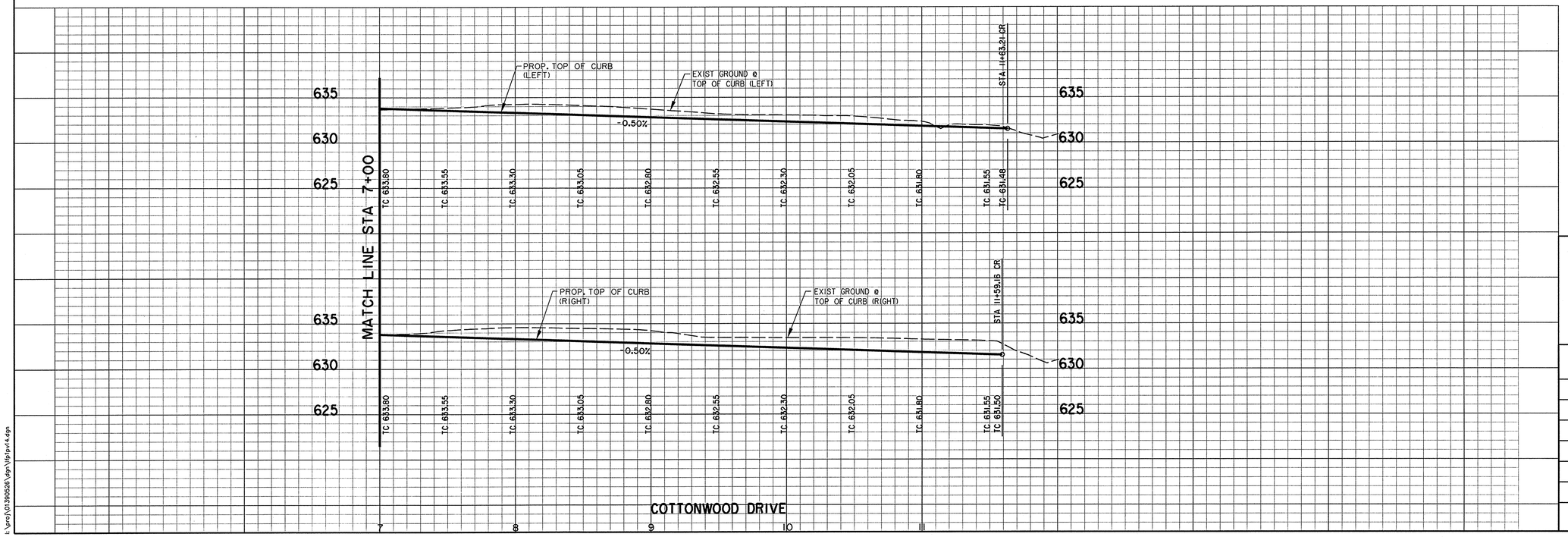
MOUNTABLE CURB DETAILS
NTS

BASIS OF VERTICAL DATUM - NAVD 1988 based on National Geodetic Survey Benchmarks N-185 (Elevation 650.78') and H263 (Elevation - 643.81')

BENCHMARKS:

TBM #39
Square cut on curb inlet, east side of North Dallas Tollway at the northeast corner of intersection with Light Farms Boulevard. Elev. 639.57' (Set 4/4/08)

HZI Control Monument #3
5/8 inch iron rod set in concrete with aluminum cap, north side of Light Farms Way at 408.50 feet left of centerline Station 24+57. Elev. 632.52'



STATE OF TEXAS
KEVIN N. CARLSON
89232
LICENSED PROFESSIONAL ENGINEER
6-20-13

Huitt-Zollars, Inc.
Firm Registration No. F-761

RECORD DRAWING

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PAVING PLAN & PROFILE
COTTONWOOD DRIVE (Cont.)

LIGHT FARMS

LFC Land Company LLC

Collin County Municipal Utility District No. 1

COLLIN COUNTY, TEXAS

HUITT-ZOLLARS

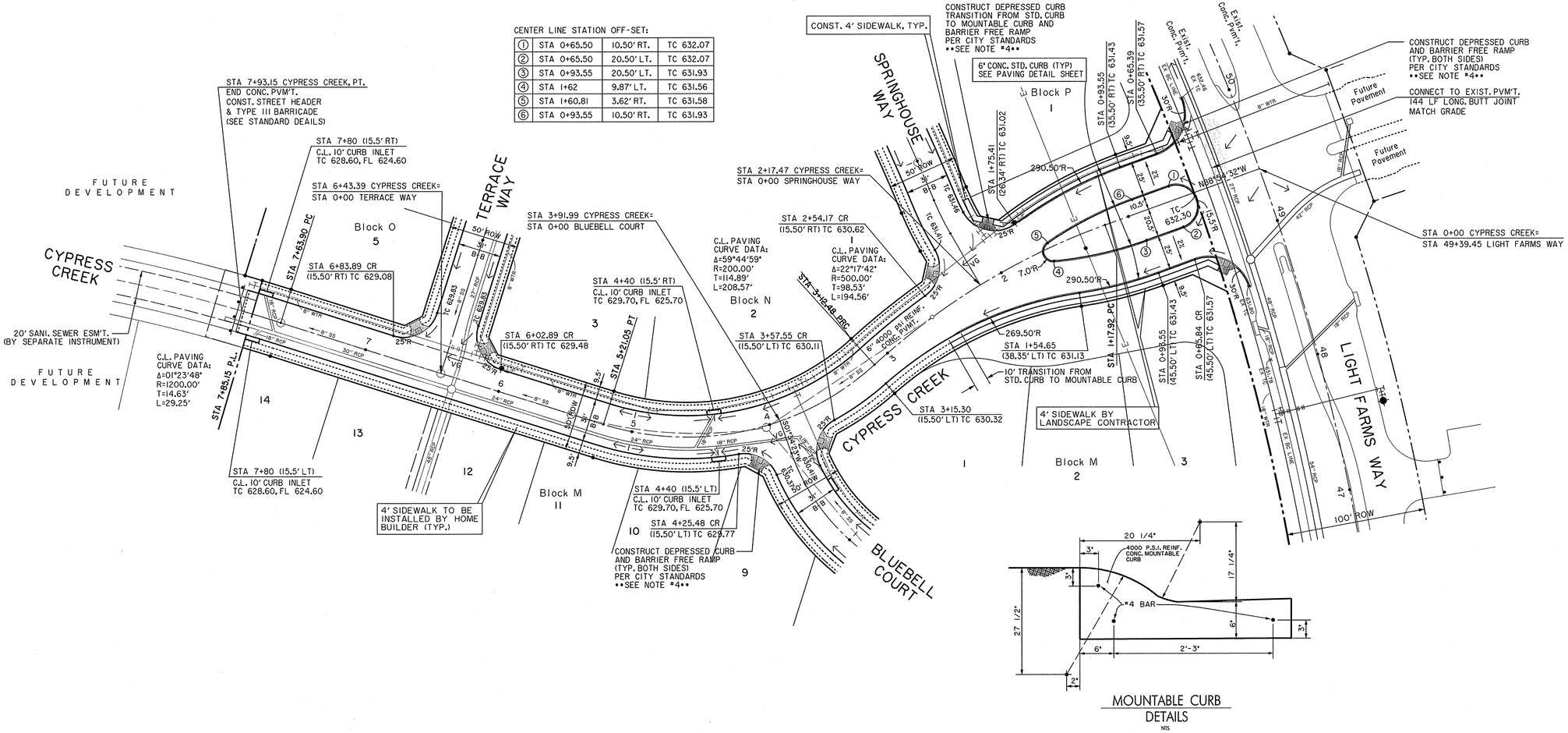
DESIGN	CHECKED	DATE	SCALE	NOTES	JOB NO.	SHT. NO.
HZI	HZI		H: 1"=40' V: 1"=6'		01-3905-26	23

COTTONWOOD DRIVE (Cont.)

P-201301-01

CENTER LINE STATION OFF-SET:

①	STA 0+65.50	10.50' RT.	TC 632.07
②	STA 0+65.50	20.50' LT.	TC 632.07
③	STA 0+93.55	20.50' LT.	TC 631.93
④	STA 1+62	9.87' LT.	TC 631.56
⑤	STA 1+60.81	3.62' RT.	TC 631.58
⑥	STA 0+93.55	10.50' RT.	TC 631.93



MOUNTABLE CURB
DETAILS
NTS

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BASIS OF VERTICAL DATUM - NAVD 1988 based on National Geodetic Survey Benchmarks N-185 (Elevation 650.78') and H263 (Elevation - 643.81')

BENCHMARKS:

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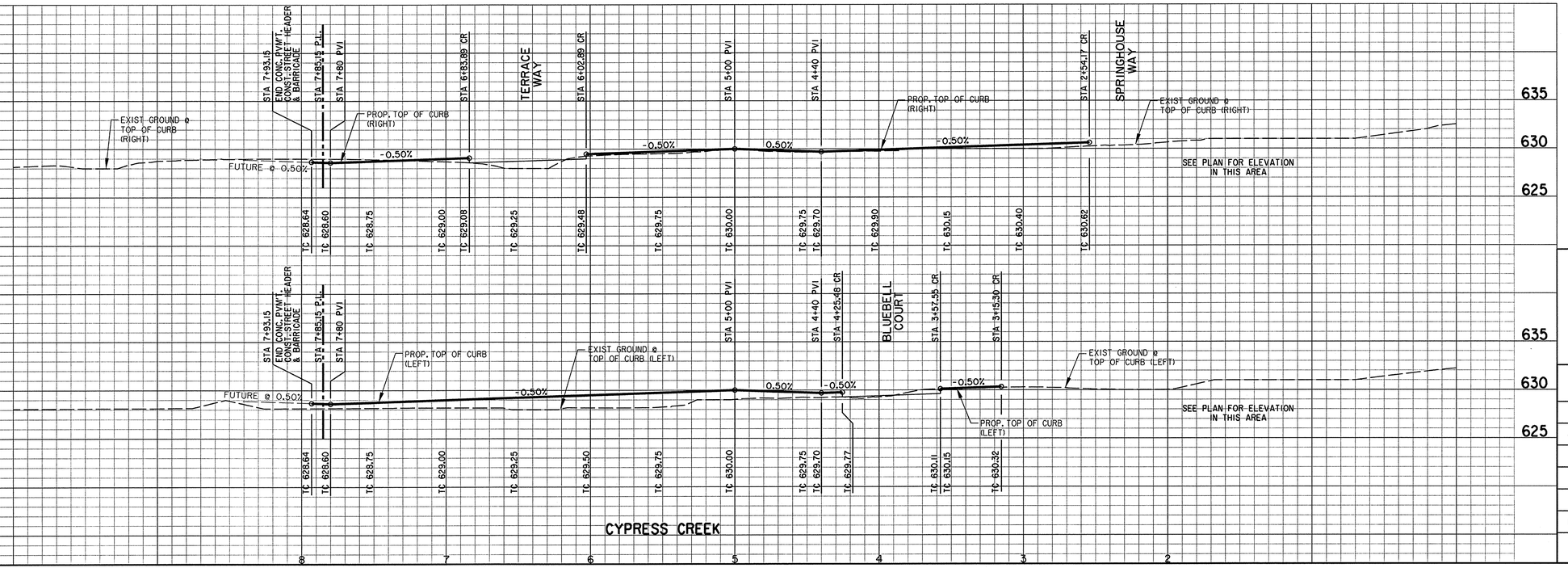
Square cut on curb inlet, east side of North Dallas Tollway at the northeast corner of intersection with Light Farms Boulevard. Elev. 639.57' (Set 4/4/08)

HZI Control Monument #4
5/8 inch iron rod set in concrete with aluminum cap, north side of Light Farms Way at 1418 feet left of centerline Station 30+39. Elev. 630.40'



STATE OF TEXAS
KEVIN N. CARLSON
89232
LICENSED
PROFESSIONAL ENGINEER
6-20-13

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PAVING PLAN & PROFILE
CYPRESS CREEK

LIGHT FARMS

LFC Land Company LLC

Collin County Municipal Utility District No. 1

COLLIN COUNTY, TEXAS

HUITT-ZOLLARS

DESIGN	CHECKED	DATE	SCALE	NOTES	JOB NO.	SHT. NO.
HZI	HZI		H: 1"=40' V: 1"=6'		01-3905-26	24

CYPRESS CREEK

P-201301-01

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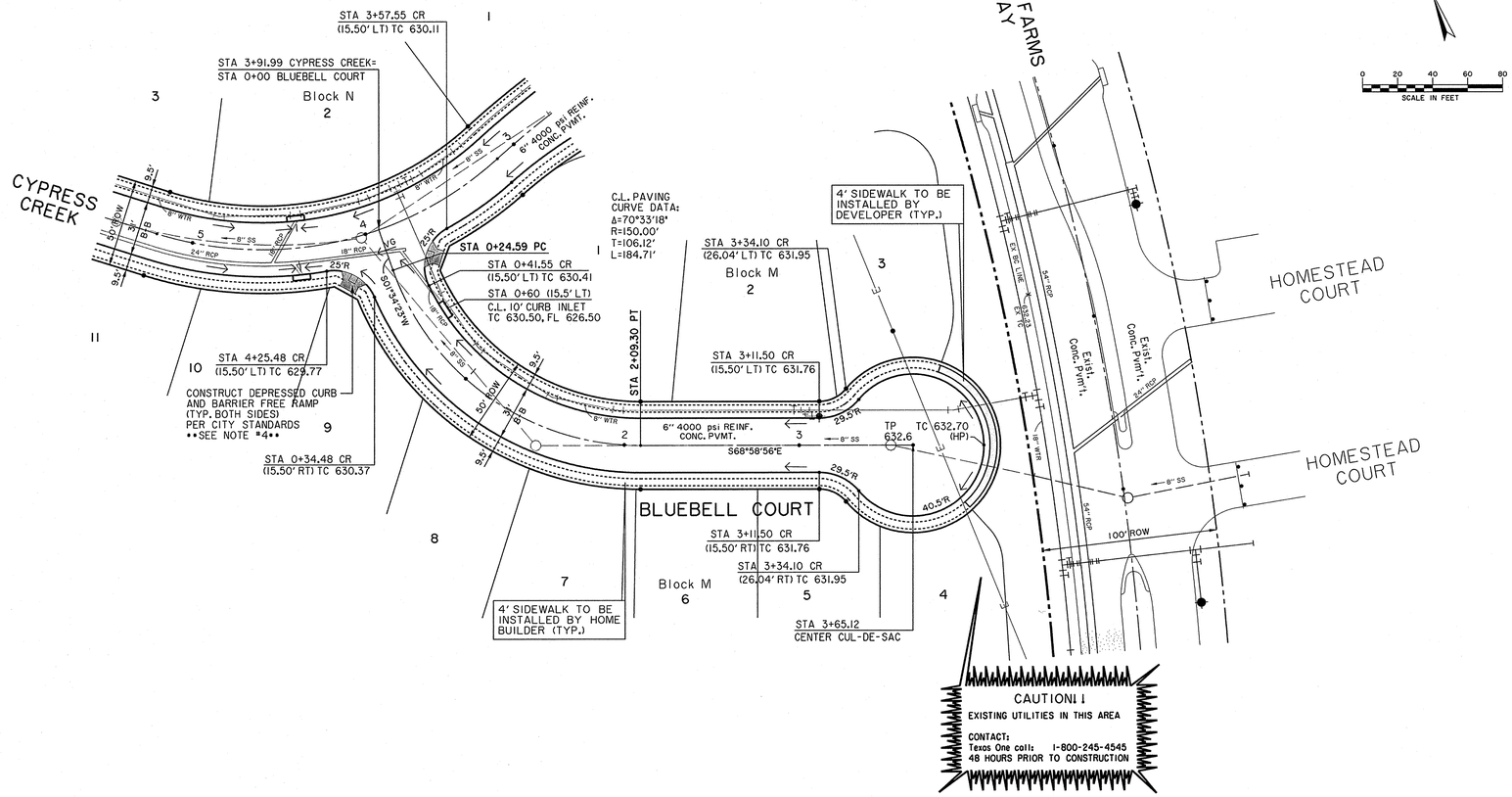

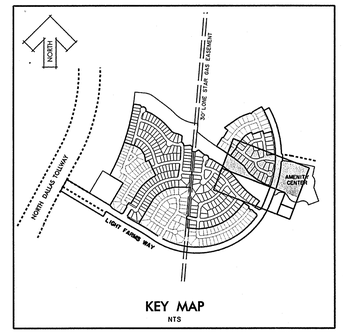

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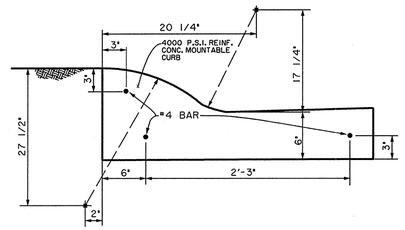

MOUNTABLE CURB DETAILS
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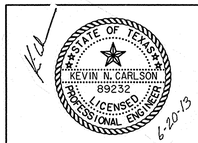

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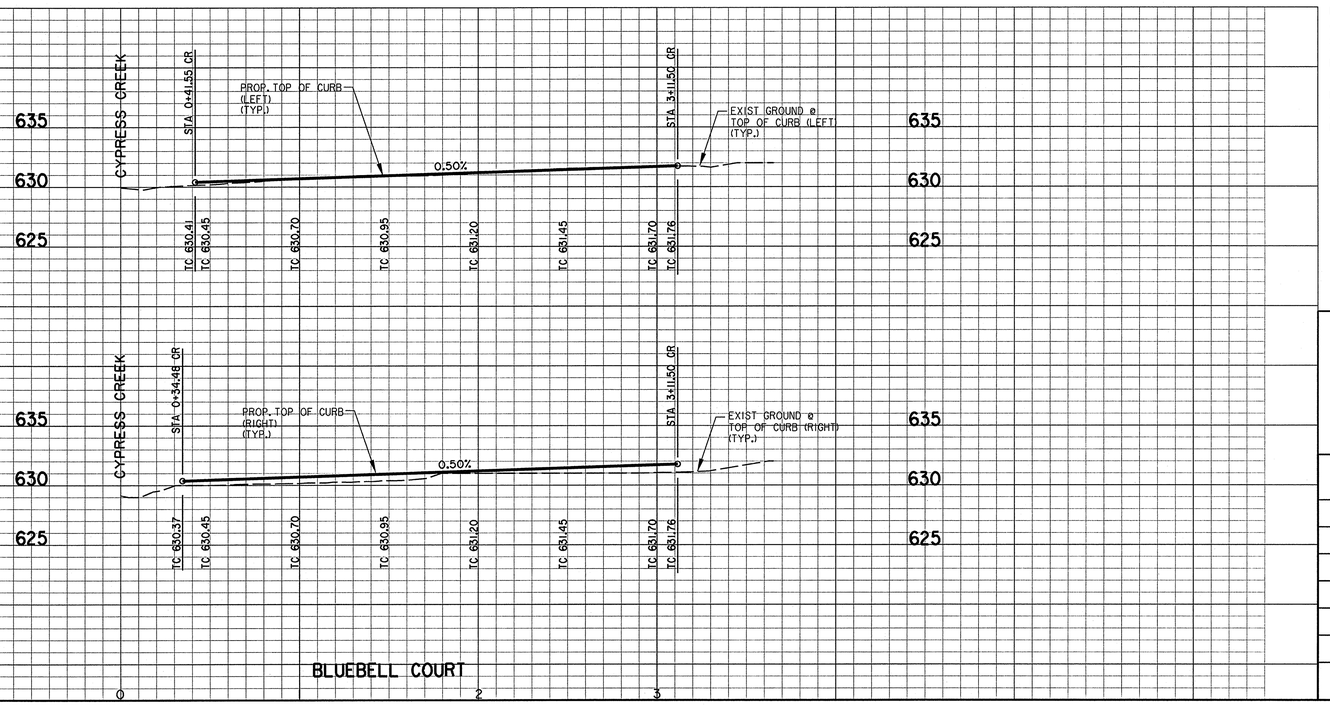

PAVING PLAN & PROFILE
BLUEBELL COURT

LIGHT FARMS

LFC Land Company LLC

Collin County Municipal Utility District No. 1

COLLIN COUNTY, TEXAS

HUITT-ZOLLARS

DESIGN	CHECKED	DATE	SCALE	NOTES	JOB NO.	SHT. NO.
HZI	HZI		H: 1"=40' V: 1"=6'		01-3905-26	25

BLUEBELL COURT

P-201301-01

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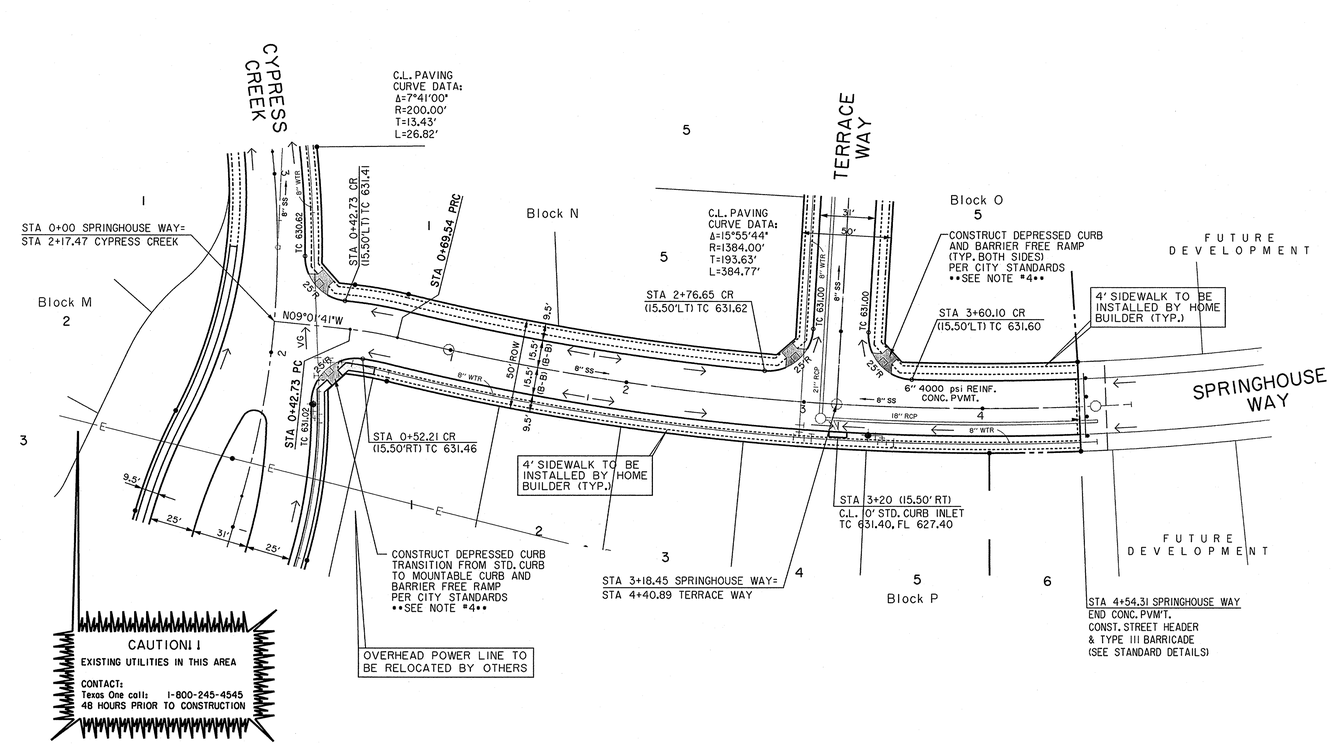

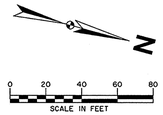

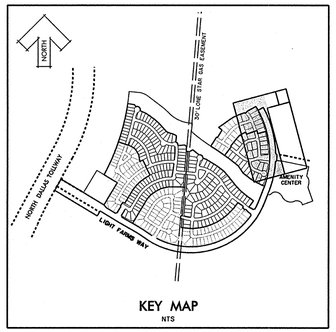

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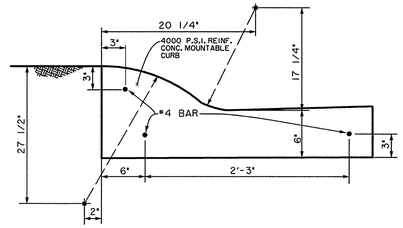
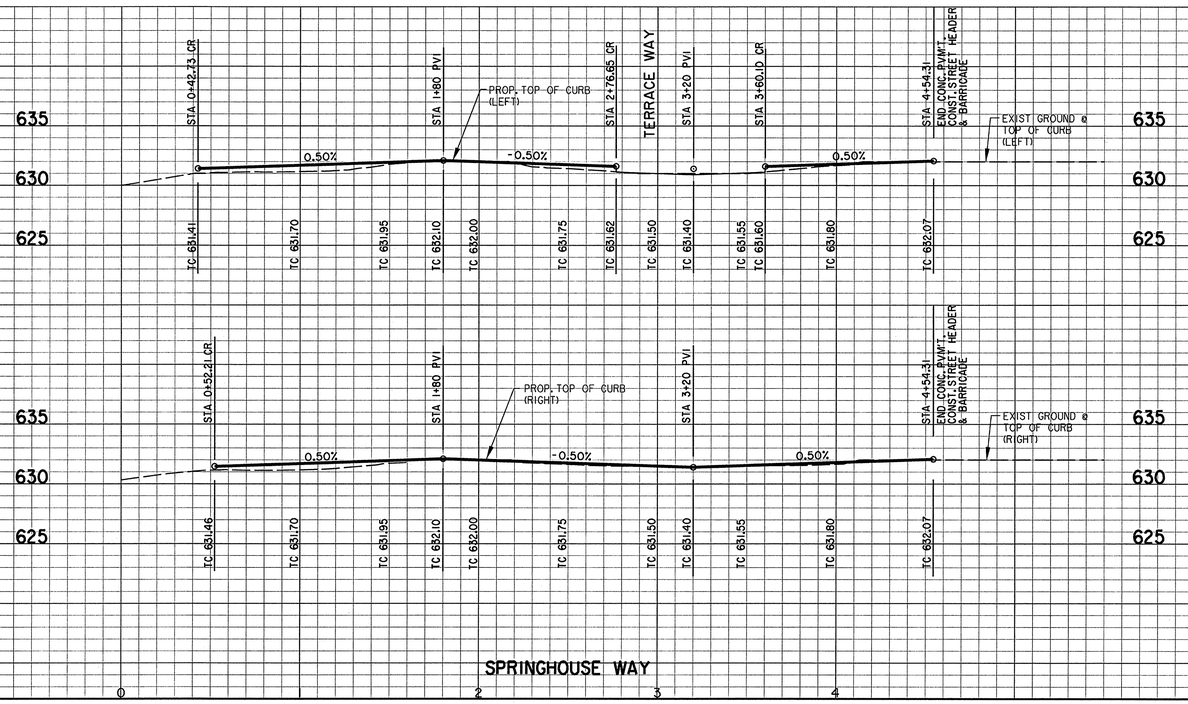


MOUNTABLE CURB DETAILS
NTS



BASIS OF VERTICAL DATUM - NAVD 1988 based on National Geodetic Survey Benchmarks N-185 (Elevation 650.78') and H263 (Elevation - 643.81')

BENCHMARKS:

TBM #39
Square cut on curb inlet, east side of North Dallas Tollway at the northeast corner of intersection with Light Farms Boulevard. Elev. 639.57' (Set 4/4/08)

HZI Control Monument #4
5/8 inch iron rod set in concrete with aluminum cap, north side of Light Farms Way at 1418 feet left of centerline Station 30+39. Elev. 630.40'

STATE OF TEXAS
KEVIN N. CARLSON
89232
LICENSED
PROFESSIONAL ENGINEER
6-20-13

Huitt-Zollars, Inc.
Firm Registration No. F-761

RECORD DRAWING

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PAVING PLAN & PROFILE
SPRINGHOUSE WAY

LIGHT FARMS

LFC Land Company LLC

Collin County Municipal Utility District No. 1

COLLIN COUNTY, TEXAS

HUITT-ZOLLARS

DESIGN	CHECKED	DATE	SCALE	NOTES	JOB NO.	SHT. NO.
HZI	HZI		H: 1"=40' V: 1"=6'		01-3905-26	26

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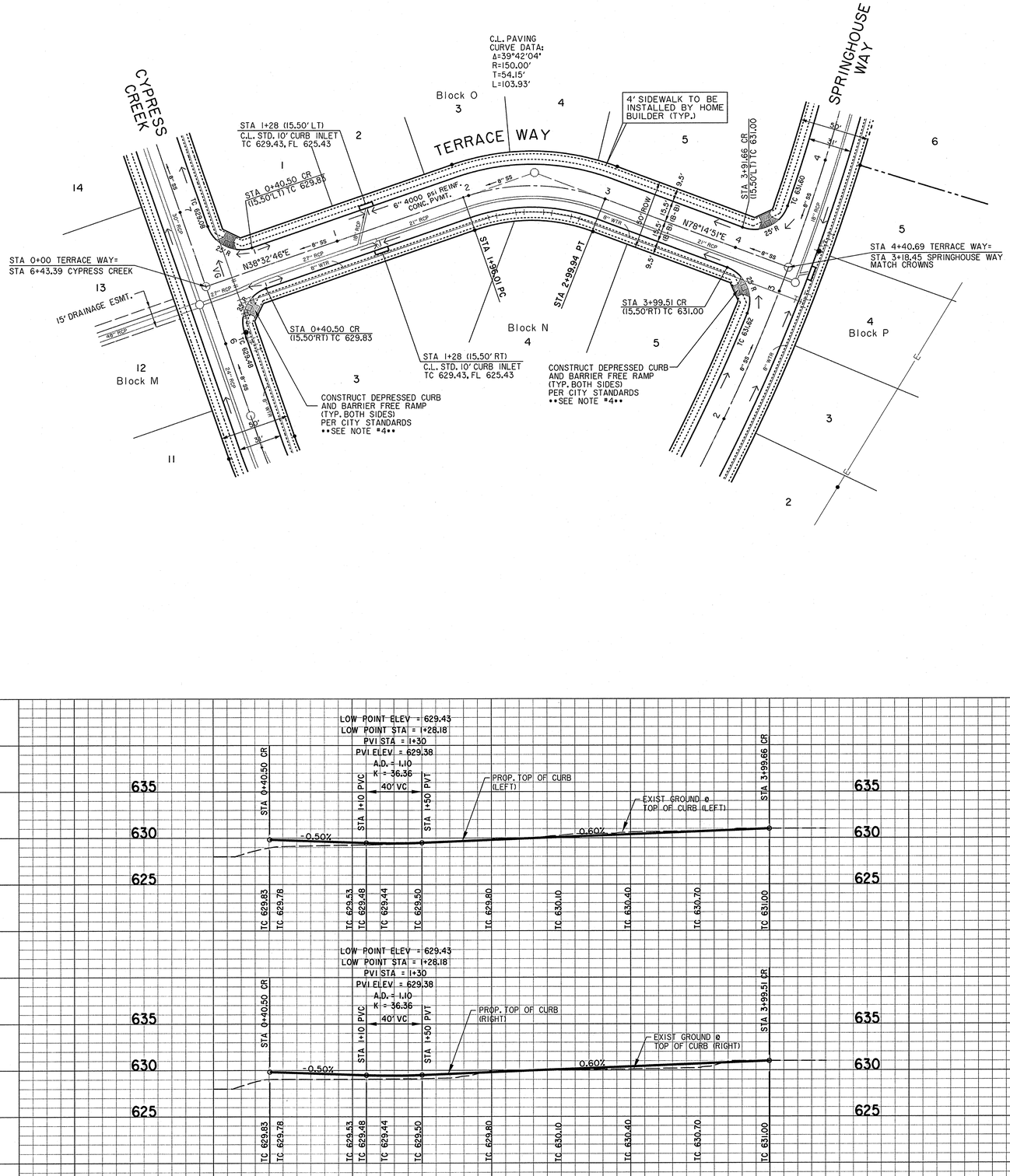
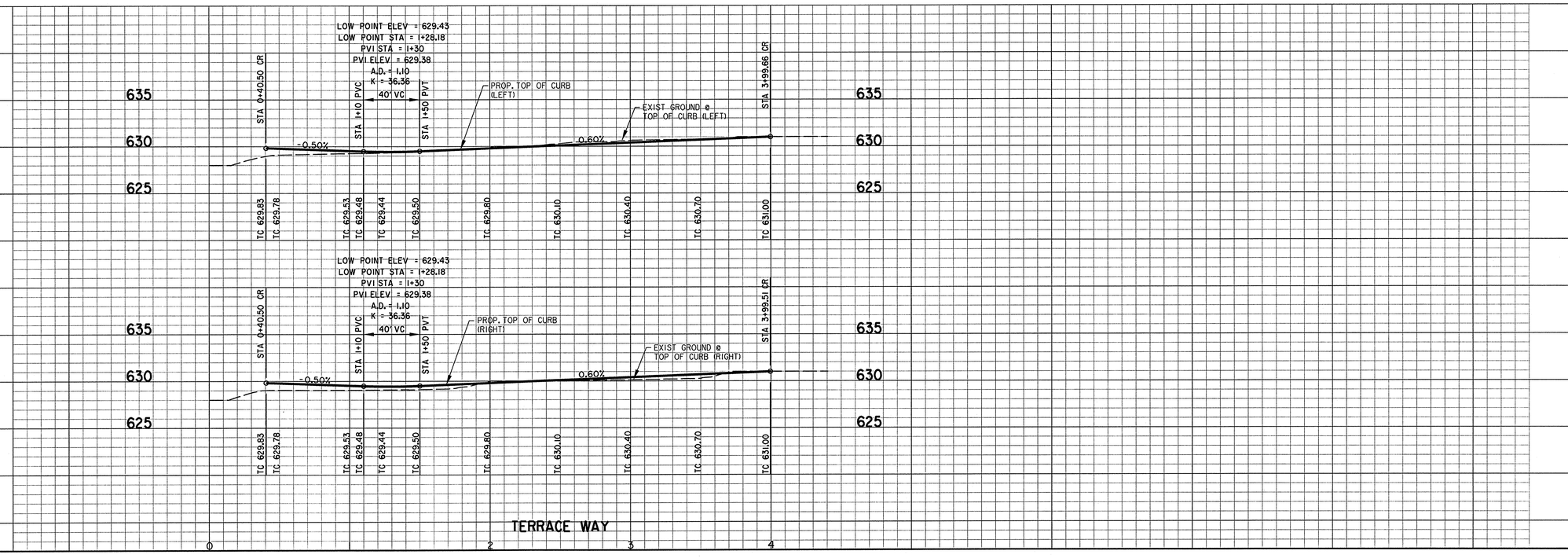
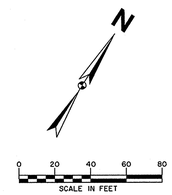
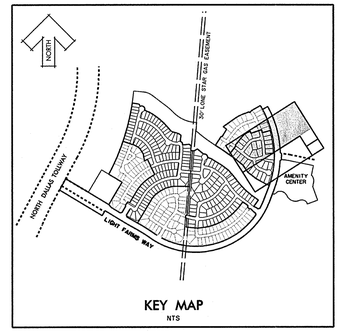
P-201301-01









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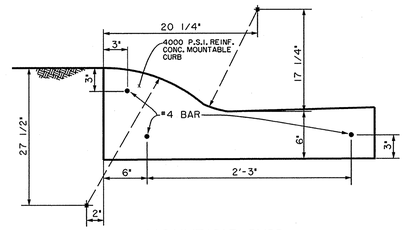

MOUNTABLE CURB DETAILS
NTS

BASIS OF VERTICAL DATUM - NAVD 1988 based on National Geodetic Survey Benchmarks N-185 (Elevation 650.78') and H263 (Elevation - 643.81')

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5/8 inch iron rod set in concrete with aluminum cap, north side of Light Farms Way at 1418 feet left of centerline Station 30+39. Elev. 630.40'

STATE OF TEXAS
KEVIN N. CARLSON
89232
LICENSED PROFESSIONAL ENGINEER
6-20-13

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Firm Registration No. F-761

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PAVING PLAN & PROFILE
TERRACE WAY

LIGHT FARMS

LFC Land Company LLC

Collin County Municipal Utility District No. 1

COLLIN COUNTY, TEXAS

HUITT-ZOLLARS

DESIGN	CHECKED	DATE	SCALE	NOTES	JOB NO.	SHT. NO.
HZI	HZI		H: 1"=40' V: 1"=6'		01-3905-26	27

TERRACE WAY

P-201301-01

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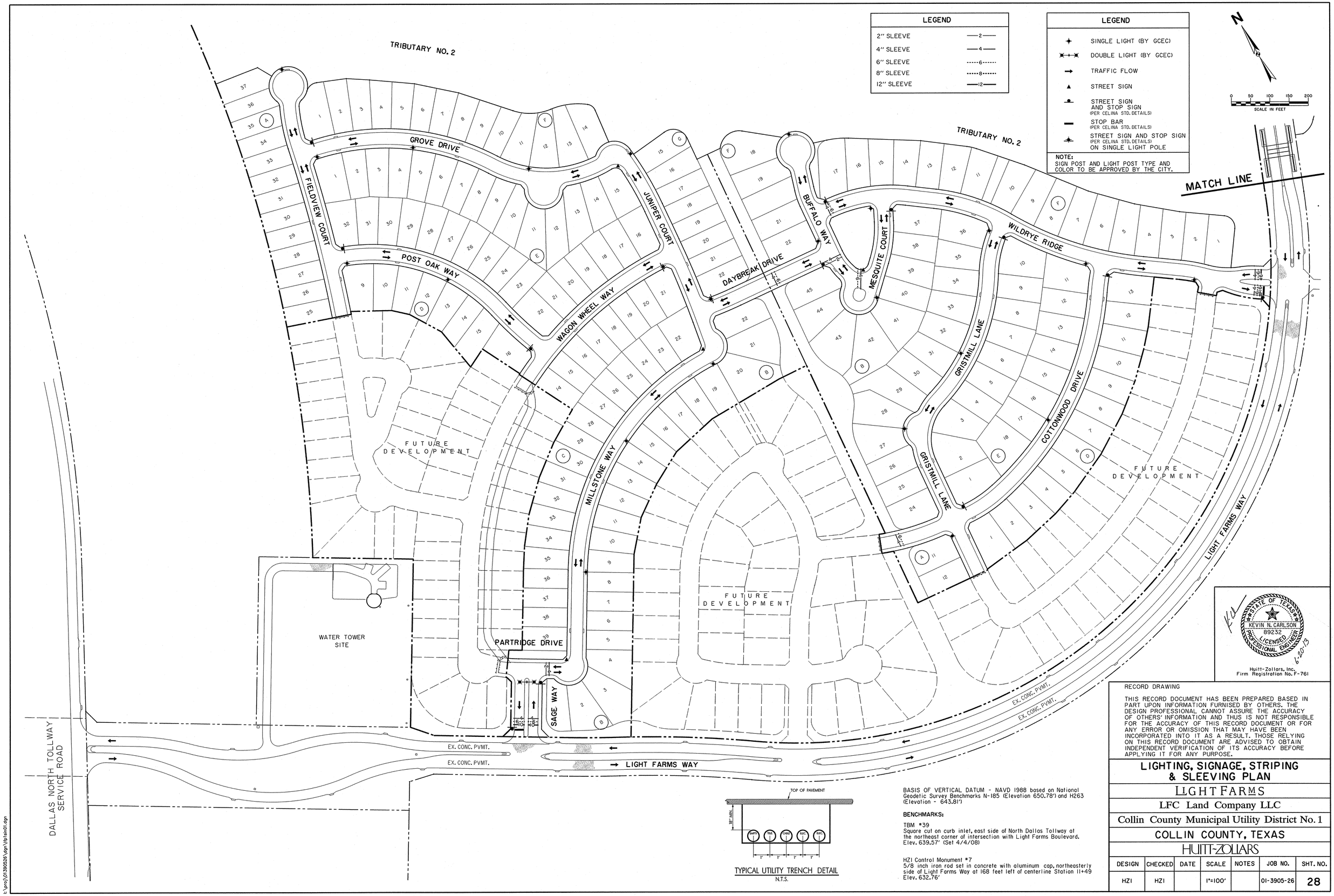

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BENCHMARKS:

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Square cut on curb inlet, east side of North Dallas Tollway at the northeast corner of intersection with Light Farms Boulevard. Elev. 639.57' (Set 4/4/08)

HZI Control Monument #7
5/8 inch iron rod set in concrete with aluminum cap, northeasterly side of Light Farms Way at 168 feet left of centerline Station 11+49 Elev. 632.76'

LIGHTING, SIGNAGE, STRIPING & SLEEVING PLAN

LIGHT FARMS

LFC Land Company LLC

Collin County Municipal Utility District No. 1

COLLIN COUNTY, TEXAS

HUITT-ZOLLARS

DESIGN	CHECKED	DATE	SCALE	NOTES	JOB NO.	SHT. NO.
HZI	HZI		1"=100'		01-3905-26	28

LIGHTING, SIGNAGE, STRIPING & SLEEVING PLAN

P-201301-01

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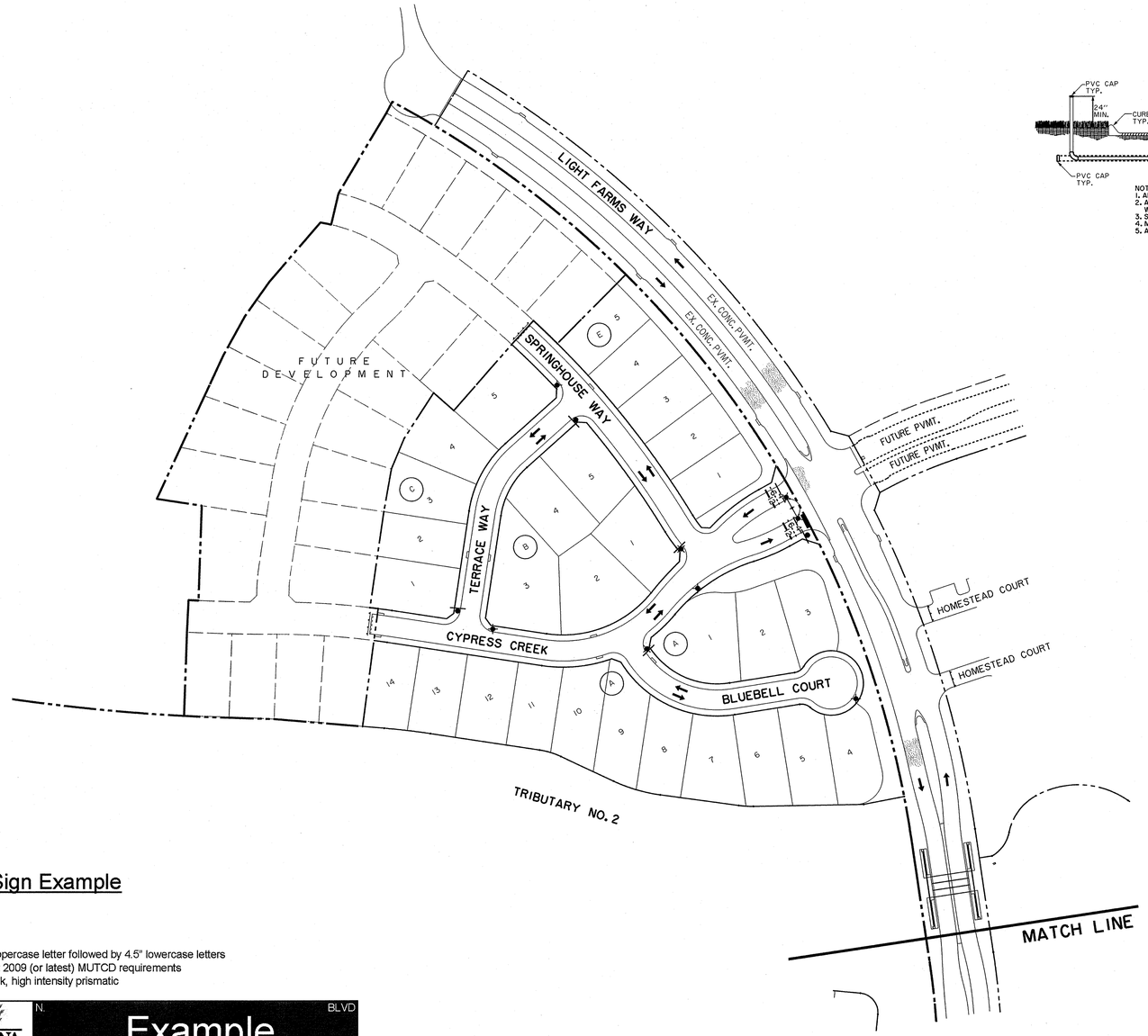
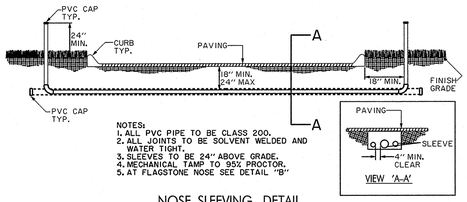




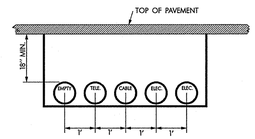
NOTES:
1. ALL PVC PIPE TO BE CLASS 200.
2. ALL JOINTS TO BE SOLVENT WELDED AND WATER TIGHT.
3. SLEEVES TO BE 24" ABOVE GRADE.
4. MECHANICAL TAMP TO 95% PROCTOR.
5. AT FLAGSTONE NOSE SEE DETAIL "B"

NOSE SLEEVING DETAIL
TYPICAL

LEGEND	
2" SLEEVE	—2—
4" SLEEVE	—4—
6" SLEEVE	----6----
8" SLEEVE	----8----
12" SLEEVE	—12—

LEGEND	
	SINGLE LIGHT (BY GCEC)
	DOUBLE LIGHT (BY GCEC)
	TRAFFIC FLOW
	STREET SIGN
	STREET SIGN AND STOP SIGN (PER CELINA STD. DETAILS)
	STOP BAR (PER CELINA STD. DETAILS)
	STREET SIGN AND STOP SIGN (PER CELINA STD. DETAILS) ON SINGLE LIGHT POLE

NOTE:
SIGN POST AND LIGHT POST TYPE AND COLOR TO BE APPROVED BY THE CITY.



TYPICAL TRENCH DETAIL
N.T.S.

Celina Street Sign Example

Street Name: 6" initial uppercase letter followed by 4.5" lowercase letters
Must meet 2009 (or latest) MUTCD requirements
9" flat blank, high intensity prismatic

Front:
(Left to Right)

Back:
(Left to Right)

BASIS OF VERTICAL DATUM - NAVD 1988 based on National Geodetic Survey Benchmarks N-185 (Elevation 650.78') and H263 (Elevation - 643.81')

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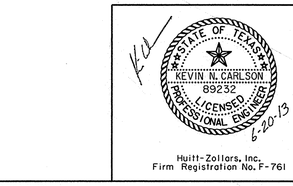

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LIGHTING, SIGNAGE, STRIPING & SLEEVING PLAN

LIGHT FARMS

LFC Land Company LLC

Collin County Municipal Utility District No. 1

COLLIN COUNTY, TEXAS

HUITT-ZOLLARS

DESIGN	CHECKED	DATE	SCALE	NOTES	JOB NO.	SHT. NO.
HZI	HZI		1"=100'		01-3905-26	29

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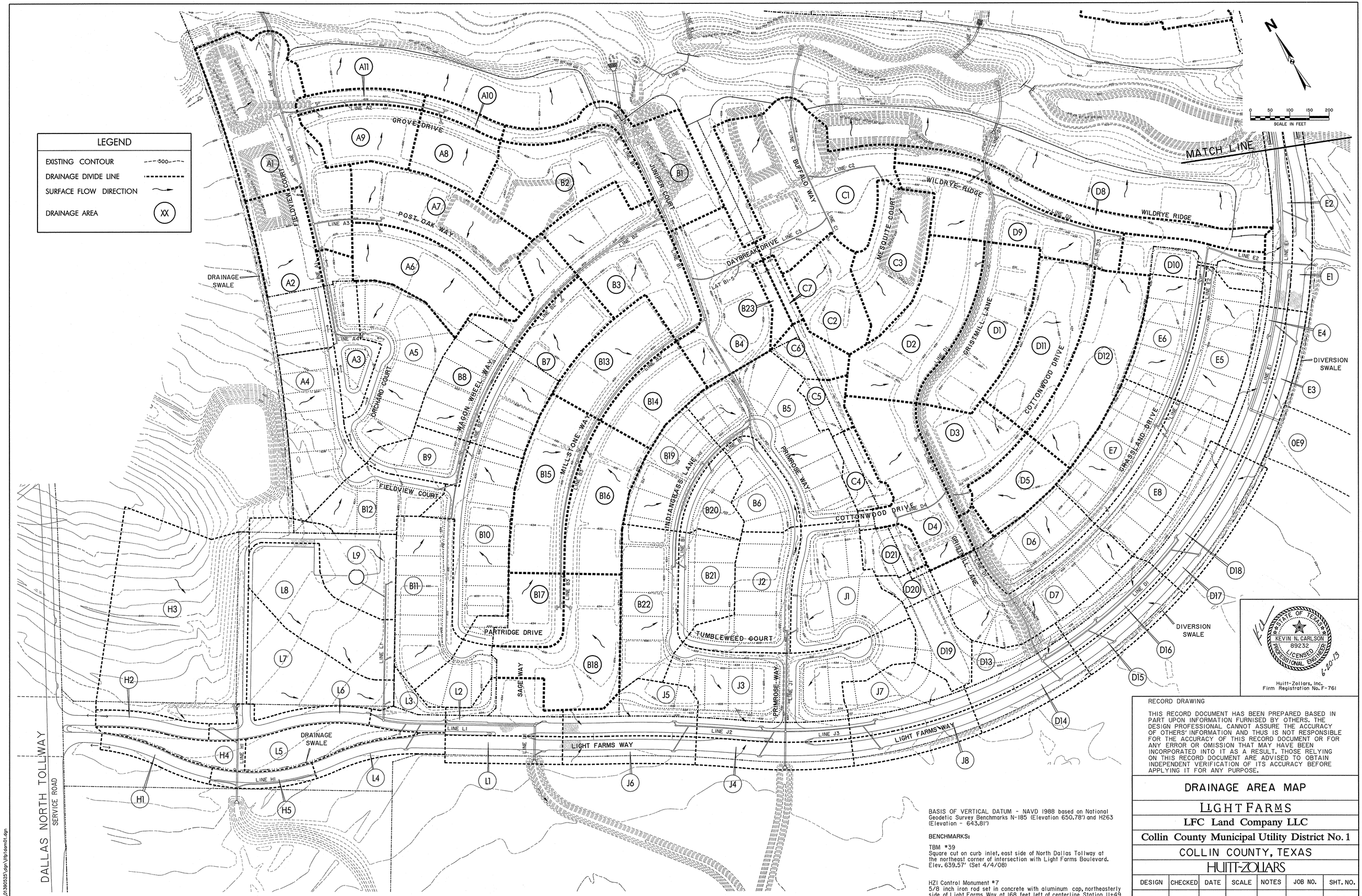

BASIS OF VERTICAL DATUM - NAVD 1988 based on National Geodetic Survey Benchmarks N-185 (Elevation 650.78') and H263 (Elevation - 643.81')

BENCHMARKS:

TBM #39
Square cut on curb inlet, east side of North Dallas Tollway at the northeast corner of intersection with Light Farms Boulevard. Elev. 639.57' (Set 4/4/08)

HZI Control Monument #7
5/8 inch iron rod set in concrete with aluminum cap, northeasterly side of Light Farms Way at 168 feet left of centerline Station 11+49 Elev. 632.76'

STATE OF TEXAS
KEVIN N. CARLSON
89232
LICENSED
PROFESSIONAL ENGINEER
6-20-13

Huitt-Zollars, Inc.
Firm Registration No. F-761

RECORD DRAWING

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DRAINAGE AREA MAP

LIGHT FARMS

LFC Land Company LLC

Collin County Municipal Utility District No. 1

COLLIN COUNTY, TEXAS

HUITT-ZOLLARS

DESIGN	CHECKED	DATE	SCALE	NOTES	JOB NO.	SHT. NO.
HZI	HZI		1"=100'		01-3905-26	30

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DESIGN FLOW (Q_D) BY RATIONAL METHOD

LOCATION, AREA DESIGNATION	TIME OF CONCENTRATION, T_c (MIN.)	INTENSITY "I_{100}" (in/hr)	DRAINAGE AREA "A" (AC)	RUNOFF COEFFICIENT "C"	FREQUENCY (YRS.)	DESIGN FLOW "Q_{100}" = C*I*A (CFS)	NOTE #
1	2	3	4	5		6	
A1	15	7.52	2.42	0.80	100	10.9	1
A2	15	7.52	1.35	0.80	100	8.1	1
A3	15	7.52	0.70	0.80	100	4.2	1
A4	15	7.52	1.35	0.80	100	8.1	2
A5	15	7.52	1.64	0.80	100	9.9	2
A6	15	7.52	1.35	0.80	100	8.1	2
A7	15	7.52	1.72	0.80	100	10.3	2
A8	15	7.52	0.75	0.80	100	4.4	2
A9	15	7.52	0.59	0.80	100	3.5	1
A10	15	7.52	0.50	0.80	100	3.0	1
A11	15	7.52	0.30	0.80	100	1.8	1
B1	15	7.52	1.35	0.80	100	8.1	1
B2	15	7.52	1.63	0.80	100	7.3	1
B3	15	7.52	1.89	0.80	100	8.5	1
B4	15	7.52	1.60	0.80	100	7.5	1
B5	15	7.52	2.07	0.80	100	9.5	2
B6	15	7.52	0.63	0.80	100	3.9	2
B7	15	7.52	1.62	0.80	100	9.8	1
B8	15	7.52	1.50	0.80	100	8.8	1
B9	15	7.52	0.57	0.80	100	2.5	2
B10	15	7.52	1.54	0.80	100	9.0	2
B11	15	7.52	1.38	0.80	100	8.1	2
B12	15	7.52	0.90	0.80	100	4.1	2
B13	15	7.52	1.02	0.80	100	4.6	1
B14	15	7.52	0.83	0.80	100	3.7	1
B15	15	7.52	1.41	0.80	100	8.4	1
B16	15	7.52	1.20	0.80	100	8.8	1
B17	15	7.52	0.78	0.80	100	3.5	1
B18	15	7.52	2.03	0.80	100	9.1	1
B19	15	7.52	0.90	0.80	100	4.4	2
B20	15	7.52	0.62	0.80	100	3.3	1
B21	15	7.52	0.78	0.80	100	3.5	2
B22	15	7.52	1.27	0.80	100	5.7	2
B23	15	7.52	2.17	0.80	100	9.8	1
C1	15	7.52	2.69	0.80	100	12.1	1
C2	15	7.52	0.92	0.80	100	4.2	1
C3	15	7.52	1.19	0.80	100	5.3	1
C4	15	7.52	0.38	0.80	100	1.7	2
C5	15	7.52	0.57	0.80	100	1.4	2
C6	15	7.52	0.24	0.80	100	1.1	1
C7	15	7.52	0.12	0.80	100	0.5	1
D1	15	7.52	1.60	0.80	100	9.8	1
D2	15	7.52	1.88	0.80	100	7.6	1
D3	15	7.52	0.97	0.80	100	4.4	1
D4	15	7.52	1.58	0.80	100	7.1	1
D5	15	7.52	0.77	0.80	100	3.5	1
D6	15	7.52	1.07	0.80	100	4.8	2
D7	15	7.52	1.88	0.80	100	7.6	2
D8	15	7.52	1.04	0.80	100	4.7	1
D9	15	7.52	1.56	0.80	100	7.0	1
D10	15	7.52	0.76	0.80	100	3.4	1
D11	15	7.52	1.60	0.80	100	8.2	2
D12	15	7.52	1.81	0.80	100	7.3	2
D13	15	7.52	0.95	0.80	100	3.9	2
D14	15	7.52	0.49	0.80	100	2.2	3
D15	15	7.52	0.49	0.80	100	2.2	3
D16	15	7.52	0.80	0.80	100	2.9	3
D17	15	7.52	0.80	0.80	100	3.7	3
D18	15	7.52	0.75	0.80	100	3.3	3
D19	15	7.52	0.50	0.80	100	2.6	2
D20	15	7.52	0.22	0.80	100	1.0	1
D21	15	7.52	0.30	0.80	100	1.8	1

DESIGN FLOW (Q_D) BY RATIONAL METHOD

LOCATION, AREA DESIGNATION	TIME OF CONCENTRATION, T_c (MIN.)	INTENSITY "I_{100}" (in/hr)	DRAINAGE AREA "A" (AC)	RUNOFF COEFFICIENT "C"	FREQUENCY (YRS.)	DESIGN FLOW "Q_{100}" = C*I*A (CFS)	NOTE #
1	2	3	4	5		6	
E1	15	7.52	0.35	0.80	100	2.5	3
E2	15	7.52	0.83	0.80	100	2.8	3
E3	15	7.52	0.45	0.80	100	2.0	3
E4	15	7.52	0.23	0.80	100	1.3	3
E5	15	7.52	1.15	0.80	100	5.1	2
E6	15	7.52	0.97	0.80	100	4.4	2
F7	15	7.52	1.42	0.80	100	8.4	2
F8	15	7.52	1.19	0.80	100	8.3	2
OF9	15	7.52	0.59	0.80	100	3.5	3
OF10	15	7.52	0.78	0.80	100	3.5	3
F1	15	7.52	1.18	0.80	100	5.0	1
F2	15	7.52	1.56	0.80	100	7.0	1
F3	15	7.52	0.49	0.80	100	2.2	1
F4	15	7.52	0.61	0.80	100	1.0	1
F5	10	7.52	1.75	0.80	100	7.9	2
F6	10	7.52	1.58	0.80	100	9.7	2
F7	10	7.52	1.61	0.80	100	7.9	1
F8	15	7.52	1.48	0.80	100	8.7	1
F9	15	7.52	0.89	0.80	100	4.0	1
F10	15	7.52	1.26	0.80	100	5.8	1
F11	15	7.52	1.52	0.80	100	5.9	2
G1	10	8.74	1.09	0.80	100	8.98	3
G1A	15	7.52	2.98	0.80	100	13.38	3
G2	10	8.74	2.73	0.80	100	19.00	3
G3	15	7.52	0.67	0.80	100	3.02	3
G4	15	7.52	0.56	0.80	100	2.52	3
G5	15	7.52	0.47	0.80	100	2.1	3
G6	15	7.52	0.47	0.80	100	2.1	3
G7	15	7.52	0.47	0.80	100	2.1	3
G8	15	7.52	0.47	0.80	100	2.1	3
G9	15	7.52	0.65	0.80	100	2.9	3
G10	15	7.52	0.45	0.80	100	2.1	3
OG17	15	7.52	6.50	0.80	100	29.3	3
H1	15	7.52	0.40	0.80	100	1.8	3
H1A	15	7.52	0.31	0.80	100	1.4	3
H2	10	8.74	5.92	0.80	100	28.8	3
H4	15	7.52	0.40	0.80	100	1.8	3
H4A	15	7.52	0.22	0.80	100	1.0	3
L1	15	7.52	0.48	0.80	100	2.2	3
L2	15	7.52	0.75	0.80	100	3.4	3
L3	15	7.52	0.36	0.80	100	1.6	3
L4	15	7.52	0.40	0.80	100	1.8	3
L5	15	7.52	0.64	0.80	100	3.0	3
L8	15	7.52	0.30	0.80	100	1.5	3
L7	10	8.74	1.71	0.80	100	13.7	3
L8	10	8.74	1.35	0.80	100	12.9	3
L9	10	8.74	1.17	0.80	100	8.8	3
J1	15	7.52	1.17	0.80	100	8.8	2
J2	15	7.52	1.24	0.80	100	5.8	2
J3	15	7.52	0.75	0.80	100	3.4	3
J4	15	7.52	0.48	0.80	100	2.2	3
J5	10	7.52	0.84	0.80	100	3.8	3
J6	10	7.52	0.64	0.80	100	2.8	3
J7	15	7.52	0.92	0.80	100	4.2	3
J8	15	7.52	0.64	0.80	100	2.4	3
K2	15	7.52	1.13	0.80	100	5.1	2
K1	15	7.52	8.58	0.80	100	37.4	2
OSH	15	7.52	43.84	0.80	100	164.9	

(1) DENOTES NOTE NO.

(1) — DRAINAGE AREA CALCULATIONS FOR PHASE I - THREE NEIGHBORHOODS IN LIGHT FARMS.

(2) — DRAINAGE AREA CALCULATIONS FOR FUTURE PHASE - THREE NEIGHBORHOODS IN LIGHT FARMS.

(3) — DRAINAGE AREA CALCULATIONS FOR EXISTING LIGHT FARMS WAY

LEGEND

- EXISTING CONTOUR ---500---
- DRAINAGE DIVIDE LINE
- SURFACE FLOW DIRECTION
- DRAINAGE AREA (XX)

BASIS OF VERTICAL DATUM - NAVD 1988 based on National Geodetic Survey Benchmarks N-185 (Elevation 650.78') and H263 (Elevation - 643.81')

BENCHMARKS:

TBM #39
Square cut on curb inlet, east side of North Dallas Tollway at the northeast corner of intersection with Light Farms Boulevard. Elev. 639.57' (Set 4/4/08)

HZI Control Monument #4
5/8 inch iron rod set in concrete with aluminum cap, north side of Light Farms Way at 1418 feet left of centerline Station 30+39. Elev. 630.40'

STATE OF TEXAS
KEVIN N. CARLSON
89232
LICENSED PROFESSIONAL ENGINEER
6-20-13

Huitt-Zollars, Inc.
Firm Registration No. F-761

RECORD DRAWING

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DRAINAGE AREA MAP

LIGHT FARMS

LFC Land Company LLC

Collin County Municipal Utility District No. 1

COLLIN COUNTY, TEXAS

HUITT-ZOLLARS

DESIGN	CHECKED	DATE	SCALE	NOTES	JOB NO.	SHT. NO.
HZI	HZI	.	1"=100'		01-3905-26	31

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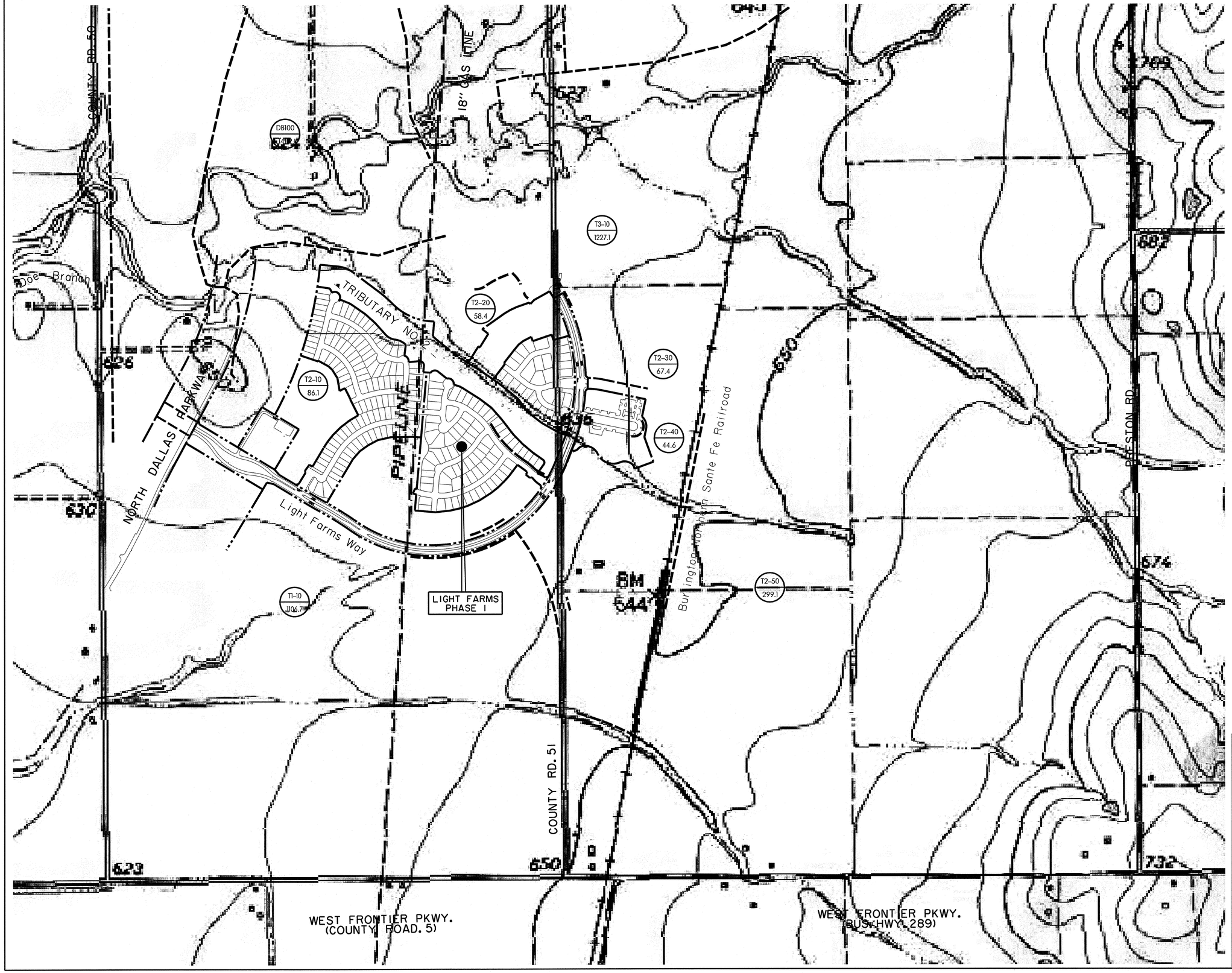
DRAINAGE AREA MAP

P-201301-01



N

0 200 400 600 800
SCALE IN FEET

UltimateConditions				
Sub-basin	Drainage Area (Acres)	Tc (Minutes)	Curve Number	Peak Runoff (cfs)
T2-50	299.10	41.67	87	1413
T2-40	44.60	41.67	88	211
T2-30	67.39	53.87	87	276
T2-20	58.40	9.35	87	429
T2-10	86.07	18.26	87	482

LEGEND	
DRAINAGE DIVIDE LINE	
DRAINAGE AREA DATA (Per Report, See Note)	XX / XX

NOTE:
INFORMATION SHOWN ON THIS PLAN
PER LIGHT FARMS REPORT DATED NOVEMBER 6, 2012
Prepared by Huitt-Zollars
Prepared for Republic Property Group

STATE OF TEXAS
KEVIN N. CARLSON
89232
LICENSED
PROFESSIONAL ENGINEER
6-20-13

Huitt-Zollars, Inc.
Firm Registration No. F-761

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DRAINAGE MAP
OFFSITE

LIGHT FARMS

LFC Land Company LLC

Collin County Municipal Utility District No. 1

COLLIN COUNTY, TEXAS

HUITT-ZOLLARS

DESIGN	CHECKED	DATE	SCALE	NOTES	JOB NO.	SHT. NO.
HZI	HZI		1"=400'		01-3905-26	31A

DRAINAGE AREA MAP (OFFSITE)

P-201301-01

Line or Lateral Name	RUNOFF COLLECTION POINT (Inlet or Manhole)		Distance Between Collection Points (ft)	INCREMENTAL DRAINAGE AREA				Accum-ulated "CA"	Time at Upstream Station (minutes)	Design Storm Frequency (yrs)	Intensity "I" (inches/hr)	Storm Water Runoff "Q" (c.f.s.)	Slope of Hydraulic Gradient "S" (ft./ft.)	Selected Storm Sewer Size	Velocity in Sewer Between Collection Points "V" (f.p.s.)	Friction Head Loss Coeff. K_j	Velocity Head Loss of Upstream Station (feet)	Flow Time in Sewer Distance/V*60 (minutes)	Time of Downstream Station (minutes)	Remarks
	Upstream Station	Downstream Station		Area No.	Drainage Area "A" (Acres)	Runoff Coeff. "C"	Incremental "CA"														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
LINE A1																				
	10+11.50	10+08.50	3		0.00	0.6	0.00	0.00	15.00	100	7.52	0.0	0.0000	18	0.00	0.00	0.00	0.00	15.00	
LAT A1-4 (FUTURE)	10+08.50	9+89.00	20.5	A4	1.36	0.6	0.82	0.82	15.00	100	7.52	6.1	0.0034	18	3.47	0.07	0.19	0.10	15.10	
	9+89.00	9+85.00	3	PIPE SIZE CHANGE	0.00	0.6	0.00	0.82	15.10	100	7.52	6.1	0.0007	24	1.95	0.00	0.06	0.03	15.12	
LINE A4	9+85.00	7+66.50	218.5	A5	1.64	0.6	0.98	1.80	15.12	100	7.51	13.5	0.0036	24	4.31	0.78	0.29	0.85	15.97	
	7+66.50	7+63.50	3	PIPE SIZE CHANGE	0.00	0.6	0.00	1.80	15.97	100	7.51	13.5	0.0019	27	3.40	0.01	0.18	0.01	15.98	
LAT A1-3	7+63.50	7+02.00	61.5	A3	0.76	0.6	0.46	2.26	15.98	100	7.39	16.7	0.0029	27	4.19	0.18	0.27	0.24	16.23	
LINE A3	7+02.00	5+92.50	109.5	A5, A7	3.05	0.6	1.83	4.09	16.23	100	7.36	30.1	0.0054	30	6.12	0.59	0.58	0.30	16.53	
LAT A1-2	5+92.50	4+09.00	183.5	A2	1.36	0.6	0.82	4.90	16.53	100	7.31	35.9	0.0076	30	7.30	1.40	0.83	0.42	16.95	
	4+09.00	4+06.00	3	PIPE SIZE CHANGE	0.00	0.6	0.00	4.90	16.95	100	7.31	35.9	0.0029	35	5.07	0.01	0.40	0.01	16.96	
LINE A2	4+06.00	2+00.00	206	A8, A9, A10, A11	2.14	0.6	1.28	6.19	16.96	100	7.26	44.9	0.0045	36	6.35	0.93	0.63	0.54	17.50	
LINE A2	2+00.00	1+35.00	65		0.00	0.6	0.00	6.19	17.50	100	7.26	44.9	0.0020	42	4.67	0.13	0.34	0.23	17.73	
LAT A1-4 (FUTURE)	0+28.00	0+00.00	28	A4	1.36	0.6	0.82	0.82	15.00	100	7.52	6.1	0.0034	18	3.47	0.10	0.19	0.13	15.13	
LAT A1-3	0+08.00	0+00.00	8	A3	0.76	0.6	0.46	0.46	15.00	100	7.52	3.4	0.0011	18	1.94	0.01	0.06	0.07	15.07	
LAT A1-2	0+28.00	0+00.00	28	A2	1.36	0.6	0.82	0.82	15.00	100	7.52	6.1	0.0034	18	3.47	0.10	0.19	0.13	15.13	
LAT A1-1 (EXISTING)	0+08.50	0+00.00	8.5	A1	2.42	0.6	1.45	1.45	15.00	100	7.52	10.9	0.0047	21	4.54	0.03	0.32	0.02	15.02	
LINE A2																				
	4+18.00	4+15.00	3		0.00	0.6	0.00	0.00	15.00	100	7.52	0.0	0.0000	18	0.00	0.00	0.00	0.00	15.00	
LAT A2-4	4+15.00	4+04.50	10.5	A10	0.20	0.6	0.12	0.12	15.00	100	7.52	0.9	0.00007	18	0.51	0.00	0.00	0.34	15.34	
LAT A2-3	4+04.50	0+93.50	311	A8	0.75	0.6	0.45	0.57	15.34	100	7.48	4.3	0.00165	18	2.41	0.51	0.09	2.15	17.49	
	0+93.50	0+90.50	3	PIPE SIZE CHANGE	0.00	0.6	0.00	0.57	17.49	100	7.48	4.3	0.00072	21	1.77	0.00	0.05	0.03	17.52	
LAT A2-2	0+90.50	0+80.00	10.5	A11	0.30	0.6	0.18	0.75	17.52	100	7.18	5.4	0.0012	21	2.24	0.01	0.08	0.08	17.60	
LAT A2-1	0+80.00	0+00.00	80	A9	0.89	0.6	0.53	1.28	17.60	100	7.17	9.2	0.0034	21	3.83	0.27	0.23	0.35	17.94	
LAT A2-4	0+08.00	0+00.00	8	A10	0.20	0.6	0.12	0.12	15.00	100	7.52	0.9	0.0001	18	0.51	0.00	0.00	0.26	15.26	
LAT A2-3	0+28.00	0+00.00	28	A8	0.75	0.6	0.45	0.45	15.00	100	7.52	3.4	0.0010	18	1.91	0.03	0.09	0.24	15.24	
LAT A2-2	0+08.00	0+00.00	8	A11	0.30	0.6	0.18	0.18	15.00	100	7.52	1.4	0.0002	18	0.77	0.00	0.01	0.17	15.17	
LAT A2-1	0+28.00	0+00.00	28	A9	0.89	0.6	0.53	0.53	15.00	100	7.52	4.0	0.0015	18	2.27	0.04	0.08	0.21	15.21	
LINE A3																				
	1+74.00	1+71.00	3		0.00	0.6	0.00	0.00	15.00	100	7.52	0.0	0.0000	24	0.00	0.00	0.00	0.00	15.00	
LAT A3-2	1+71.00	1+60.00	11	A7	1.72	0.6	1.03	1.03	15.00	100	7.52	7.8	0.0012	24	2.47	0.01	0.09	0.07	15.07	
LAT A3-1	1+60.00	0+00.00	160	A6	1.33	0.6	0.80	1.83	15.07	100	7.52	13.8	0.0037	24	4.38	0.59	0.30	0.61	15.68	
LAT A3-2	0+08.00	0+00.00	8	A7	1.72	0.6	1.03	1.03	15.00	100	7.52	7.8	0.0024	21	3.23	0.02	0.16	0.04	15.04	
LAT A3-1	0+28.00	0+00.00	28	A6	1.33	0.6	0.80	0.80	15.00	100	7.52	6.0	0.0033	18	3.40	0.09	0.18	0.14	15.14	
LINE A4																				
	0+71.00	0+68.00	3		0.00	0.6	0.00	0.00	15.00	100	7.52	0.0	0.0000	18	0.00	0.00	0.00	0.00	15.00	
LAT A4-1 (FUTURE)	0+68.00	0+00.00	68	A5	1.64	0.6	0.98	0.98	15.00	100	7.52	7.4	0.0050	18	4.19	0.04	0.27	0.03	15.03	
LAT A4-1 (FUTURE)	0+08.00	0+00.00	8	A5	1.64	0.6	0.98	0.98	15.00	100	7.52	7.4	0.0050	18	4.19	0.04	0.27	0.03	15.03	

Line or Lateral Name	RUNOFF COLLECTION POINT (Inlet or Manhole)		Distance Between Collection Points (ft)	INCREMENTAL DRAINAGE AREA				Accum-ulated "CA"	Time at Upstream Station (minutes)	Design Storm Frequency (yrs)	Intensity "I" (inches/hr)	Storm Water Runoff "Q" (c.f.s.)	Slope of Hydraulic Gradient "S" (ft./ft.)	Selected Storm Sewer Size	Velocity in Sewer Between Collection Points "V" (f.p.s.)	Friction Head Loss Coeff. K_j	Velocity Head Loss of Upstream Station (feet)	Flow Time in Sewer Distance/V*60 (minutes)	Time of Downstream Station (minutes)	Remarks
	Upstream Station	Downstream Station		Area No.	Drainage Area "A" (Acres)	Runoff Coeff. "C"	Incremental "CA"													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
LINE B2																				
	9+84.50	9+81.50	3		0.00	0.6	0.00	0.00	15.00	100	7.52	0.0	0.0000	18	0.00	0.00	0.00	0.00	15.00	
LAT B2-6 (FUTURE)	9+81.50	8+96.00	85.5	B11	1.36	0.6	0.82	0.82	15.00	100	7.52	6.1	0.0034	18	3.47	0.29	0.19	0.41	15.41	
	8+96.00	8+93.00	3	PIPE SIZE CHANGE	0.00	0.6	0.00	0.82	15.41	100	7.52	6.1	0.0015	21	2.55	0.00	0.10	0.00	15.41	
LAT B2-5 (FUTURE)	8+93.00	8+12.50	80.5	B12	1.36	0.6	0.54	1.36	15.41	100	7.47	10.1	0.0041	21	4.21	0.33	0.28	0.32	15.73	
LAT B2-4 (FUTURE)	8+12.50	8+05.00	7.5	B9	0.57	0.6	0.34	1.70	15.73	100	7.43	12.6	0.0063	21	5.24	0.05	0.43	0.02	15.75	
	8+05.00	8+02.00	3	PIPE SIZE CHANGE	0	0.6	0.00	1.70	15.75	100	7.43	12.6	0.0009	30	2.57	0.00	0.10	0.00	15.75	
LAT B2-3 (FUTURE)	8+02.00	5+00.00	302	B10	1.54	0.6	0.92	2.62	15.75	100	7.42	19.5	0.0023	30	3.96	0.68	0.24	1.27	17.02	
	5+00.00	3+38.00	162		0	0.6	0.00	2.62	17.02	100	7.42	19.5	0.0023	30	3.96	0.36	0.24	0.00	17.02	
LAT B2-2	3+38.00	3+31.00	7	B8	1.5	0.6	0.90	3.52	17.02	100	7.25	25.5	0.0039	30	5.20	0.03	0.42	0.02	17.04	
	3+31.00	3+28.00	3	PIPE SIZE CHANGE	0	0.6	0.00	3.52	17.04	100	7.25	25.5	0.0015	36	3.61	0.00	0.20	0.00	17.04	
LAT B2-1	3+28.00	0+00.00	328	B7	1.52	0.6	0.91	4.43	17.04	100	7.25	32.1	0.0023	36	4.54	0.76	0.32	1.20	18.25	
LAT B2-6 (FUTURE)	0+08.00	0+00.00	8	B11	1.36	0.6	0.82	0.82	15.00	100	7.52	6.1	0.0034	18	3.47	0.03	0.19	0.04	15.04	
LAT B2-5 (FUTURE)	0+47.00	0+00.00	47	B12	0.90	0.6	0.54	0.54	15.00	100	7.52	4.1	0.0015	18	2.30	0.07	0.08	0.34	15.34	
LAT B2-4 (FUTURE)	0+08.00	0+00.00	8	B9	0.57	0.6	0.34	0.34	15.00	100	7.52	2.6	0.0006	18	1.46	0.00	0.03	0.09	15.09	
LAT B2-3 (FUTURE)	0+28.00	0+00.00	28	B10	1.54	0.6	0.92	0.92	15.00	100	7.52	6.9	0.0044	18	3.93	0.12	0.24	0.12	15.12	
LAT B2-2	0+08.00	0+00.00	8	B8	1.50	0.6	0.90	0.90	15.00	100	7.52	6.8	0.0042	18	3.83	0.03	0.23	0.03	15.03	
LAT B2-1	0+28.00	0+00.00	28	B7	1.52	0.6	0.91	0.91	15.00	100	7.52	6.9	0.0043	18	3.88	0.12	0.23	0.12	15.12	
LINE B3																				
	8+72.00	8+69.00	3		0.00	0.6	0.00	0.00	15.00	100	7.52	0.0	0.0000	24	0.00	0.00	0.00	0.00	15.00	
LAT B3-6	8+69.00	8+59.00	10	B17	0.76	0.6	0.46	0.46	15.00	100	7.52	3.4	0.00023	24	1.09	0.00	0.02	0.15	15.15	
LAT B3-5	8+59.00	5+00.00	359	B18	2.03	0.6	1.22	1.67	15.15	100	7.51	12.6	0.00309	24	4.00	1.11	0.25	1.50	16.65	
	5+00.00	4+65.50	34.5		0	0.6	0.00	1.67	16.65	100	7.51	12.6	0.0009	30	2.56	0.03	0.10	0.00	16.65	
LAT B3-4	4+65.50	4+55.00	10.5	B15	1.41	0.6	0.85	2.52	16.65	100	7.30	18.4	0.0020	30	3.75	0.02	0.22	0.05	16.69	
LAT B3-3	4+55.00	2+00.00	255	B16	1.22	0.6	0.73	3.25	16.69	100	7.29	23.7	0.0033	30	4.83	0.85	0.36	0.88	17.57	
	2+00.00	0+91.00	109		0	0.6	0.00	3.25	17.57	100	7.29	23.7	0.0013	36	3.35	0.14	0.17	0.00	17.57	
LAT B3-2	0+91.00	0+81.00	10	B13	1.02	0.6	0.61	3.86	17.57	100	7.18	27.7	0.0017	36	3.92	0.02	0.24	0.04	17.62	
LAT B3-1	0+81.00	0+00.00	81	B14	0.82	0.6	0.49	0.49	17.62	100	7.52	3.7	0.0000	36	0.52	0.00	0.00	2.58	20.20	
LAT B3-6	0+08.00	0+00.00	8	B17	0.76	0.6	0.46	0.46	15.00	100	7.52	3.4	0.0002	24	1.09	0.00	0.02	0.12	15.12	
LAT B3-5	0+28.00	0+00.00	28	B18	2.03	0.6	1.22	1.22	15.00	100	7.52	9.2	0.0016	24	2.92	0.05	0.13	0.16	15.16	
LAT B3-4	0+08.00	0+00.00	8	B15	1.41	0.6	0.85	0.85	15.00	100	7.52	6.4	0.0037	18	3.60	0.03	0.20	0.04	15.04	
LAT B3-3	0+28.00	0+00.00	28	B16	1.22	0.6	0.73	0.73	15.00	100	7.52	5.5	0.0027	18	3.11	0.08	0.15	0.15	15.15	
LAT B3-2	0+08.00	0+00.00	8	B13	1.02	0.6	0.61	0.61	15.00	100	7.52	4.6	0.0019	18	2.60	0.02	0.11	0.05	15.05	
LAT B3-1	0+28.00	0+00.00	28	B14	0.82	0.6	0.49	0.49	15.00	100	7.52	3.7	0.0012	18	2.09	0.03	0.07	0.22	15.22	

Line or Lateral Name	RUNOFF COLLECTION POINT (Inlet or Manhole)		Distance Between Collection Points (ft)	INCREMENTAL DRAINAGE AREA				Accum-ulated "CA"	Time at Upstream Station (minutes)	Design Storm Frequency (yrs)	Intensity "I" (inches/hr)	Storm Water Runoff "Q" (c.f.s.)	Slope of Hydraulic Gradient "S" (ft./ft.)	Selected Storm Sewer Size	Velocity in Sewer Between Collection Points "V" (f.p.s.)	Friction Head Loss Coeff. K_j	Velocity Head Loss of Upstream Station (feet)	Flow Time in Sewer Distance/V*60 (minutes)	Time of Downstream Station (minutes)	Remarks
	Upstream Station	Downstream Station		Area No.	Drainage Area "A" (Acres)	Runoff Coeff. "C"	Incremental "CA"													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
LINE B1																				
	15+66.50	15+63.50	3		0.00	0.6	0.00	0.00	15.00	100	7.52	0.0	0.0000	21	0.00	0.00	0.00	0.00	15.00	
LAT B1-11 (FUTURE)	15+63.50	15+54.00	9.5	B22	1.27	0.6	0.76	0.76	15.00	100	7.52	5.7	0.0013	21	2.38	0.01	0.09	0.07	15.07	
LAT B1-10 (FUTURE)	15+54.00	12+91.00	263	B21	0.78	0.6	0.47	1.23	15.07	100	7.52	9.3	0.0034	21	3.85	0.90	0.23	1.14	16.21	
	12+91.00	12+88.00	3	PIPE SIZE CHANGE	0	0.6	0.00	1.23	16.21	100	7.52	9.3	0.0009	27	2.33	0.00	0.08	0.00	16.21	Partial Flow
LAT B1-9 (FUTURE)	12+88.00	12+77.50	10.5	B19	0.98	0.6	0.59	1.82	16.21	100	7.36	13.4	0.0019	27	3.36	0.02	0.18	0.05	16.26	Partial Flow
LAT B1-8 (FUTURE)	12+77.50	11+39.00	138.5	B20	0.52	0.6	0.31	2.13	16.26	100	7.35	15.7	0.0026	27	3.94	0.35	0.24	0.59	16.84	Partial Flow
LAT B1-7 (FUTURE)	11+39.00	11+22.00	17	B6	0.69	0.6	0.41	2.54	16.84	100	7.27	18.5	0.0008	36	2.62	0.01	0.11	0.11	16.95	Partial Flow
LAT B1-6 (FUTURE)	11+22.00	8+40.00	282	B5	2.07	0.6	1.24	3.79	16.95	100	7.26	27.5	0.0017	36	3.89	0.48	0.23	1.21	18.16	
LINE B3	8+40.00	7+30.00	110	B13, B14, B15, B16, B17, B18	7.26	0.6	4.36	8.14	18.16	100	7.10	57.8	0.0016	48	4.60	0.18	0.33	0.40	18.56	
LAT B1-5	7+30.00	6+06.50	123.5	B23	0.17	0.6	0.10	8.24	18.56	100	7.05	58.1	0.0016	48	4.63	0.20	0.33	0.44	19.00	
LAT B1-4	6+06.50	5+60.50	46	B4	1.69	0.6	1.01	9.26	19.00	100	7.00	64.8	0.0020	48	5.16	0.09	0.41	0.15	19.15	
LINE B2	5+60.50	5+00.00	60.5	B7, B8, B9, B10, B11, B12	7.39	0.6	4.43	13.69	19.15	100	6.98	95.6	0.0024	54	6.01	0.14	0.56	0.17	19.32	
LAT B1-3	5+00.00	3+23.00	177	B3	1.89	0.6	1.13	14.83	19.32	100	6.96	103.2	0.0028	54	6.49	0.49	0.65	0.45	19.78	
LAT B1-2	3+23.00	2+76.00	47	B2	1.63	0.6	0.98	15.80	19.78	100	6.91	109.2	0.0031	54	6.87	0.14	0.73	0.11	19.89	
	2+76.00	2+73.00	3	PIPE SIZE CHANGE	0.00	0.6	0.00	15.80	19.89	100	6.91	109.2	0.0018	60	5.56	0.01	0.48	0.00	19.89	
LAT B1-1	2+73.00	2+50.00	23	B1	1.35	0.6	0.81	16.61	19.89	100	6.90	114.6	0.0019	60	5.84	0.04	0.53	0.07	19.96	
	2+50.00	1+65.00	85	PIPE SIZE CHANGE	0	0.6	0.00	16.61	19.96	100	6.90	114.6	0.0022	5X4	5.73	0.19	0.51	0.00	19.96	
LAT B1-11(FUTURE)	0+08.00	0+00.00	8	B22	1.27	0.6	0.76	0.76	15.00	100	7.52	5.7	0.0030	18	3.24	0.02	0.16	0.04	15.04	
LAT B1-10 (FUTURE)	0+28.00	0+00.00	28	B21	0.78	0.6	0.47	0.47	15.00	100	7.52	3.5	0.0011	18	1.99	0.03	0.06	0.23	15.23	
LAT B1-9 (FUTURE)	0+08.00	0+00.00	8	B19	0.98	0.6	0.59	0.59	15.00	100	7.52	4.4	0.0018	18	2.50	0.01	0.10	0.05	15.05	
LAT B1-8 (FUTURE)	0+28.00	0+00.00	28	B20	0.52	0.6	0.31	0.31	15.00	100	7.52	2.3	0.0005	18	1.33	0.01	0.03	0.35	15.35	
LAT B1-7 (FUTURE)	0+58.00	0+00.00	58	B6	0.69	0.6	0.41	0.41	15.00	100	7.52	3.1	0.0009	18	1.76	0.05	0.05	0.55	15.55	
LAT B1-6 (FUTURE)	0+08.00	0+00.00	8	B5	2.07	0.6	1.24	1.24	15.00	100	7.52	9.3	0.0079	18	5.29	0.06	0.43	0.03	15.03	
LAT B1-5	1+55.00	1+52.00	3		0.00	0.6	0.00	0.00	15.00	100	7.52	0.0	0.0000	18	0.00	0.00	0.00	0.00	15.00	
LAT B1-5.1	1+52.00	0+00.00	152	B23	0.17	0.6	0.10	0.10	15.00	100	7.52	0.8	0.0001	18	0.43	0.01	0.003	5.84	20.84	
LAT B1-5.1	0+21.00	0+00.00	21	B23	0.17	0.6	0.10	0.10	15.00	100	7.52	0.8	0.0001	18	0.43	0.00	0.00	0.81	15.81	
LAT B1-4	0+08.00	0+00.00	8	B4	1.69	0.6	1.01	1.01	15.00	100	7.52	7.6	0.0023	21	3.17	0.02	0.16	0.04	15.04	
LAT B1-3	0+28.00	0+00.00	28	B3	1.89	0.6	1.13	1.13	15.00	100	7.52	8.5	0.0029	21	3.55	0.08	0.20	0.13	15.13	
LAT B1-2	0+28.00	0+00.00	28	B2	1.63	0.6	0.98	0.98	15.00	100	7.52	7.4	0.0022	21	3.06	0.06	0.15	0.15	15.15	
LAT B1-1	0+08.00	0+00.00	8	B1	1.35	0.6	0.81	0.81	15.00	100	7.52	6.1	0.0034	18	3.45	0.03	0.18	0.04	15.04	

NOTES:

1. FOR DRAINAGE CALCULATIONS NOTED AS EXISTING REFERENCE ENGINEERING PLANS FOR LIGHT FARMS WAY IN LIGHT FARMS STORM SEWER PLAN AND PROFILE INFORMATION.
2. STORM SEWER LATERALS DENOTED AS FUTURE ARE NOT IN THIS SET.

STATE OF TEXAS
KEVIN N. CARLSON
89232
LICENSED
PROFESSIONAL ENGINEER
6-20-13

Huitt-Zollars, Inc.
Firm Registration No. F-761

RECORD DRAWING

THIS RECORD DOCUMENT HAS BEEN PREPARED BASED IN PART UPON INFORMATION FURNISED BY OTHERS. THE DESIGN PROFESSIONAL CANNOT ASSURE THE ACCURACY OF OTHERS' INFORMATION AND THUS IS NOT RESPONSIBLE FOR THE ACCURACY OF THIS RECORD DOCUMENT OR FOR ANY ERROR OR OMISSION THAT MAY HAVE BEEN INCORPORATED INTO IT AS A RESULT. THOSE RELYING ON THIS RECORD DOCUMENT ARE ADVISED TO OBTAIN INDEPENDENT VERIFICATION OF ITS ACCURACY BEFORE APPLYING IT FOR ANY PURPOSE.

DRAINAGE CALCULATIONS
STORM SEWER

LIGHT FARMS

LFC Land Company LLC

Collin County Municipal Utility District No. 1

COLLIN COUNTY, TEXAS

HUITT-ZOLLARS

DESIGN	CHECKED	DATE	SCALE	NOTES	JOB NO.	SHT. NO.
HZI	HZI		NA		01-3905-26	32

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Line or Lateral Name	RUNOFF COLLECTION POINT (Inlet or Manhole)		Distance Between Collection Points (ft)	INCREMENTAL DRAINAGE AREA				Accum-ulated "CA"	Time at Upstream Station (minutes)	Design Storm Frequency (yrs)	Intensity "I" (inches/hr)	Storm Water Runoff "Q" (c.f.s.)	Slope of Hydraulic Gradient "S" (ft./ft.)	Selected Storm Sewer Size	Velocity in Sewer Between Collection Points "V" (f.p.s.)	Friction Head Loss Coeff. K_f	Velocity Head Loss of Upstream Station (feet)	Flow Time in Sewer Distance/V*60 (minutes)	Time of Downstream Station (minutes)	Remarks
	Upstream Station	Downstream Station		Area No.	Drainage Area "A" (Acres)	Runoff Coeff. "C"	Incremental "CA"														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
LINE C1																				
	5+61.50	5+68.50	3		0.00	0.6	0.00	0.00	15.00	100	7.52	0.0	0.0000	18	0.00	0.00	0.00	0.00	15.00	
LAT C1-2	5+68.50	5+23.00	35.5	C2	0.92	0.6	0.55	0.55	15.00	100	7.52	4.2	0.0016	18	2.35	0.06	0.09	0.25	15.25	
	5+23.00	5+20.00	3	PIPE SIZE CHANGE	0	0.6	0.00	0.55	15.25	100	7.52	4.2	0.0007	21	1.73	0.00	0.05	0.00	15.25	
LINE C3	5+20.00	4+07.50	112.5	C4, C5, C6, C7	1.05	0.6	0.63	1.18	15.25	100	7.50	8.9	0.0031	21	3.68	0.35	0.21	0.51	15.76	
	4+07.50	4+04.50	3	PIPE SIZE CHANGE	0	0.6	0.00	1.18	15.76	100	7.50	8.9	0.0008	27	2.23	0.00	0.08	0.00	15.76	
LINE C2	4+04.50	2+06.00	198.5	C3	1.18	0.6	0.71	1.89	15.76	100	7.42	14.0	0.0021	27	3.53	0.41	0.19	0.94	16.70	
	2+06.00	2+03.00	3	PIPE SIZE CHANGE	0	0.6	0.00	1.89	16.70	100	7.42	14.0	0.0002	42	1.46	0.00	0.03	0.00	16.70	
LAT C1-1	2+03.00	0+65.00	138	C1	2.69	0.6	1.61	3.50	16.70	100	7.29	25.5	0.0006	42	2.66	0.09	0.11	0.67	17.56	
LAT C1-2	0+23.00	0+00.00	23	C2	0.92	0.6	0.55	0.55	15.00	100	7.52	4.2	0.0016	18	2.35	0.04	0.09	0.16	15.16	
LAT C1-1	0+08.00	0+00.00	8	C1	2.69	0.6	1.61	1.61	15.00	100	7.52	12.1	0.0015	27	3.05	0.01	0.14	0.04	15.04	
LINE C2																				
	1+75.00	1+72.00	3		0.00	0.6	0.00	0.00	15.00	100	7.52	0.0	0.0000	18	0.00	0.00	0.00	0.00	15.00	
LAT C2-1	1+72.00	0+00.00	172	C3	1.18	0.6	0.71	0.71	15.00	100	7.52	5.3	0.0026	18	3.01	0.44	0.14	0.95	15.95	
LAT C2-1	0+45.00	0+00.00	45	C3	1.18	0.6	0.71	0.71	15.00	100	7.52	5.3	0.0026	18	3.01	0.12	0.14	0.25	15.25	
LINE C3																				
	1+68.00	1+65.00	3		0.00	0.6	0.00	0.00	15.00	100	7.52	0.0	0.0000	18	0.00	0.00	0.00	0.00	15.00	
LAT C3-1	1+65.00	0+00.00	165	C4, C5, C6, C7	1.05	0.6	0.63	0.63	15.00	100	7.52	4.7	0.0020	18	2.68	0.04	0.11	1.03	16.03	
LAT C3-1	0+21.50	0+00.00	21.5	C4, C5, C6, C7	1.05	0.6	0.63	0.63	15.00	100	7.52	4.7	0.0020	18	2.68	0.04	0.11	0.13	15.13	

Line or Lateral Name	RUNOFF COLLECTION POINT (Inlet or Manhole)		Distance Between Collection Points (ft)	INCREMENTAL DRAINAGE AREA				Accum-ulated "CA"	Time at Upstream Station (minutes)	Design Storm Frequency (yrs)	Intensity "I" (inches/hr)	Storm Water Runoff "Q" (c.f.s.)	Slope of Hydraulic Gradient "S" (ft./ft.)	Selected Storm Sewer Size	Velocity in Sewer Between Collection Points "V" (f.p.s.)	Friction Head Loss Coeff. K_f	Velocity Head Loss of Upstream Station (feet)	Flow Time in Sewer Distance/V*60 (minutes)	Time of Downstream Station (minutes)	Remarks
	Upstream Station	Downstream Station		Area No.	Drainage Area "A" (Acres)	Runoff Coeff. "C"	Incremental "CA"													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
LINE D1																				
	21+59.00	21+56.00	3		0.00	0.6	0.00	0.00	15.00	100	7.52	0.0	0.0000	21	0.00	0.00	0.00	0.00	15.00	
LAT D1-15 (EXISTING)	21+56.00	21+29.50	26.5	D18	0.73	0.6	0.44	0.44	15.00	100	7.52	3.3	0.0004	21	1.37	0.01	0.03	0.32	15.32	
	21+29.50	21+26.50	3	PIPE SIZE CHANGE	0	0.6	0.00	0.44	15.32	100	7.52	3.3	0.0002	24	1.05	0.00	0.02	0.00	15.32	
LAT D1-14 (EXISTING)	21+26.50	18+62.00	264.5	D17	0.6	0.6	0.36	0.80	15.32	100	7.49	6.0	0.0007	24	1.90	0.18	0.06	2.32	17.64	
LAT D1-13 (EXISTING)	18+62.00	18+36.00	26	D16	0.58	0.6	0.35	1.15	17.64	100	7.17	8.2	0.0013	24	2.61	0.03	0.11	0.17	17.81	
	18+36.00	18+33.00	3	PIPE SIZE CHANGE	0	0.6	0.00	1.15	17.81	100	7.17	8.2	0.0007	27	2.07	0.00	0.07	0.00	17.81	
LAT D1-12 (EXISTING)	18+33.00	17+04.00	129	D15	0.49	0.6	0.29	1.44	17.81	100	7.15	10.3	0.0011	27	2.59	0.14	0.10	0.83	18.64	
LAT D1-11 (EXISTING)	17+04.00	16+94.50	9.5	D13	0.66	0.6	0.40	1.84	18.64	100	7.04	12.9	0.0017	27	3.25	0.02	0.16	0.05	18.69	
LAT D1-10 (EXISTING)	16+94.50	16+71.50	23	D14	0.49	0.6	0.29	2.13	18.69	100	7.04	15.0	0.0013	30	3.05	0.03	0.14	0.13	18.81	
	16+71.50	13+57.00	314.5	ROW LINE	0.00	0.6	0.00	2.13	18.81	100	7.04	15.0	0.0013	30	3.05	0.42	0.14	0.00	18.81	
	13+57.00	13+54.00	3	PIPE SIZE CHANGE	0.00	0.6	0.00	2.13	18.81	100	7.04	15.0	0.0005	36	2.12	0.00	0.07	0.00	18.81	
LAT D1-9 (FUTURE)	13+54.00	12+83.00	71	D7	1.68	0.6	1.01	3.14	18.81	100	7.02	22.0	0.0011	36	3.12	0.08	0.15	0.38	19.19	
LAT D1-7	12+83.00	12+12.00	71	D6	1.02	0.6	0.61	3.75	19.19	100	6.98	26.2	0.0015	36	3.70	0.11	0.21	0.32	19.51	
LAT D1-6	12+12.00	11+92.00	20	D5	0.77	0.6	0.46	4.21	19.51	100	6.94	29.2	0.0019	36	4.14	0.04	0.27	0.08	19.59	
LINE D4	11+92.00	10+41.50	150.5	D19, D20, D21	1.19	0.6	0.71	4.93	19.59	100	6.93	34.1	0.0012	42	3.55	0.17	0.20	0.71	20.30	
LAT D1-5	10+41.50	10+34.50	7	D3	0.97	0.6	0.58	5.51	20.30	100	6.85	37.7	0.0014	42	3.92	0.01	0.24	0.03	20.33	
LAT D1-4	10+34.50	6+50.00	384.5	D4	1.58	0.6	0.95	6.46	20.33	100	6.85	44.2	0.0019	42	4.60	0.74	0.33	1.39	21.72	
	6+50.00	5+67.00	83	0	0	0.6	0.00	6.46	21.72	100	6.85	44.2	0.0019	42	4.60	0.16	0.33	0.00	21.72	
LAT D1-3	5+67.00	5+56.00	11	D1	1.5	0.6	0.90	7.36	21.72	100	6.70	49.3	0.0024	42	5.12	0.03	0.41	0.04	21.76	
LAT D1-2	5+56.00	3+66.50	189.5	D2	1.68	0.6	1.01	8.36	21.76	100	6.70	56.0	0.0031	42	5.82	0.53	0.53	0.49	22.24	
LINE D2	3+66.50	3+25.00	61.5	D10, D11, D12	3.77	0.6	2.26	10.63	22.24	100	6.65	70.6	0.0049	42	7.34	0.30	0.84	0.14	22.38	
	3+25.00	3+22.00	3	PIPE SIZE CHANGE	0	0.6	0.00	10.63	22.38	100	6.65	70.6	0.0013	54	4.44	0.00	0.31	0.00	22.38	
LAT D1-1	3+22.00	0+80.00	232	D8, D9	2.58	0.6	1.55	12.17	22.38	100	6.63	80.7	0.0017	54	5.08	0.39	0.40	0.76	23.14	
LAT D1-15 (EXISTING)	0+10.50	0+00.00	10.5	D18	0.73	0.6	0.44	0.44	15.00	100	7.52	3.3	0.0010	18	1.86	0.01	0.05	0.09	15.09	
LAT D1-14 (EXISTING)	0+72.00	0+00.00	72	D17	0.60	0.6	0.36	0.36	15.00	100	7.52	2.7	0.0007	18	1.53	0.05	0.04	0.78	15.78	
LAT D1-13 (EXISTING)	0+10.50	0+00.00	10.5	D16	0.58	0.6	0.35	0.35	15.00	100	7.52	2.6	0.0006	18	1.48	0.01	0.03	0.12	15.12	
LAT D1-12 (EXISTING)	0+72.00	0+00.00	72	D15	0.49	0.6	0.29	0.29	15.00	100	7.52	2.2	0.0004	18	1.25	0.03	0.02	0.96	15.96	
LAT D1-11 (EXISTING)	0+10.50	0+00.00	10.5	D13	0.66	0.6	0.40	0.40	15.00	100	7.52	3.0	0.0008	18	1.69	0.01	0.04	0.10	15.10	
LAT D1-10 (EXISTING)	0+64.50	0+00.00	64.5	D14	0.49	0.6	0.29	0.29	15.00	100	7.52	2.2	0.0004	18	1.25	0.03	0.02	0.86	15.86	
LAT D1-9 (FUTURE)	0+28.00	0+00.00	28	D7	1.68	0.6	1.01	1.01	15.00	100	7.52	7.6	0.0052	18	4.29	0.15	0.29	0.11	15.11	
LAT D1-7	0+08.00	0+00.00	8	D6	1.02	0.6	0.61	0.61	15.00	100	7.52	4.6	0.0019	18	2.60	0.02	0.11	0.05	15.05	
LAT D1-6	0+39.00	0+00.00	39	D5	0.77	0.6	0.46	0.46	15.00	100	7.52	3.5	0.0011	18	1.97	0.04	0.06	0.33	15.33	
LAT D1-5	0+08.00	0+00.00	8	D3	0.97	0.6	0.58	0.58	15.00	100	7.52	4.4	0.0017	18	2.48	0.01	0.10	0.05	15.05	
LAT D1-4	0+28.00	0+00.00	28	D4	1.58	0.6	0.95	0.95	15.00	100	7.52	7.1	0.0046	18	4.03	0.13	0.25	0.12	15.12	
LAT D1-3	0+08.00	0+00.00	8	D1	1.50	0.6	0.90	0.90	15.00	100	7.52	6.8	0.0042	18	3.83	0.03	0.23	0.03	15.03	
LAT D1-2	0+28.00	0+00.00	28	D2	1.68	0.6	1.01	1.01	15.00	100	7.52	7.6	0.0052	18	4.29	0.15	0.29	0.11	15.11	
LAT D1-1	0+49.50	0+12.00	37.5	D9	1.54	0.6	0.92	0.92	15.00	100	7.52	6.9	0.0044	18	3.93	0.16	0.24	0.16	15.16	
LAT D1-1.1	0+12.00	0+00.00	12	D8	1.04	0.6	0.62	1.55	15.16	100	7.52	11.6	0.0123	18	6.59	0.15	0.67	0.03	15.19	
LAT D1-1.1	0+15.00	0+00.00	15	D8	1.04	0.6	0.62	0.62	15.00	100	7.52	4.7	0.0020	18	2.66	0.03	0.11	0.09	15.09	

Line or Lateral Name	RUNOFF COLLECTION POINT (Inlet or Manhole)		Distance Between Collection Points (ft)	INCREMENTAL DRAINAGE AREA				Accum-ulated "CA"	Time at Upstream Station (minutes)	Design Storm Frequency (yrs)	Intensity "I" (inches/hr)	Storm Water Runoff "Q" (c.f.s.)	Slope of Hydraulic Gradient "S" (ft./ft.)	Selected Storm Sewer Size	Velocity in Sewer Between Collection Points "V" (f.p.s.)	Friction Head Loss Coeff. K_f	Velocity Head Loss of Upstream Station (feet)	Flow Time in Sewer Distance/V*60 (minutes)	Time of Downstream Station (minutes)	Remarks
	Upstream Station	Downstream Station		Area No.	Drainage Area "A" (Acres)	Runoff Coeff. "C"	Incremental "CA"													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
LINE D2																				
	3+45.50	3+42.50	3		0.00	0.6	0.00	0.00	15.00	100	7.52	0.0	0.0000	18	0.00	0.00	0.00	0.00	15.00	
LAT D2-1	3+42.50	2+78.50	64	D10	0.76	0.6	0.46	0.46	15.00	100	7.52	3.4	0.0011	18	1.94	0.07	0.06	0.25	15.25	
	2+78.50	2+75.50	3	PIPE SIZE CHANGE	0	0.6	0.00	0.46	15.00	100	7.52	3.4	0.0002	24	1.09	0.00	0.02	0.00	15.00	
LINE D3	2+75.50	0+00.00	275.5	D11, D12	3.01	0.6	1.81	2.26	15.00	100	7.52	17.0	0.0057	24	5.41	1.56	0.46	0.85	15.85	
LAT D2-1	0+15.00	0+00.00	15	D10	0.76	0.6	0.46	0.46	15.00	100	7.52	3.4	0.0011	18	1.94	0.02	0.06	0.13	15.13	
LINE D3																				
	0+94.00	0+91.00	3		0.00	0.6	0.00	0.00	15.00	100	7.52	0.0	0.0000	21	0.00	0.00	0.00	0.00	15.00	
LAT D3-2	0+91.00	0+81.50	9.5	D11	1.4	0.6	0.84	0.84	15.00	100	7.52	6.3	0.0016	21	2.63	0.02	0.11	0.06	15.06	
LAT D3-1	0+81.50	0+00.00	81.5	D12	1.61	0.6	0.97	1.81	15.06	100	7.52	13.6	0.0074	21	5.65	0.60	0.50	0.24	15.30	
LAT D3-2	0+08.00	0+00.00	8	D11	1.40	0.6	0.84	0.84	15.00	100	7.52	6.3	0.0036	18	3.57	0.03	0.20	0.04	15.04	
LAT D3-1	0+28.00	0+00.00	28	D12	1.61	0.6	0.97	0.97	15.00	100	7.52	7.3	0.0048	18	4.11	0.13	0.26	0.11	15.11	
LINE D4																				
	1+58.00	1+55.00	3		0.00	0.6	0.00	0.00	15.00	100	7.52	0.0	0.0000	18	0.00	0.00	0.00	0.00	15.00	
LAT D4-1	1+55.00	0+00.00	155	D19, D20, D21	1.19	0.6	0.71	0.71	15.00	100	7.52	5.4	0.0026	18	3.04	0.40	0.14	0.85	15.85	
LAT D4-1	0+23.00	0+00.00	23	D19, D20, D21	1.19	0.6	0.71	0.71	15.00	100	7.52	5.4	0.0026	18	3.04	0.06	0.14	0.13	15.13	
LINE E1 (EXISTING)																				
	9+15.50	7+33.50	182	OE9, OE10	23.67	0.6	14.20	14.20	15.00	100	7.52	106.8	0.0029	54	6.72	0.24	0.70	0.20	16.20	
	7+33.50	5+36.50	197		0	0.6	0.00	14.20	15.20	100	7.52	106.8	0.0017	60	5.44	0.33	0.49	0.00	15.20	
LAT E1-4	5+36.50	5+07.50	29	E4	0.61	0.6	0.37	14.57	15.20	100	7.50	109.3	0.0018	60	5.57	0.05	0.48	0.09	15.29	
LAT E1-3	5+07.50	3+62.00	155.5	E3	0.45	0.6	0.27	14.84	15.29	100	7.49	111.1	0.0018	60	5.66	0.28	0.50	0.46	15.75	
LINE E2, LINE E3	3+62.00	2+43.00	109	E5, E6, E7, E8	4.39	0.6	2.63	17.47	15.75	100	7.42	129.7	0.0025	60	6.61	0.27	0.88	0.28	16.02	
LAT E1-2	2+43.00	2+17.50	25.5	E2	0.63	0.6	0.38	17.85	16.02	100	7.38	131.8	0.0026	60	6.71	0.07	0.70	0.06	16.09	
LAT E1-1	2+17.50	0+00.00	217.5	E1	0.55	0.6	0.33	18.18	16.09	100	7.38	134.1	0.0027	60	6.83	0.58	0.72	0.53	16.62	
LAT E1-4	0+10.50	0+00.00	10.5	E4	0.61	0.6	0.37	0.37	15.00	100	7.52	2.8	0.0007	18	1.56	0.01	0.04	0.11	15.11	
LAT E1-3	0+73.00	0+00.00	73	E3	0.45	0.6	0.27	0.27	15.00	100	7.52	2.0	0.0004	18	1.15	0.03	0.02	1.06	16.06	
LAT E1-2	0+10.50	0+00.00	10.5	E2	0.63	0.6	0.38	0.38	15.00	100	7.52	2.8	0.0007	18	1.61	0.01	0.04	0.11	15.11	
LAT E1-1	0+70.00	0+00.00	70	E1	0.55	0.6	0.33	0.33	15.00	100	7.52	2.5	0.0006	18	1.40	0.04	0.03	0.83	15.83	
LINE E2																				
	6+65.00	6+62.00	3		0.00	0.6	0.00	0.00	15.00	100	7.52	0.0	0.0000	24	0.00	0.00	0.00	0.00	15.00	
LAT E2-4 (FUTURE)	6+62.00	6+52.50	9.5	E7	1.12	0.6	0.67	0.67	15.00	100	7.52	5.1	0.0005	24	1.61	0.00	0.04	0.10	15.10	
LAT E2-3 (FUTURE)	6+52.50	2+78.50	374	E8	1.18	0.6	0.71	1.38	15.10	100	7.52	10.4	0.0021	24	3.30	0.79	0.17	1.89	16.99	
	2+78.50	2+75.50	3	PIPE SIZE CHANGE	0	0.6	0.00	1.38	16.99	100	7.52	10.4	0.0011	27	2.61	0.00	0.11	0.00	16.99	
LAT E2-2 (FUTURE)	2+75.50	2+41.50	34	E6	0.97	0.6	0.58	1.96	16.99	100	7.25	14.2	0.0021	27	3.58	0.07	0.20	0.16	17.14	
	2+41.50	2+38.50	3	PIPE SIZE CHANGE	0	0.6	0.00	1.96	17.14	100	7.25	14.2	0.0012	30	2.90	0.00	0.13	0.00	17.14	
LAT E2-1 (FUTURE)	2+38.50	1+92.00	46.5	E5	1.12	0.6	0.67	2.63	17.14	100	7.23	19.0	0.0022	30	3.88	0.10	0.23	0.20	17.34	
	1+92.00	0+00.00	192		0	0.6	0.00	2.63	17.34	100	7.23	19.0	0.0022	30	3.88	0.41	0.23	0.00	17.34	
LAT E2-4 (FUTURE)	0+08.00	0+00.00	8	E7	1.12	0.6	0.67	0.67	15.00	100	7.52	5.1	0.0023	18	2.86	0.02	0.13	0.05	15.05	
LAT E2-3 (FUTURE)	0+28.00	0+00.00	28	E8	1.18	0.6	0.71	0.71	15.00	100	7.52	5.3	0.0026	18	3.01	0.07	0.14	0.15	15.15	
LAT E2-2 (FUTURE)	0+08.00	0+00.00	8	E6	0.97	0.6	0.58	0.58	15.00	100	7.52	4.4	0.0017	18	2.48	0.01	0.10	0.05	15.05	
LAT E2-1 (FUTURE)	0+28.00	0+00.00	28	E5	1.12	0.6	0.67	0.67	15.00	100	7.52	5.1	0.0023	18	2.86	0.06	0.13	0.16	15.16	

NOTES:

1. FOR DRAINAGE CALCULATIONS NOTED AS EXISTING REFERENCE ENGINEERING PLANS FOR LIGHT FARMS WAY IN LIGHT FARMS STORM SEWER PLAN AND PROFILE INFORMATION.
2. STORM SEWER LATERALS DENOTED AS FUTURE ARE NOT IN THIS SET.

STATE OF TEXAS
KEVIN N. CARLSON
89232
LICENSED PROFESSIONAL ENGINEER
6-20-13

Huitt-Zollars, Inc.
Firm Registration No. F-761

RECORD DRAWING

THIS RECORD DOCUMENT HAS BEEN PREPARED BASED IN PART UPON INFORMATION FURNISED BY OTHERS. THE DESIGN PROFESSIONAL CANNOT ASSURE THE ACCURACY OF OTHERS' INFORMATION AND THUS IS NOT RESPONSIBLE FOR THE ACCURACY OF THIS RECORD DOCUMENT OR FOR ANY ERROR OR OMISSION THAT MAY HAVE BEEN INCORPORATED INTO IT AS A RESULT. THOSE RELYING ON THIS RECORD DOCUMENT ARE ADVISED TO OBTAIN INDEPENDENT VERIFICATION OF ITS ACCURACY BEFORE APPLYING IT FOR ANY PURPOSE.

DRAINAGE CALCULATIONS
STORM SEWER

LIGHT FARMS

LFC Land Company LLC

Collin County Municipal Utility District No. 1

COLLIN COUNTY, TEXAS

HUITT-ZOLLARS

DESIGN	CHECKED	DATE	SCALE	NOTES	JOB NO.	SHT. NO.
HZI	HZI		NA		01-3905-26	33

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Line or Lateral Name	Runoff Collection Point (Inlet or Manhole) Upstream Station	Runoff Collection Point (Inlet or Manhole) Downstream Station	Distance Between Collection Points (ft)	Incremental Drainage Area: Area No.	Incremental Drainage Area: Drainage Area "A" (Acres)	Incremental Drainage Area: Runoff Coeff. "C"	Incremental Drainage Area: Incremental "CA"	Accumulated "CA"	Time at Upstream Station (minutes)	Design Storm Frequency (yrs)	Intensity "I" (inches/hr)	Storm Water Runoff "Q" (c.f.s.)	Slope of Hydraulic Gradient "S" (ft./ft.)	Selected Storm Sewer Size	Velocity in Sewer Between Collection Points "V" (f.p.s.)	Friction Head Loss Coeff. K_j	Velocity Head Loss of Upstream Station (feet)	Flow Time in Sewer Distance/V*60 (minutes)	Time of Downstream Station (minutes)	Remarks
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
LINE F1																				
	9+97.00	9+94.00	3		0.00	0.6	0.00	0.00	15.00	100	7.52	0.0	0.0000	21	0.00	0.00	0.00	0.00	15.00	
LAT F1-4	9+94.00	7+13.00	281	F11	1.32	0.6	0.79	0.79	15.00	100	7.52	6.0	0.0014	21	2.48	0.40	0.10	1.89	16.89	
LAT F1-3	7+13.00	3+91.00	322	F10	1.24	0.6	0.74	1.54	16.89	100	7.27	11.2	0.0050	21	4.64	1.60	0.33	1.16	18.05	
	3+91.00	3+88.00	3	PIPE SIZE CHANGE	0	0.6	0.00	1.54	18.05	100	7.27	11.2	0.0050	21	4.64	0.01	0.33	0.00	18.05	
LAT F1-2	3+88.00	3+77.00	11	F2	1.56	0.6	0.94	2.47	18.05	100	7.12	17.6	0.0032	27	4.42	0.04	0.30	0.04	18.09	
LAT F1-1	3+77.00	2+55.00	122	F1	1.1	0.6	0.66	3.13	18.09	100	7.11	22.3	0.0052	27	5.60	0.63	0.49	0.36	18.45	
LINE F3, LINE F2	2+55.00	0+10.00	245	F3, F4, F5, F6, F7, F8, F9	8.12	0.6	4.87	8.00	18.45	100	7.07	56.6	0.0016	48	4.50	0.38	0.31	0.91	19.36	
LAT F1-4	0+08.00	0+00.00	8	F11	1.32	0.6	0.79	0.79	15.00	100	7.52	6.0	0.0032	18	3.37	0.03	0.18	0.04	15.04	
LAT F1-3	0+19.00	0+00.00	19	F10	1.24	0.6	0.74	0.74	15.00	100	7.52	5.6	0.0028	18	3.17	0.05	0.16	0.10	15.10	
LAT F1-2	0+08.00	0+00.00	8	F2	1.56	0.6	0.94	0.94	15.00	100	7.52	7.0	0.0045	18	3.98	0.04	0.25	0.03	15.03	
LAT F1-1	0+28.00	0+00.00	28	F1	1.10	0.6	0.66	0.66	15.00	100	7.52	5.0	0.0022	18	2.81	0.06	0.12	0.17	15.17	
LINE F2																				
	2+91.00	2+88.00	3		0.00	0.6	0.00	0.00	15.00	100	7.52	0.0	0.0000	30	0.00	0.00	0.00	0.00	15.00	
LINE F4	2+88.00	1+43.00	145	F5, F6	3.25	0.6	1.95	1.95	16.17	100	7.36	14.4	0.0012	30	2.93	0.18	0.13	0.83	17.00	
LAT F2-2	1+43.00	1+34.00	9	F4	0.41	0.6	0.25	2.20	17.00	100	7.25	15.9	0.0015	30	3.24	0.01	0.16	0.05	17.04	
LAT F2-1	1+34.00	0+00.00	134	F3	0.49	0.6	0.29	2.49	17.04	100	7.25	18.0	0.0019	30	3.68	0.26	0.21	0.61	17.65	
LAT F2-2	0+08.00	0+00.00	8	F4	0.41	0.6	0.25	0.25	15.00	100	7.52	1.8	0.0003	18	1.05	0.00	0.02	0.13	15.13	
							0.00													
LAT F2-1	0+28.50	0+00.00	28.5	F3	0.49	0.6	0.29	0.29	15.00	100	7.52	2.2	0.0004	18	1.25	0.01	0.02	0.38	15.38	
LINE F3																				
	2+58.00	2+55.00	3		0.00	0.6	0.00	0.00	15.00	100	7.52	0.0	0.0000	18	0.00	0.00	0.00	0.00	15.00	
LAT F3-3	2+55.00	1+96.00	59	F9	0.88	0.6	0.53	0.53	15.00	100	7.52	4.0	0.0014	18	2.25	0.08	0.08	0.44	15.44	
	1+96.00	1+93.00	3	PIPE SIZE CHANGE	0.00	0.6	0.00	0.53	15.44	100	7.52	4.0	0.0001	30	0.81	0.00	0.01	0.00	15.44	
LAT F3-2	1+93.00	1+81.00	12	F8	1.48	0.6	0.89	1.42	15.44	100	7.47	10.6	0.0007	30	2.15	0.01	0.07	0.09	15.53	
LAT F3-1	1+81.00	0+00.00	181	F7	1.61	0.6	0.97	2.38	15.53	100	7.45	17.8	0.0019	30	3.62	0.34	0.20	0.83	16.36	
LAT F3-3	0+38.00	0+00.00	38	F9	0.88	0.6	0.53	0.53	15.00	100	7.52	4.0	0.0014	18	2.25	0.05	0.08	0.28	15.28	
LAT F3-2	0+08.00	0+00.00	8	F8	1.48	0.6	0.89	0.89	15.00	100	7.52	6.7	0.0040	18	3.78	0.03	0.22	0.04	15.04	
LAT F3-1	0+28.50	0+00.00	28.5	F7	1.61	0.6	0.97	0.97	15.00	100	7.52	7.3	0.0048	18	4.11	0.14	0.26	0.12	15.12	
LINE F4 (FUTURE)																				
	2+55.00	2+52.00	3		0.00	0.6	0.00	0.00	15.00	100	7.52	0.0	0.0000	27	0.00	0.00	0.00	0.00	15.00	
LAT F4-2	2+52.00	2+46.00	6	F6	1.5	0.6	0.90	0.90	15.00	100	7.52	6.8	0.0005	27	1.70	0.00	0.04	0.06	15.06	
LAT F4-1	2+46.00	0+00.00	246	F5	1.75	0.6	1.05	1.95	15.06	100	7.52	14.7	0.0022	27	3.69	0.55	0.21	1.11	16.17	
LAT F4-2	0+08.00	0+00.00	8	F6	1.50	0.6	0.90	0.90	15.00	100	7.52	6.8	0.0042	18	3.83	0.03	0.23	0.03	15.03	
LAT F4-1	0+28.00	0+00.00	28	F5	1.75	0.6	1.05	1.05	15.00	100	7.52	7.9	0.0025	21	3.28	0.07	0.17	0.14	15.14	

Line or Lateral Name	Runoff Collection Point (Inlet or Manhole) Upstream Station	Runoff Collection Point (Inlet or Manhole) Downstream Station	Distance Between Collection Points (ft)	Incremental Drainage Area: Area No.	Incremental Drainage Area: Drainage Area "A" (Acres)	Incremental Drainage Area: Runoff Coeff. "C"	Incremental Drainage Area: Incremental "CA"	Accumulated "CA"	Time at Upstream Station (minutes)	Design Storm Frequency (yrs)	Intensity "I" (inches/hr)	Storm Water Runoff "Q" (c.f.s.)	Slope of Hydraulic Gradient "S" (ft./ft.)	Selected Storm Sewer Size	Velocity in Sewer Between Collection Points "V" (f.p.s.)	Friction Head Loss Coeff. K_j	Velocity Head Loss of Upstream Station (feet)	Flow Time in Sewer Distance/V*60 (minutes)	Time of Downstream Station (minutes)	Remarks
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
LINE G1 (EXISTING)																				
	13+80.00	13+77.00	3						15.00	100	7.52	0.0	0.0000	18	0.00	0.00	0.00	0.00	15.00	
LAT G1-10	13+77.00	13+50.50	26.5	G10	0.45	0.60	0.27	0.27	15.00	100	7.52	2.0	0.0004	18	1.15	0.01	0.02	0.38	15.38	
	13+50.50	13+47.50	3			0.60	0.00	0.27	15.38	100	7.52	2.0	0.0002	21	0.84	0.00	0.01	0.00	15.38	
LAT G1-9	13+47.50	10+82.00	265.5	G9	0.45	0.60	0.27	0.54	15.38	100	7.48	4.0	0.0006	21	1.68	0.17	0.04	2.64	18.02	
LAT G1-8	10+82.00	10+52.50	29.5	G8	0.47	0.60	0.28	0.82	18.02	100	7.12	5.9	0.0014	21	2.43	0.04	0.09	0.20	18.22	
LAT G1-7	10+52.50	7+87.00	265.5	G7	0.47	0.60	0.28	1.10	18.22	100	7.09	7.8	0.0012	24	2.49	0.32	0.10	1.77	20.00	
LAT G1-6	7+87.00	7+60.50	26.5	G6	0.47	0.60	0.28	1.39	20.00	100	6.89	9.5	0.0018	24	3.04	0.05	0.14	0.15	20.14	
	7+60.50	7+57.50	3				0.00	1.39	20.14	100	6.89	9.5	0.0009	27	2.40	0.00	0.09	0.00	20.14	
LAT G1-5	7+57.50	5+95.00	162.5	G5	0.47	0.6	0.28	1.67	20.14	100	6.87	11.5	0.0014	27	2.88	0.22	0.13	0.94	21.08	
LINE G3	5+95.00	5+41.00	54	G1,G1a, OG17	10.46	0.62	6.49	8.15	21.08	100	6.77	55.17	0.0015	48	4.39	0.08	0.30	0.20	21.29	
LAT G1-4	5+41.00	5+14.50	26.5	G4	0.66	0.6	0.40	8.55	21.29	100	6.74	57.66	0.0016	48	4.59	0.04	0.33	0.10	21.38	
LAT G1-4	5+14.50	5+11.50	3				0.00	8.55	21.38	100	6.74	57.66	0.0009	54	3.63	0.00	0.20	0.00	21.38	
LAT G1-3	5+11.50	3+44.50	167	G3	0.67	0.6	0.40	8.95	21.38	100	6.73	60.28	0.0009	54	3.79	0.16	0.22	0.73	22.12	
LINE G2	3+44.50	0+26.00	318.5	G2	2.73	0.80	2.18	11.14	22.12	100	6.66	74.15	0.0014	54	4.66	0.45	0.34	1.14	23.26	
LAT G1-10	0+10.50	0+00.00	10.5	G10	0.45	0.6	0.27	0.27	15.00	100	7.52	2.0	0.0004	18	1.15	0.00	0.02	0.15	15.15	
LAT G1-9	0+72.00	0+00.00	72	G9	0.45	0.6	0.27	0.27	15.00	100	7.52	2.0	0.0004	18	1.15	0.03	0.02	1.04	16.04	
LAT G1-8	0+10.50	0+00.00	10.5	G8	0.47	0.6	0.28	0.28	15.00	100	7.52	2.1	0.0004	18	1.20	0.00	0.02	0.15	15.15	
LAT G1-7	0+72.00	0+00.00	72	G7	0.47	0.6	0.28	0.28	15.00	100	7.52	2.1	0.0004	18	1.20	0.03	0.02	1.00	16.00	
LAT G1-6	0+10.50	0+00.00	10.5	G6	0.47	0.6	0.28	0.28	15.00	100	7.52	2.1	0.0004	18	1.20	0.00	0.02	0.15	15.15	
LAT G1-5	0+72.00	0+00.00	72	G5	0.47	0.6	0.28	0.28	15.00	100	7.52	2.1	0.0004	18	1.20	0.03	0.02	1.00	16.00	
LAT G1-4	0+10.50	0+00.00	10.5	G4	0.66	0.6	0.40	0.40	15.00	100	7.52	2.98	0.0008	18	1.69	0.01	0.04	0.10	15.10	
LAT G1-3	0+73.00	0+00.00	73	G3	0.67	0.6	0.40	0.40	15.00	100	7.52	3.02	0.0008	18	1.71	0.06	0.05	0.71	15.71	
LINE G2																				
	0+87.00	0+00.00	87	G2	2.73	0.8	2.18	2.18	10.00	100	8.74	19.09	0.0071	24	6.08	0.62	0.57	0.24	10.24	
LINE G3 (FUTURE)																				
	1+02.00	0+88.00	14				0.00	0.00	15.00	100	7.52	49.65	0.0024	42	5.16	0.03	0.41	0.00	15.00	
	0+88.00	0+00.00	88	G1, G1a, OG17	10.46	0.62	6.49	6.49	15.00	100	7.52	49.65	0.0024	42	5.16	0.21	0.41	0.28	15.28	
LINE H1 (EXISTING)																				
	9+16.00	9+04.50	11.5		0.00	0.6	0.00	0.00	10.00	100	7.52	0.0	0.0000	36	0.00	0.00	0.00	0.00	10.00	
LAT H1-5	9+04.50	8+15.50	89	H3	3.92	0.9	3.53	3.53	10.00	100	8.74	30.8	0.0021	36	4.36	0.19	0.30	0.34	10.34	
LAT H1-4	8+15.50	7+46.50	69	H2	0.31	0.6	0.19	3.71	15.00	100	7.52	32.2	0.0023	36	4.56	0.09	0.32	0.25	15.25	
LAT H1-3	7+46.50	7+07.50	39	H4	0.4	0.6	0.24	3.95	15.25	100	7.52	34.0	0.0026	36	4.82	0.01	0.36	0.13	15.39	
LAT H1-2	7+07.50	7+02.00	5.5	H1	0.4	0.6	0.24	4.19	15.39	100	7.52	35.8	0.0029	36	5.07	0.09	0.40	0.02	15.41	
LAT H1-1	7+02.00	6+70.00	32	H5	0.22	0.6	0.13	4.33	15.41	100	7.52	36.8	0.0031	36	5.21	0.10	0.42	0.10	15.51	
LAT H1-5	0+10.00	0+00.00	10	H3	3.92	0.9	3.53	3.53	10.00	100	8.74	30.8	0.0186	24	9.81	0.19	1.50	0.02	10.02	
LAT H1-4	0+71.50	0+00.00	71.5	H2	0.31	0.6	0.19	0.19	15.00	100	7.52	1.4	0.0002	18	0.79	0.01	0.01	1.51	16.51	
LAT H1-3	0+06.00	0+00.00	6	H4	0.40	0.6	0.24	0.24	15.00	100	7.52	1.8	0.0003	18	1.02	0.00	0.02	0.10	15.10	
LAT H1-2	0+59.00	0+00.00	59	H1	0.40	0.6	0.24	0.24	15.00	100	7.52	1.8	0.0003	18	1.02	0.02	0.02	0.96	15.96	
LAT H1-1	1+92.30	0+00.00	192.3	H5	0.22	0.6	0.13	0.13	15.00	100	7.52	1.0	0.0001	18	0.56	0.02	0.00	5.71	20.71	

Line or Lateral Name	Runoff Collection Point (Inlet or Manhole) Upstream Station	Runoff Collection Point (Inlet or Manhole) Downstream Station	Distance Between Collection Points (ft)	Incremental Drainage Area: Area No.	Incremental Drainage Area: Drainage Area "A" (Acres)	Incremental Drainage Area: Runoff Coeff. "C"	Incremental Drainage Area: Incremental "CA"	Accumulated "CA"	Time at Upstream Station (minutes)	Design Storm Frequency (yrs)	Intensity "I" (inches/hr)	Storm Water Runoff "Q" (c.f.s.)	Slope of Hydraulic Gradient "S" (ft./ft.)	Selected Storm Sewer Size	Velocity in Sewer Between Collection Points "V" (f.p.s.)	Friction Head Loss Coeff. K_j	Velocity Head Loss of Upstream Station (feet)	Flow Time in Sewer Distance/V*60 (minutes)	Time of Downstream Station (minutes)	Remarks
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
LINE L1 (EXISTING)																				
	17+23.00	17+20.00	3		0.00	0.9	0.00	0.00	10.00	100	8.74	0.0	0.0000	27	0.00	0.00	0.00	0.00	10.00	
LAT L1-10	17+20.00	17+17.00	3	WATER TOWER OVERFLOW	0.00	0.9	0.00	0.00	10.00	100	8.74	0.0	0.0000	27	0.00	0.00	0.00	0.00	10.00	
LAT L1-9	17+17.00	15+23.00	194	L9	1.12	0.9	1.01	1.01	10.00	100	8.45	8.5	0.0008	27	2.14	0.15	0.07	1.51	11.51	
LAT L1-8	15+23.00	14+10.00	113	L8	1.55	0.9	1.40	2.40	11.51	100	8.13	19.5	0.0040	27	4.91	0.45	0.37	0.38	11.89	
	14+10.00	14+10.00	0		0	0.9	0.00	2.40	11.89	100	8.13	19.5	0.0009	36	2.76	0.00	0.12	0.00	11.89	
LAT L1-7	14+10.00	13+61.50	48.5	L7	1.74	0.9	1.57	3.97	11.89	100	8.06	32.0	0.0023	36	4.52	0.11	0.32	0.18	12.07	
LAT L1-6	13+61.50	13+03.00	58.5	L6	0.36	0.6	0.22	4.19	12.07	100	8.02	33.6	0.0025	36	4.75	0.15	0.35	0.21	12.28	
LAT L1-5	13+03.00	12+66.00	37	L5	0.66	0.6	0.40	4.58	12.28	100	7.98	36.6	0.0030	36	5.17	0.11	0.42	0.12	12.40	
LAT L1-4	12+66.00	12+01.50	64.5	L4	0.4	0.6	0.24	4.82	12.40	100	7.96	38.4	0.0033	36	5.43	0.21	0.46	0.20	12.59	
	12+01.50	11+98.50	3	PIPE SIZE CHANGE	0	0.6	0.00	4.82	12.59	100	7.96	38.4	0.0015	42	3.99	0.00	0.25	0.00	12.59	
LAT L1-3	11+98.50	9+77.00	221.5	L3	0.36	0.6	0.22	5.04	12.59	100	7.93	39.9	0.0016	42	4.15	0.35	0.27	0.89	13.48	
LAT L1-2	9+77.00	9+02.00	75	L2	0.75	0.6	0.45	5.49	13.48	100	7.77	42.6	0.0018	42	4.43	0.13	0.31	0.28	13.77	
LAT L1-1	9+02.00	8+90.00	12	L1	0.48	0.6	0.29	5.78	13.77	100	7.73	44.6	0.0020	42	4.64	0.02	0.33	0.04	13.81	
LAT L1-10	0+66.00	0+00.00	66	WATER TOWER OVERFLOW	0.36	0.6	0.22	0.22	15.00	100	7.52	1.6	0.0002	18	0.92	0.02	0.01	1.20	16.20	
LAT L1-9	0+17.00	0+00.00	17	L9	1.12	0.6	0.67	0.67	15.00	100	7.52	5.1	0.0010	21	2.10	0.02	0.07	0.13	15.13	
LAT L1-8	0+17.00	0+00.00	17	L8	1.55	0.6	0.93	0.93	15.00	100	7.52	7.0	0.0044	18	3.96	0.08	0.24	0.07	15.07	
LAT L1-7	0+17.00	0+00.00	17	L7	1.74	0.6	1.04	1.04	15.00	100	7.52	7.9	0.0056	18	4.44	0.09	0.31	0.06	15.06	
LAT L1-6	0+39.00	0+00.00	39	L6	0.36	0.6	0.22	0.22	15.00	100	7.52	1.6	0.0002	18	0.92	0.01	0.01	0.71	15.71	
LAT L1-5	0+31.00	0+00.00	31	L5	0.66	0.6	0.40	0.40	15.00	100	7.52	3.0	0.0008	18	1.69	0.02	0.04	0.31	15.31	
LAT L1-4	0+74.00	0+00.00	74	L4	0.40	0.6	0.24	0.24	15.00	100	7.52	1.8	0.0003	18	1.02	0.02	0.02	1.21	16.21	
LAT L1-3	0+10.50	0+00.00	10.5	L3	0.36	0.6	0.22	0.22	15.00	100	7.52	1.6	0.0002	18	0.92	0.00	0.01	0.19	15.19	
LAT L1-2	0+21.00	0+00.00	21	L2	0.75	0.6	0.45	0.45	15.00	100	7.52	3.4	0.0010	18	1.91	0.02	0.06	0.18	15.18	
LAT L1-1	0+21.00	0+00.00	21	L1	0.48	0.6	0.29	0.29	15.00	100	7.52	2.2	0.0004	18	1.23	0.01	0.02	0.29	15.29	
LINE J1 (FUTURE)																				
	19+34.00	19+31.00	3		0.00	0.6	0.00	0.00	15.00	100	7.52	0.0	0.0000	24	0.00	0.00	0.00	0.00	15.00	
LAT J1-2	19+31.00	19+21.00	10	J2	1.24	0.6	0.74	0.74	15.00	100	7.52	5.6	0.0006	24	1.78	0.01	0.05	0.09	15.09	
	19+21.00	17+00.00	221	ROW LINE	0	0.6	0.00	0.74	15.09	100	7.52	5.6	0.0000	24	1.78	0.00	0.05	0.00	15.09	
LAT J1-1	17+00.00	16+77.00	23	J1	1.77	0.6	1.06	1.81	15.09	100	7.52	13.6	0.0036	24	4.32	0.08	0.29	0.09	15.18	Partial Flow
LINE J2, LINE J3	16+77.00	15+90.00	87	J3, J4, J5, J6, J7, J8	4.07	0.6	2.44	4.25	15.18	100	7.51	31.9	0.0023	36	4.51	0.20	0.32	0.32	15.50	Partial Flow
LAT J1-2 (FUTURE)	0+08.00	0+00.00	8	J2	1.24	0.6	0.74	0.74	15.00	100	7.52	5.6	0.0028	18	3.17	0.02	0.16	0.04	15.04	
LAT J1-1 (FUTURE)	0+28.00	0+00.00	28	J1	1.77	0.6	1.06	1.06	15.00	100	7.52	8.0	0.0058	18	4.52	0.16	0.32	0.10	15.10	
LINE J2 (EXISTING)																				
	2+81.00	2+78.00	3		0.00	0.6	0.00	0.00	15.00	100	7.52	0.0	0.0000	24	0.00	0.00	0.00	0.00	15.00	
LAT J2-4	2+78.00	2+46.00	32	J5	0.84	0.6	0.50	0.50	15.00	100	7.52	3.8	0.0003	24	1.21	0.01	0.02	0.44	15.44	
LAT J2-3	2+46.00	0+57.00	189	J6	0.54	0.6	0.32	0.83	15.44	100	7.47	6.2	0.0007	24	1.97	0.14	0.06	1.60	17.04	
LAT J2-2	0+57.00	0+28.00	29	J3	0.75	0.6	0.45	1.28	17.04	100	7.25	9.3	0.0017	24	2.95	0.05	0.13	0.16	17.21	
LAT J2-1	0+28.00	0+00.00	28	J4	0.48	0.6	0.29	1.57	17.21	100	7.22	11.3	0.0025	24	3.60	0.07	0.20	0.13	17.34	
LAT J2-4	0+10.50	0+00.00	10.5	J5	0.84	0.6	0.50	0.50	15.00	100	7.52	3.8	0.0013	18	2.14	0.01	0.07	0.08	15.08	
LAT J2-3	0+72.00	0+00.00	72	J6	0.54	0.6	0.32	0.32	15.00	100	7.52	2.4	0.0005	18	1.38	0.04	0.03	0.87	15.87	
LAT J2-2	0+10.50	0+00.00	10.5	J3	0.75	0.6	0.45	0.45	15.00	100	7.52	3.4	0.0010	18	1.91	0.01	0.06	0.09	15.09	
LAT J2-1	0+72.00	0+00.00	72	J4	0.48	0.6	0.29	0.29	15.00	100	7.52	2.2	0.0004	18	1.23	0.03	0.02	0.98	15.98	

Line or Lateral Name	Runoff Collection Point (Inlet or Manhole) Upstream Station	Runoff Collection Point (Inlet or Manhole) Downstream Station	Distance Between Collection Points (ft)	Incremental Drainage Area: Area No.	Incremental Drainage Area: Drainage Area "A" (Acres)	Incremental Drainage Area: Runoff Coeff. "C"	Incremental Drainage Area: Incremental "CA"	Accumulated "CA"	Time at Upstream Station (minutes)	Design Storm Frequency (yrs)	Intensity "I" (inches/hr)	Storm Water Runoff "Q" (c.f.s.)	Slope of Hydraulic Gradient "S" (ft./ft.)	Selected Storm Sewer Size	Velocity in Sewer Between Collection Points "V" (f.p.s.)	Friction Head Loss Coeff. K_j	Velocity Head Loss of Upstream Station (feet)	Flow Time in Sewer Distance/V*60 (minutes)	Time of Downstream Station (minutes)	Remarks
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
LINE J3 (EXISTING)																				
	2+29.00	2+26.00	3		0.00	0.6	0.00	0.00	15.00	100	7.52	0.0	0.0000	18	0.00	0.00	0.00	0.00	15.00	
LAT J3-2	2+26.00	1+97.00	29	J7	0.93	0.6	0.56	0.56	15.00	100	7.52	4.2	0.0016	18	2.37	0.05	0.09	0.20	15.20	
LAT J3-1	1+97.00	0+00.00	197	J8	0.53	0.6	0.32	0.88	15.20	100	7.52	6.6	0.0039	18	3.73	0.77	0.22	0.88	16.08	
LAT J3-2	0+10.50	0+00.00	10.5	J7	0.93	0.6	0.56	0.56	15.00	100	7.52	4.2	0.0016	18	2.37	0.02	0.09	0.07	15.07	
LAT J3-1	0+72.00	0+00.00	72	J8	0.53	0.6	0.32	0.32	15.00	100	7.52	2.4	0.0005	18	1.35	0.04	0.03	0.89	15.89	
LINE K1																				
	2+65.00	0+10.00	255	K1, K2	9.43	0.6	5.66	5.66	15.00	100	7.52	42.5	0.0018	42	4.42	0.46	0.30	0.96	15.96	

NOTES:

1. FOR DRAINAGE CALCULATIONS NOTED AS EXISTING REFERENCE ENGINEERING PLANS FOR LIGHT FARMS WAY IN LIGHT FARMS STORM SEWER PLAN AND PROFILE INFORMATION.
2. STORM SEWER LATERALS DENOTED AS FUTURE ARE NOT IN THIS SET.

STATE OF TEXAS
KEVIN N. CARLSON
89232
LICENSED PROFESSIONAL ENGINEER
6-20-13

Huitt-Zollars, Inc.
Firm Registration No. F-761

RECORD DRAWING

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DRAINAGE CALCULATIONS
STORM SEWER

LIGHT FARMS

LFC Land Company LLC

Collin County Municipal Utility District No. 1

COLLIN COUNTY, TEXAS

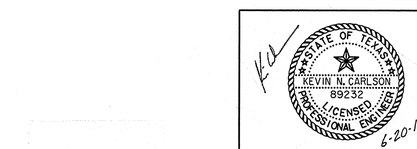
HUITT-ZOLLARS

DESIGN	CHECKED	DATE	SCALE	NOTES	JOB NO.	SHT. NO.
HZI	HZI		NA		01-3905-26	34

I: \proj\01390526\dgn\fp1dcal3.dgn

INLET		DESIGN STORM FREQUENCY (yr)	AREA RUNOFF Q=CIA					CARRY-OVER FROM UPSTREAM INLET (cfs)	TOTAL GUTTER FLOW (cfs)	GUTTER CAPACITY (cfs)	GUTTER SLOPE (ft/100 ft)	CROWN TYPE	SELECTED INLET		CARRY-OVER TO DOWNSTREAM INLET (cfs)
NO.	LOCATION (PAVING STATION)		TIME OF CONC. (min)	INTENSITY I (in/hr)	RUNOFF COEFF. "C"	AREA (ac)	"Q" (cfs)						LENGTH "LI" (feet)	TYPE	
1	2	3	4	5	6	7	8	9.0	10	11	12	13	14	15	16
A4	5+54.00 FIELDVIEW COURT & ORCHARD COURT	100	15	7.52	0.6	1.36	6.1	0.0	6.1	10.54	0.014	6" PARABOLIC	10	ON GRADE	0.0
A2	9+69.00 FIELDVIEW COURT & ORCHARD COURT	100	15	7.52	0.6	1.36	6.1	0.0	6.1	6.30	0.005	6" PARABOLIC	10	ON GRADE	0.0
A5	2+72.00 FIELDVIEW COURT & ORCHARD COURT	100	15	7.52	0.6	1.64	7.4	0.0	7.4	6.30	0.005	6" PARABOLIC	10	ON GRADE	1.1
A3	8+09.00 FIELDVIEW COURT & ORCHARD COURT	100	15	7.52	0.6	0.76	3.4	1.1	4.5	6.30	0.005	6" PARABOLIC	10	ON GRADE	0.0
A1	13+69.60 FIELDVIEW COURT & ORCHARD COURT	100	15	7.52	0.6	2.42	10.9	0.0	5.5	6.30	0.005	6" PARABOLIC	10	SAG	0.0
A7	1+80.00 POST OAK WAY	100	15	7.52	0.6	1.72	7.8	0.0	5.2	6.30	0.005	6" PARABOLIC	10	SAG	0.0
A6	1+80.00 POST OAK WAY	100	15	7.52	0.6	1.33	6.0	0.0	4.0	6.30	0.005	6" PARABOLIC	10	SAG	0.0
A10	4+20.00 GROVE DRIVE	100	15	7.52	0.6	0.2	0.9	0.0	0.6	6.30	0.005	6" PARABOLIC	10	SAG	0.0
A8	4+20.00 GROVE DRIVE	100	15	7.52	0.6	0.75	3.4	0.0	2.3	6.30	0.005	6" PARABOLIC	10	SAG	0.0
A11	1+00.00 GROVE DRIVE	100	15	7.52	0.6	0.3	1.4	0.0	0.9	6.30	0.005	6" PARABOLIC	10	SAG	0.0
A9	1+00.00 GROVE DRIVE	100	15	7.52	0.6	0.89	4.0	0.0	2.7	6.30	0.005	6" PARABOLIC	10	SAG	0.0
B14	8+00.00 MILLSTONE WAY	100	15	7.52	0.6	0.82	3.7	0.0	3.7	6.30	0.005	6" PARABOLIC	10	ON GRADE	0.0
B4	2+41.00 JUNIPER COURT	100	15	7.52	0.6	1.69	7.6	0.0	7.6	6.30	0.005	6" PARABOLIC	10	ON GRADE	1.3
B1	5+70.74 JUNIPER COURT	100	15	7.52	0.6	1.35	6.1	1.3	4.9	6.30	0.005	6" PARABOLIC	10	SAG	0.0
B13	8+70.00 MILLSTONE WAY	100	15	7.52	0.6	1.02	4.6	0.0	4.6	6.30	0.005	6" PARABOLIC	10	ON GRADE	0.0
B3	3+38.00 JUNIPER COURT	100	15	7.52	0.6	1.89	8.5	0.0	8.5	6.30	0.005	6" PARABOLIC	10	ON GRADE	2.2
B2	5+20.00 JUNIPER COURT	100	15	7.52	0.6	1.63	7.4	2.2	6.4	6.30	0.005	6" PARABOLIC	10	SAG	0.1
B12	0+55.00 FIELDVIEW COURT & ORCHARD COURT	100	15	7.52	0.6	0.9	4.1	0.0	4.1	8.91	0.01	6" PARABOLIC	10	ON GRADE	0.0
B9	4+60.00 WAGON WHEEL WAY	100	15	7.52	0.6	0.57	2.6	0.0	1.7	6.30	0.005	6" PARABOLIC	10	SAG	0.0
B8	9+30.00 WAGON WHEEL WAY	100	15	7.52	0.6	1.5	6.8	0.0	4.5	6.30	0.005	6" PARABOLIC	10	SAG	0.0
B7	9+30.00 WAGON WHEEL WAY	100	15	7.52	0.6	1.52	6.9	0.0	4.6	6.30	0.005	6" PARABOLIC	10	SAG	0.0
B11	2+93.00 WAGON WHEEL WAY	100	15	7.52	0.6	1.36	6.1	0.0	6.1	6.30	0.005	6" PARABOLIC	10	ON GRADE	0.0
B10	4+60.00 WAGON WHEEL WAY	100	15	7.52	0.6	1.54	6.9	0.0	4.6	6.30	0.005	6" PARABOLIC	10	SAG	0.0
B17	1+00.00 MILLSTONE WAY	100	15	7.52	0.6	0.76	3.4	0.0	2.3	6.30	0.005	6" PARABOLIC	10	SAG	0.0
B18	1+00.00 MILLSTONE WAY	100	15	7.52	0.6	2.03	9.2	0.0	6.1	6.30	0.005	6" PARABOLIC	10	SAG	0.0
B15	5+00.00 MILLSTONE WAY	100	15	7.52	0.6	1.41	6.4	0.0	4.2	6.30	0.005	6" PARABOLIC	10	SAG	0.0
B16	5+00.00 MILLSTONE WAY	100	15	7.52	0.6	1.22	5.5	0.0	3.7	6.30	0.005	6" PARABOLIC	10	SAG	0.0
B22	1+90.00 INDIANGRASS LANE	100	15	7.52	0.6	1.27	5.7	0.0	3.8	6.30	0.005	6" PARABOLIC	10	SAG	0.0
B21	1+90.00 INDIANGRASS LANE	100	15	7.52	0.6	0.78	3.5	0.0	2.3	6.30	0.005	6" PARABOLIC	10	SAG	0.0
B19	4+60.00 INDIANGRASS LANE	100	15	7.52	0.6	0.98	4.4	0.0	2.9	6.30	0.005	6" PARABOLIC	10	SAG	0.0
B20	4+60.00 INDIANGRASS LANE	100	15	7.52	0.6	0.52	2.3	0.0	1.6	6.30	0.005	6" PARABOLIC	10	SAG	0.0
B6	7+80.00 PRIMROSE WAY	100	15	7.52	0.6	0.89	3.1	0.0	2.1	7.13	0.0064	6" PARABOLIC	10	SAG	0.0
B5	8+50.87 PRIMROSE WAY	100	15	7.52	0.6	2.07	9.3	0.0	6.2	6.30	0.005	6" PARABOLIC	10	SAG	0.0
C2	1+00.00 BUFFALO WAY	100	15	7.52	0.6	0.92	4.2	0.0	4.2	7.13	0.0064	6" PARABOLIC	10	ON GRADE	0.0
C3	1+88.00 MESQUITE COURT	100	15	7.52	0.6	1.18	5.3	0.0	5.3	6.30	0.005	6" PARABOLIC	10	ON GRADE	0.0
C1	4+61.00 MESQUITE COURT	100	15	7.52	0.6	2.69	12.1	0.0	6.1	7.13	0.0064	6" PARABOLIC	10	SAG	0.0
E6	9+70.00 GRASSLAND DRIVE	100	15	7.52	0.6	0.97	4.4	0.0	4.4	6.30	0.005	6" PARABOLIC	10	ON GRADE	0.0
E5	9+98.00 GRASSLAND DRIVE	100	15	7.52	0.6	1.12	5.1	0.0	5.1	6.30	0.005	6" PARABOLIC	10	ON GRADE	0.0
D10	8+40.00 WILDRYE RIDGE	100	15	7.52	0.6	0.76	3.4	0.0	3.4	6.30	0.005	6" PARABOLIC	10	ON GRADE	0.0
D11	11+00.00 COTTONWOOD DRIVE	100	15	7.52	0.6	1.4	6.3	0.0	6.3	6.30	0.005	6" PARABOLIC	10	ON GRADE	0.0
D12	11+00.00 COTTONWOOD DRIVE	100	15	7.52	0.6	1.61	7.3	0.0	7.3	6.30	0.005	6" PARABOLIC	10	ON GRADE	1.0
D9	4+30.00 WILDRYE RIDGE	100	15	7.52	0.6	1.54	6.9	1.0	5.3	6.30	0.005	6" PARABOLIC	10	SAG	0.0
D8	4+30.00 WILDRYE RIDGE	100	15	7.52	0.6	1.04	4.7	0.0	3.1	6.30	0.005	6" PARABOLIC	10	SAG	0.0
D7	1+38.00 GRISTMILL LANE	100	15	7.52	0.6	1.68	7.6	0.0	7.6	6.30	0.005	6" PARABOLIC	10	ON GRADE	1.3
D4	4+60.00 GRISTMILL LANE	100	15	7.52	0.6	1.58	7.1	1.3	5.6	6.30	0.005	6" PARABOLIC	10	SAG	0.0
D6	2+43.00 GRISTMILL LANE	100	15	7.52	0.6	1.02	4.6	0.0	4.6	6.30	0.005	6" PARABOLIC	10	ON GRADE	0.0
D5	4+36.00 COTTONWOOD DRIVE	100	15	7.52	0.6	0.77	3.5	0.0	3.5	6.30	0.005	6" PARABOLIC	10	ON GRADE	0.0
D3	4+60.00 GRISTMILL LANE	100	15	7.52	0.6	0.97	4.4	0.0	2.9	6.30	0.005	6" PARABOLIC	10	SAG	0.0
D1	9+40.00 GRISTMILL LANE	100	15	7.52	0.6	1.5	6.8	0.0	4.5	6.30	0.005	6" PARABOLIC	10	SAG	0.0
D2	9+40.00 GRISTMILL LANE	100	15	7.52	0.6	1.68	7.6	0.0	5.1	6.30	0.005	6" PARABOLIC	10	SAG	0.0
E7	5+80.00 GRASSLAND DRIVE	100	15	7.52	0.6	1.12	5.1	0.0	3.4	6.30	0.005	6" PARABOLIC	10	SAG	0.0
E8	5+80.00 GRASSLAND DRIVE	100	15	7.52	0.6	1.18	5.3	0.0	3.5	6.30	0.005	6" PARABOLIC	10	SAG	0.0

INLET		DESIGN STORM FREQUENCY (yr)	AREA RUNOFF Q=CIA					CARRY-OVER FROM UPSTREAM INLET (cfs)	TOTAL GUTTER FLOW (cfs)	GUTTER CAPACITY (cfs)	GUTTER SLOPE (ft/100 ft)	CROWN TYPE	SELECTED INLET		CARRY-OVER TO DOWNSTREAM INLET (cfs)
NO.	LOCATION (PAVING STATION)		TIME OF CONC. (min)	INTENSITY I (in/hr)	RUNOFF COEFF. "C"	AREA (ac)	"Q" (cfs)						LENGTH "LI" (feet)	TYPE	
1	2	3	4	5	6	7	8	9.0	10	11	12	13	14	15	16
F9	0+60.00 BLUEBELL COURT	100	15	7.52	0.6	0.88	4.0	0.0	4.0	6.30	0.005	6" PARABOLIC	10	ON GRADE	0.0
F8	4+40.00 CYPRESS CREEK	100	15	7.52	0.6	1.48	6.7	0.0	4.5	6.30	0.005	6" PARABOLIC	10	SAG	0.0
F7	4+40.00 CYPRESS CREEK	100	15	7.52	0.6	1.61	7.3	0.0	4.8	6.30	0.005	6" PARABOLIC	10	SAG	0.0
F2	1+28.00 TERRACE WAY	100	15	7.52	0.6	1.56	7.0	0.0	4.7	6.30	0.005	6" PARABOLIC	10	SAG	0.0
F1	1+28.00 TERRACE WAY	100	15	7.52	0.6	1.1	5.0	0.0	3.3	6.30	0.005	6" PARABOLIC	10	SAG	0.0
F6	2+50.00 CISTERN DRIVE	100	15	7.52	0.6	1.5	6.8	0.0	4.5	6.30	0.005	6" PARABOLIC	10	SAG	0.0
F5	2+50.00 CISTERN DRIVE	100	15	7.52	0.6	1.75	7.9	0.0	5.3	6.30	0.005	6" PARABOLIC	10	SAG	0.0
F4	7+80.00 CYPRESS CREEK	100	15	7.52	0.6	0.41	1.8	0.0	1.2	6.30	0.005	6" PARABOLIC	10	SAG	0.0
F3	7+80.00 CYPRESS CREEK	100	15	7.52	0.6	0.49	2.2	0.0	1.5	6.30	0.005	6" PARABOLIC	10	SAG	0.0
F11	6+00.00 SPRINGHOUSE WAY	100	15	7.52	0.6	1.32	6.0	0.0	4.0	6.30	0.005	6" PARABOLIC	10	SAG	0.0
F10	3+20.00 SPRINGHOUSE WAY	100	15	7.52	0.6	1.24	5.6	0.0	3.7	6.30	0.005	6" PARABOLIC	10	SAG	0.0
J2	2+85.00 PRIMROSE WAY	100	15	7.52	0.6	1.24	5.6	0.0	3.7	6.30	0.005	6" PARABOLIC	10	SAG	0.0
J1	2+85.00 PRIMROSE WAY	100	15	7.52	0.6	1.77	8.0	0.0	5.3	6.30	0.005	6" PARABOLIC	10	SAG	0.0
D13	25+60.00 LIGHT FARMS WAY	100	15	7.52	0.6	0.66	3.0	0.0	2.0	6.30	0.005	STRAIGHT CROWN	10	SAG	0.0
D14	25+60.00 LIGHT FARMS WAY	100	15	7.52	0.6	0.49	2.2	0.0	1.5	6.30	0.005	STRAIGHT CROWN	10	SAG	0.0
D18	31+40.00 LIGHT FARMS WAY	100	15	7.52	0.6	0.73	3.3	0.0	2.2	6.30	0.005	STRAIGHT CROWN	10	SAG	0.0
D17	31+40.00 LIGHT FARMS WAY	100	15	7.52	0.6	0.6	2.7	0.0	1.8	6.30	0.005	STRAIGHT CROWN	10	SAG	0.0
D16	28+40.00 LIGHT FARMS WAY	100	15	7.52	0.6	0.58	2.6	0.0	1.7	6.30	0.005	STRAIGHT CROWN	10	SAG	0.0
D15	28+40.00 LIGHT FARMS WAY	100	15	7.52	0.6	0.49	2.2	0.0	1.5	6.30	0.005	STRAIGHT CROWN	10	SAG	0.0
E4	37+20.00 LIGHT FARMS WAY	100	15	7.52	0.6	0.61	2.8	0.0	1.8	6.30	0.005	STRAIGHT CROWN	10	SAG	0.0
E3	37+20.00 LIGHT FARMS WAY	100	15	7.52	0.6	0.45	2.0	0.0	1.4	6.30	0.005	STRAIGHT CROWN	10	SAG	0.0
E2	40+20.00 LIGHT FARMS WAY	100	15	7.52	0.6	0.63	2.8	0.0	1.9	6.30	0.005	STRAIGHT CROWN	10	SAG	0.0
E1	40+20.00 LIGHT FARMS WAY	100	15	7.52	0.6	0.55	2.5	0.0	1.7	6.30	0.005	STRAIGHT CROWN	10	SAG	0.0
G10	56+80.00 LIGHT FARMS WAY	100	15	7.52	0.6	0.45	2.0	0.0	1.4	6.30	0.005	STRAIGHT CROWN	10	SAG	0.0
G9	56+80.00 LIGHT FARMS WAY	100	15	7.52	0.6	0.45	2.0	0.0	1.4	6.30	0.005	STRAIGHT CROWN	10	SAG	0.0
G8	53+80.00 LIGHT FARMS WAY	100	15	7.52	0.6	0.47	2.1	0.0	1.4	6.30	0.005	STRAIGHT CROWN	10	SAG	0.0
G7	53+80.00 LIGHT FARMS WAY	100	15	7.52	0.6	0.47	2.1	0.0	1.4	6.30	0.005	STRAIGHT CROWN	10	SAG	0.0
G6	50+80.00 LIGHT FARMS WAY	100	15	7.52	0.6	0.47	2.1	0.0	1.4	6.30	0.005	STRAIGHT CROWN	10	SAG	0.0
G5	50+80.00 LIGHT FARMS WAY	100	15	7.52	0.6	0.47	2.1	0.0	1.4	6.30	0.005	STRAIGHT CROWN	10	SAG	0.0
G3	48+30.00 LIGHT FARMS WAY	100	15	7.52	0.6	0.67	3.02	0.0	2.0	6.30	0.005	STRAIGHT CROWN	10	SAG	0.0
G4	48+30.00 LIGHT FARMS WAY	100	15	7.52	0.6	0.66	2.98	0.0	2.0	6.30	0.005	STRAIGHT CROWN	10	SAG	0.0
H2	5+00.00 LIGHT FARMS WAY	100	15	7.52	0.6	0.31	1.4	0.0	1.4	6.55	0.0054	STRAIGHT CROWN	10	ON GRADE	0.0
L6	9+00.00 LIGHT FARMS WAY	100	15	7.52	0.6	0.36	1.6	0.0	1.6	6.55	0.0054	STRAIGHT CROWN	10	ON GRADE	0.0
L3	11+00.00 LIGHT FARMS WAY	100	15	7.52	0.6	0.36	1.6	0.0	1.6	6.55	0.0054	STRAIGHT CROWN	10	ON GRADE	0.0
L2	13+50.00 LIGHT FARMS WAY	100	15	7.52	0.6	0.75	3.4	0.0	2.3	6.30	0.005	STRAIGHT CROWN	10	SAG	0.0
H1	5+00.00 LIGHT FARMS WAY	100	15	7.52	0.6	0.4	1.8	0.0	1.8	6.55	0.0054	STRAIGHT CROWN	10	ON GRADE	0.0
H5	7+50.00 LIGHT FARMS WAY	100	15	7.52	0.6	0.22	1.0	0.0	1.0	6.55	0.0054	STRAIGHT CROWN	10	ON GRADE	0.0
L4	10+00.00 LIGHT FARMS WAY	100	15	7.52	0.6	0.4	1.8	0.0	1.8	6.55	0.0054	STRAIGHT CROWN	10	ON GRADE	0.0
L1	13+50.00 LIGHT FARMS WAY	100	15	7.52	0.6	0.48	2.2	0.0	1.4	6.30	0.005	STRAIGHT CROWN	10	SAG	0.0
J5	16+80.00 LIGHT FARMS WAY	100	15	7.52	0.6	0.84	3.8	0.0	2.5	6.30	0.005	STRAIGHT CROWN	10	SAG	0.0
J6	16+80.00 LIGHT FARMS WAY	100	15	7.52	0.6	0.54	2.4	0.0	1.6	6.30	0.005	STRAIGHT CROWN	10	SAG	0.0
J3	19+00.00 LIGHT FARMS WAY	100	15	7.52	0.6	0.75	3.4	0.0	2.3	6.30	0.005	STRAIGHT CROWN	10	SAG	0.0
J4	19+00.00 LIGHT FARMS WAY	100	15	7.52	0.6	0.48	2.2	0.0	1.4	6.30	0.005	STRAIGHT CROWN	10	SAG	0.0
J7	22+00.00 LIGHT FARMS WAY	100	15	7.52	0.6	0.93	4.2	0.0	2.8	6.30	0.005	STRAIGHT CROWN	10	SAG	0.0
J8	22+00.00 LIGHT FARMS WAY	100	15	7.52	0.6	0.53	2.4	0.0	1.6	6.30	0.005	STRAIGHT CROWN	10	SAG	0.0



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DRAINAGE CALCULATIONS
INLET DESIGN

LIGHT FARMS

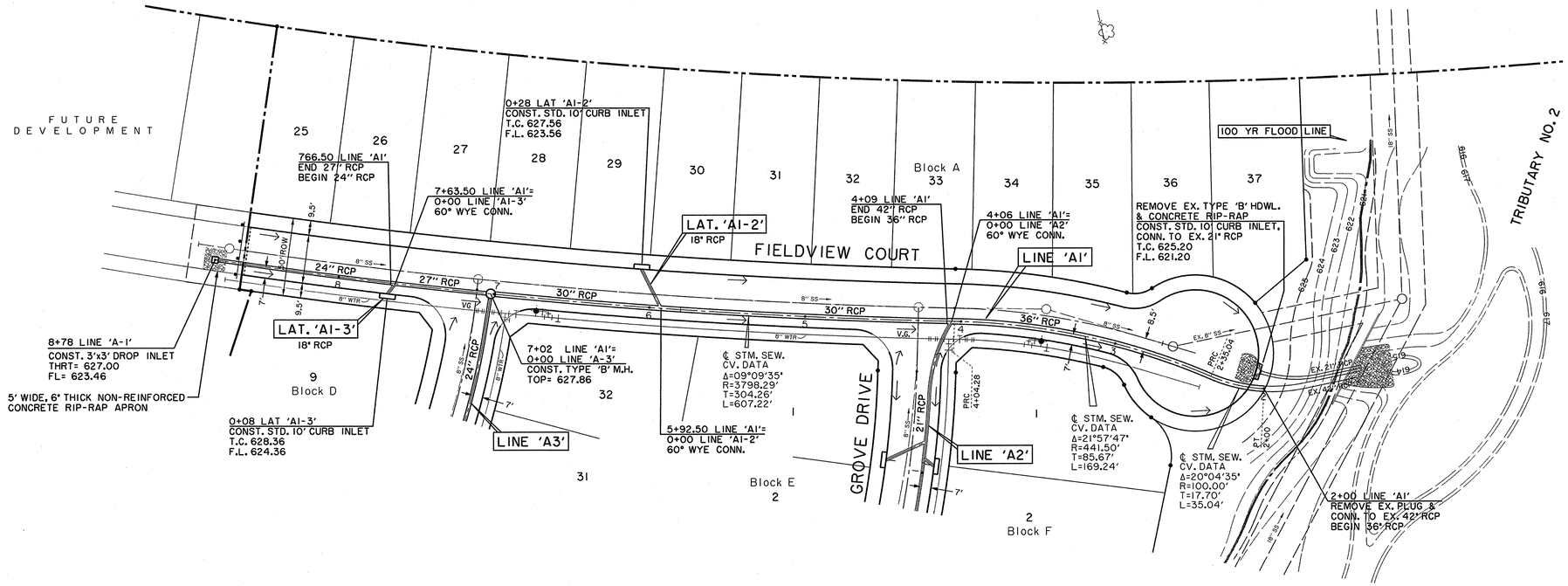
LFC Land Company LLC

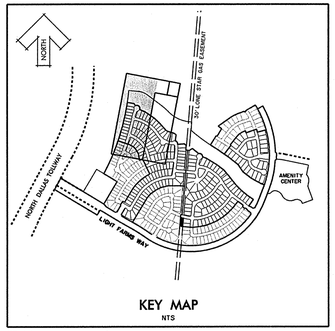
Collin County Municipal Utility District No. 1

COLLIN COUNTY, TEXAS

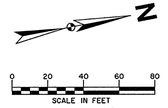
HUITT-ZOLLARS

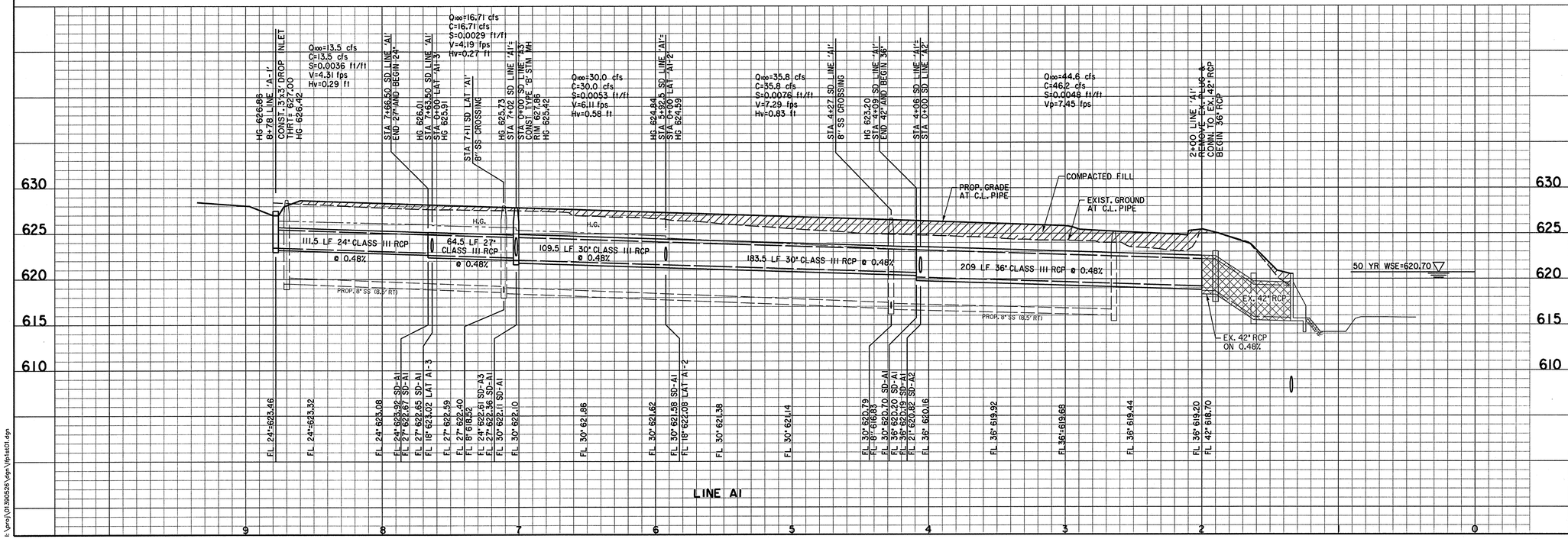
DESIGN	CHECKED	DATE	SCALE	NOTES	JOB NO.	SHT. NO.
HZI	HZI		NA		01-3905-26	35





KEY MAP
NTS





BASIS OF VERTICAL DATUM - NAVD 1988 based on National Geodetic Survey Benchmarks N-185 (Elevation 650.78') and H263 (Elevation - 643.81')

BENCHMARKS:

TBM #39
Square cut on curb inlet, east side of North Dallas Tollway at the northeast corner of intersection with Light Farms Boulevard. Elev. 639.57' (Set 4/4/08)

HZI Control Monument #4
5/8 inch iron rod set in concrete with aluminum cap, north side of Light Farms Way at 1418 feet left of centerline Station 30+39. Elev. 630.40'

STATE OF TEXAS
KEVIN N. CARLSON
89232
LICENSED
PROFESSIONAL ENGINEER
6-20-13

Huitt-Zollars, Inc.
Firm Registration No. F-761

RECORD DRAWING

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STORM SEWER PLAN & PROFILE
LINE A1

LIGHT FARMS

LFC Land Company LLC

Collin County Municipal Utility District No. 1

COLLIN COUNTY, TEXAS

HUITT-ZOLLARS

DESIGN	CHECKED	DATE	SCALE	NOTES	JOB NO.	SHT. NO.
HZI	HZI		H: 1"=40' V: 1"=6'		01-3905-26	36

LINE A1

P-201301-01

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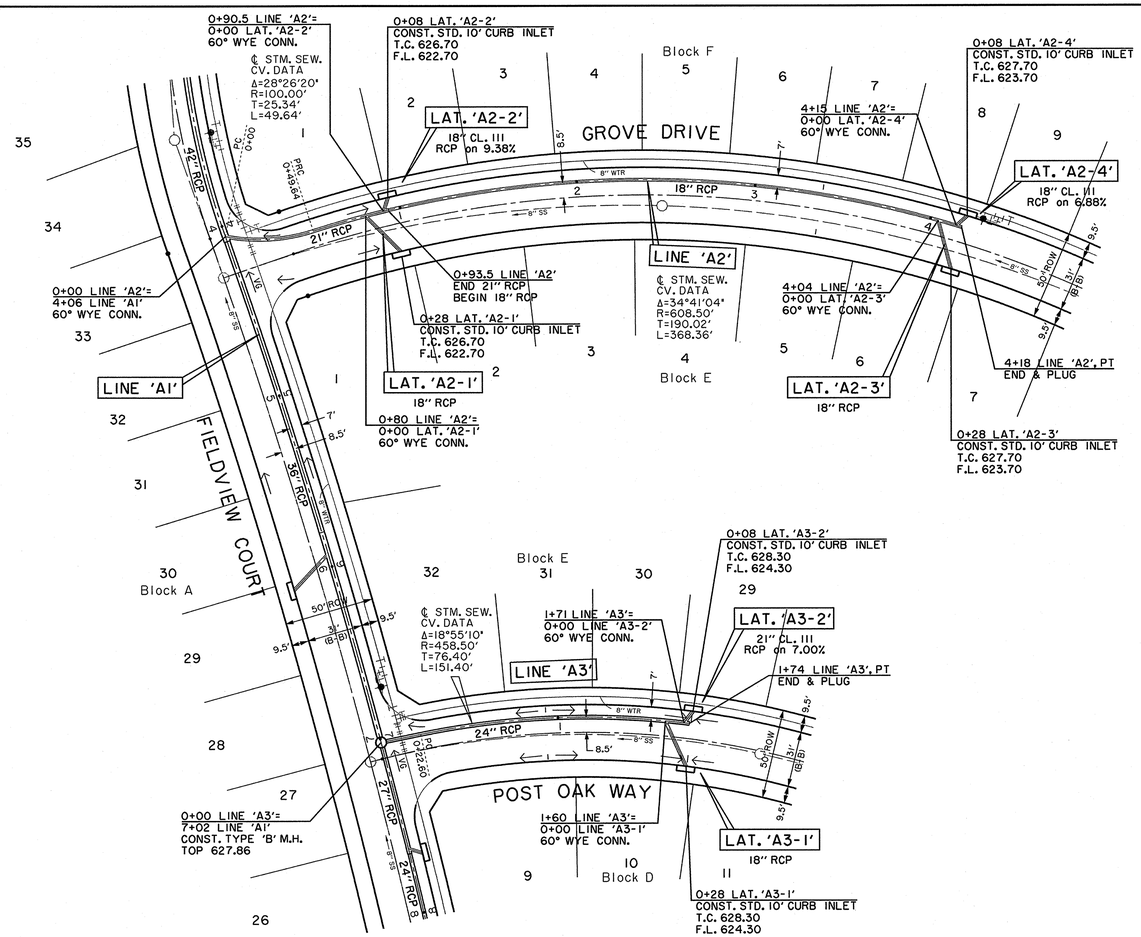

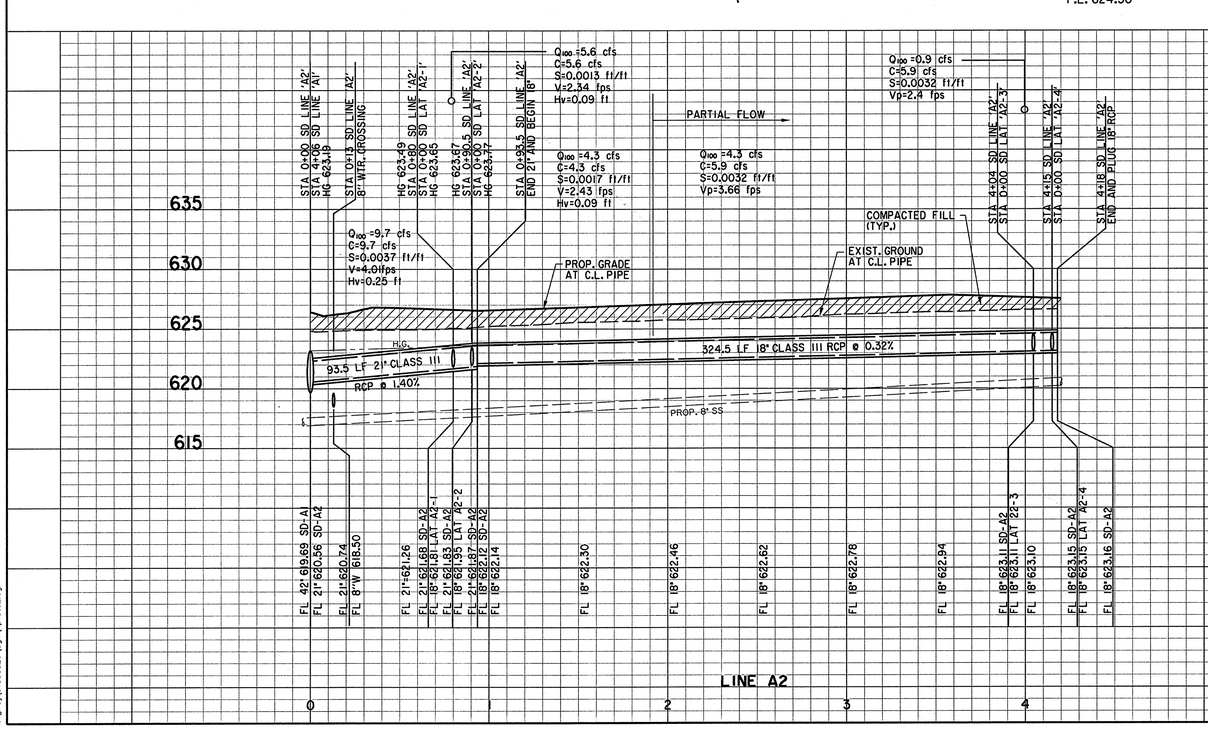

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STATE OF TEXAS
KEVIN N. CARLSON
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STORM SEWER PLAN & PROFILE
LINE A2 & LINE A3

LIGHT FARMS

LFC Land Company LLC

Collin County Municipal Utility District No. 1

COLLIN COUNTY, TEXAS

HUITT-ZOLLARS

DESIGN	CHECKED	DATE	SCALE	NOTES	JOB NO.	SHT. NO.
HZI	HZI		H: 1"=40' V: 1"=6'		01-3905-26	37

LINE A2 & LINE A3

P-201301-01

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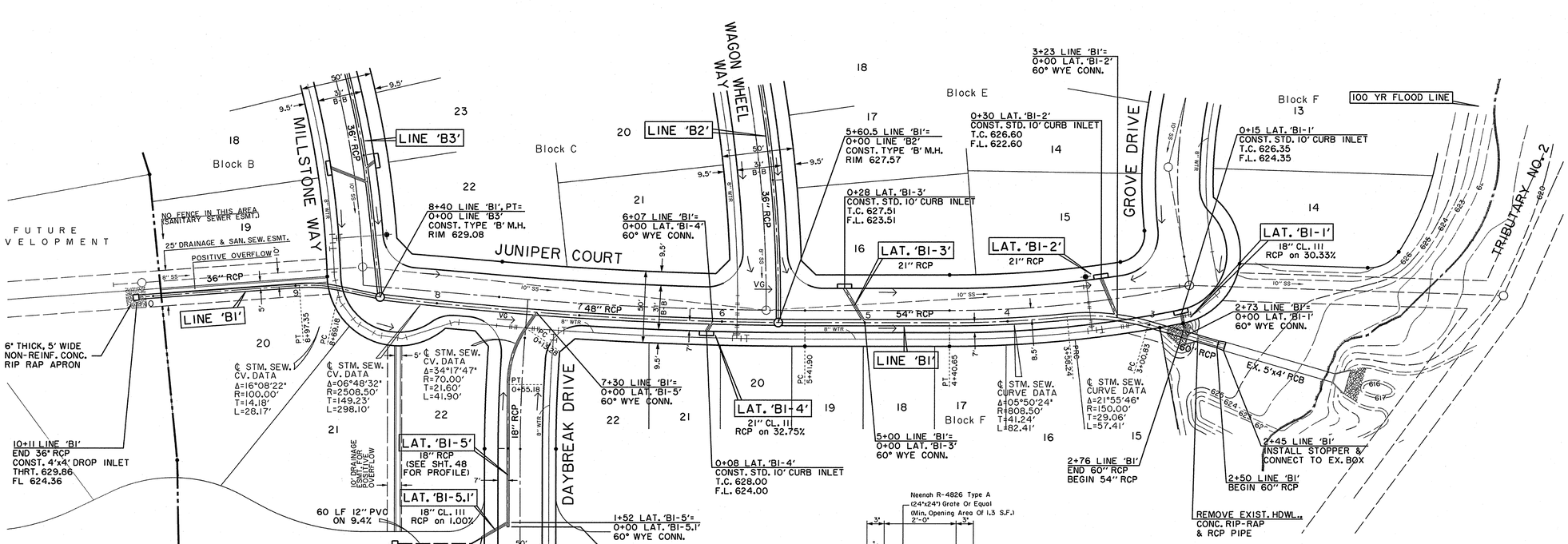
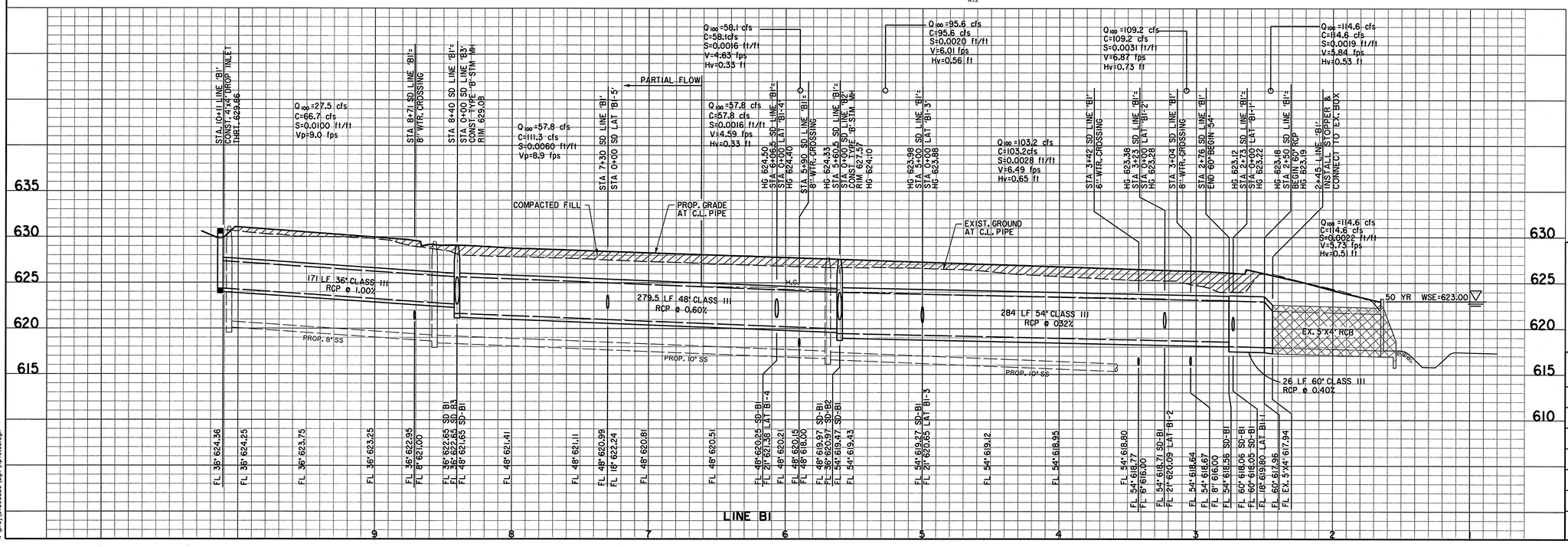


NOTE:
ALL DISTURBED AREAS MUST BE PERMANENTLY STABILIZED BY HYDROMULCH OR BROADCAST SEEDING PER NTCOG STANDARDS TO REESTABLISH VEGETATION UNDER THE DIRECTION OF THE ENGINEER / DEVELOPER.



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STORM SEWER PLAN & PROFILE
LINE B1

LIGHT FARMS
LFC Land Company LLC
Collin County Municipal Utility District No. 1
COLLIN COUNTY, TEXAS
HUITT-ZOLLARS

DESIGN	CHECKED	DATE	SCALE	NOTES	JOB NO.	SHT. NO.
HZI	HZI		H: 1"=40' V: 1"=6'		01-3905-26	38

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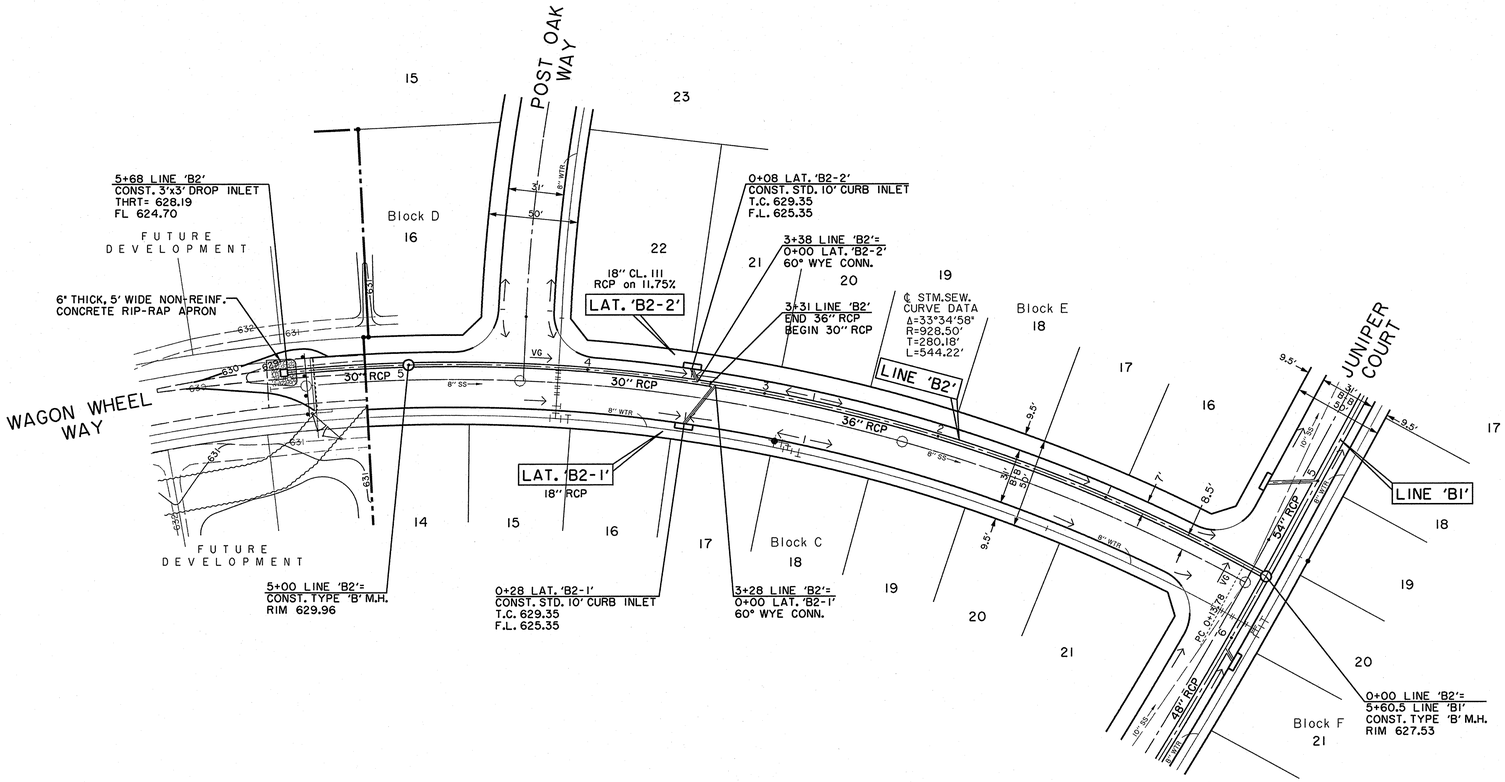
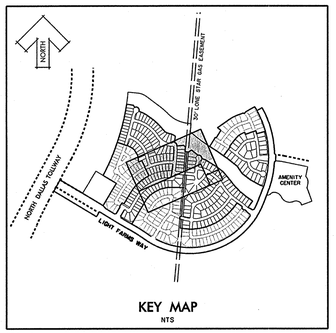
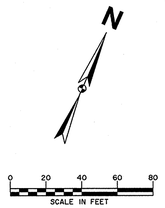
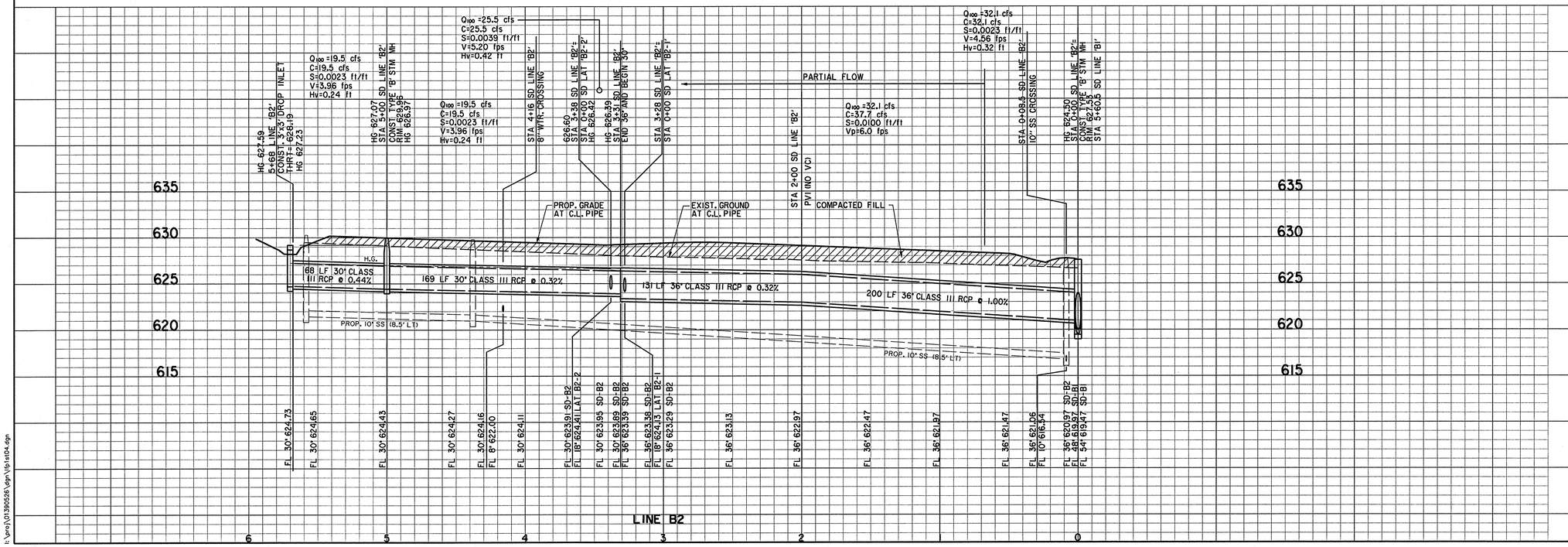
LINE B1

P-201301-01









BASIS OF VERTICAL DATUM - NAVD 1988 based on National Geodetic Survey Benchmarks N-185 (Elevation 650.78') and H263 (Elevation - 643.81')

BENCHMARKS:

TBM #39
Square cut on curb inlet, east side of North Dallas Tollway at the northeast corner of intersection with Light Farms Boulevard.
Elev. 639.57' (Set 4/4/08)

HZI Control Monument #7
5/8 inch iron rod set in concrete with aluminum cap, northeasterly side of Light Farms Way at 168 feet left of centerline Station 11+49
Elev. 632.76'

STATE OF TEXAS
KEVIN N. CARLSON
89232
LICENSED PROFESSIONAL ENGINEER
6-20-13

Huitt-Zollars, Inc.
Firm Registration No. F-761

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STORM SEWER PLAN & PROFILE
LINE B2

LIGHT FARMS

LFC Land Company LLC

Collin County Municipal Utility District No. 1

COLLIN COUNTY, TEXAS

HUITT-ZOLLARS

DESIGN	CHECKED	DATE	SCALE	NOTES	JOB NO.	SHT. NO.
HZI	HZI		H: 1"=40' V: 1"=6'		01-3905-26	39

LINE B2

P-201301-01

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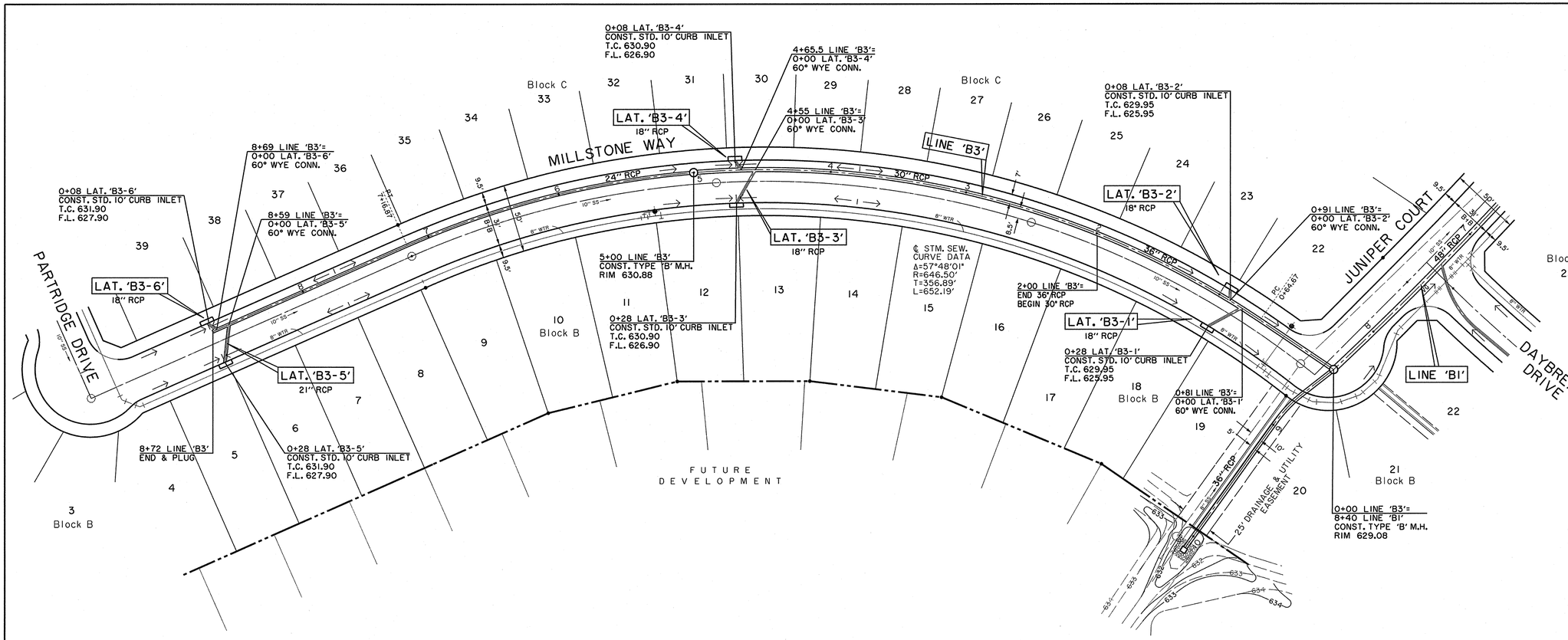

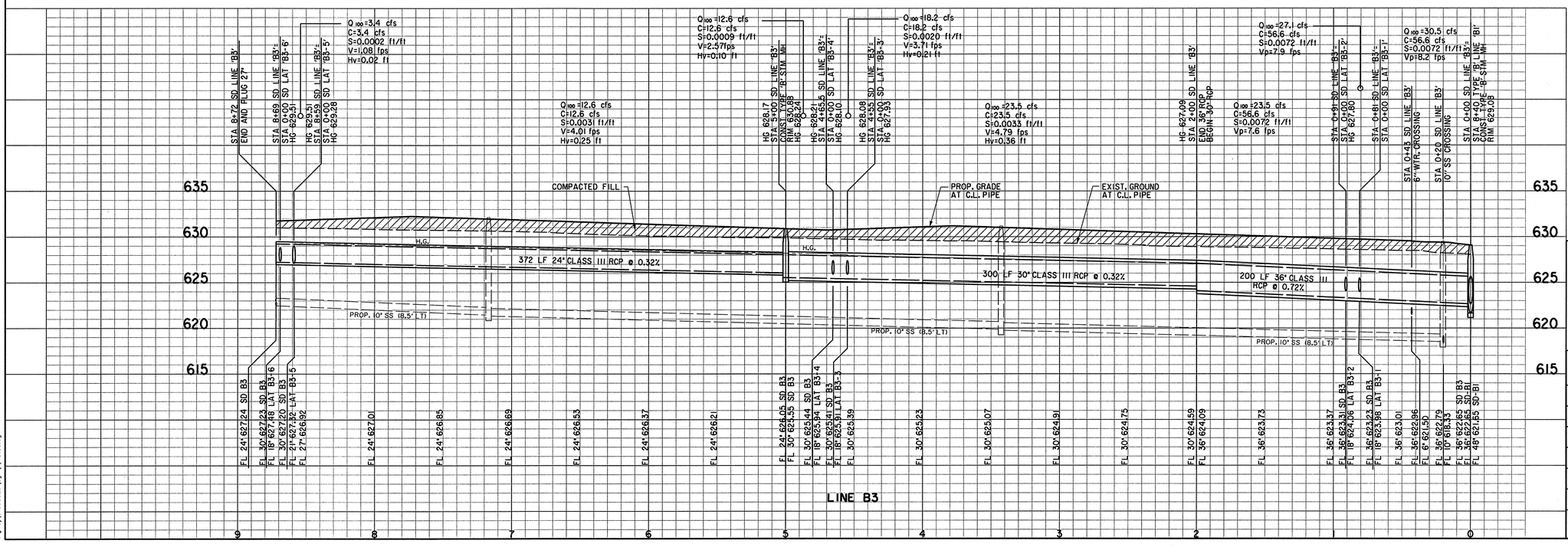

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STATE OF TEXAS
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6-20-13

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STORM SEWER PLAN & PROFILE
LINE B3

LIGHT FARMS

LFC Land Company LLC

Collin County Municipal Utility District No. 1

COLLIN COUNTY, TEXAS

HUITT-ZOLLARS

DESIGN	CHECKED	DATE	SCALE	NOTES	JOB NO.	SHT. NO.
HZI	HZI		H: 1"=40' V: 1"=6'		01-3905-26	40

LINE B3

P-201301-01

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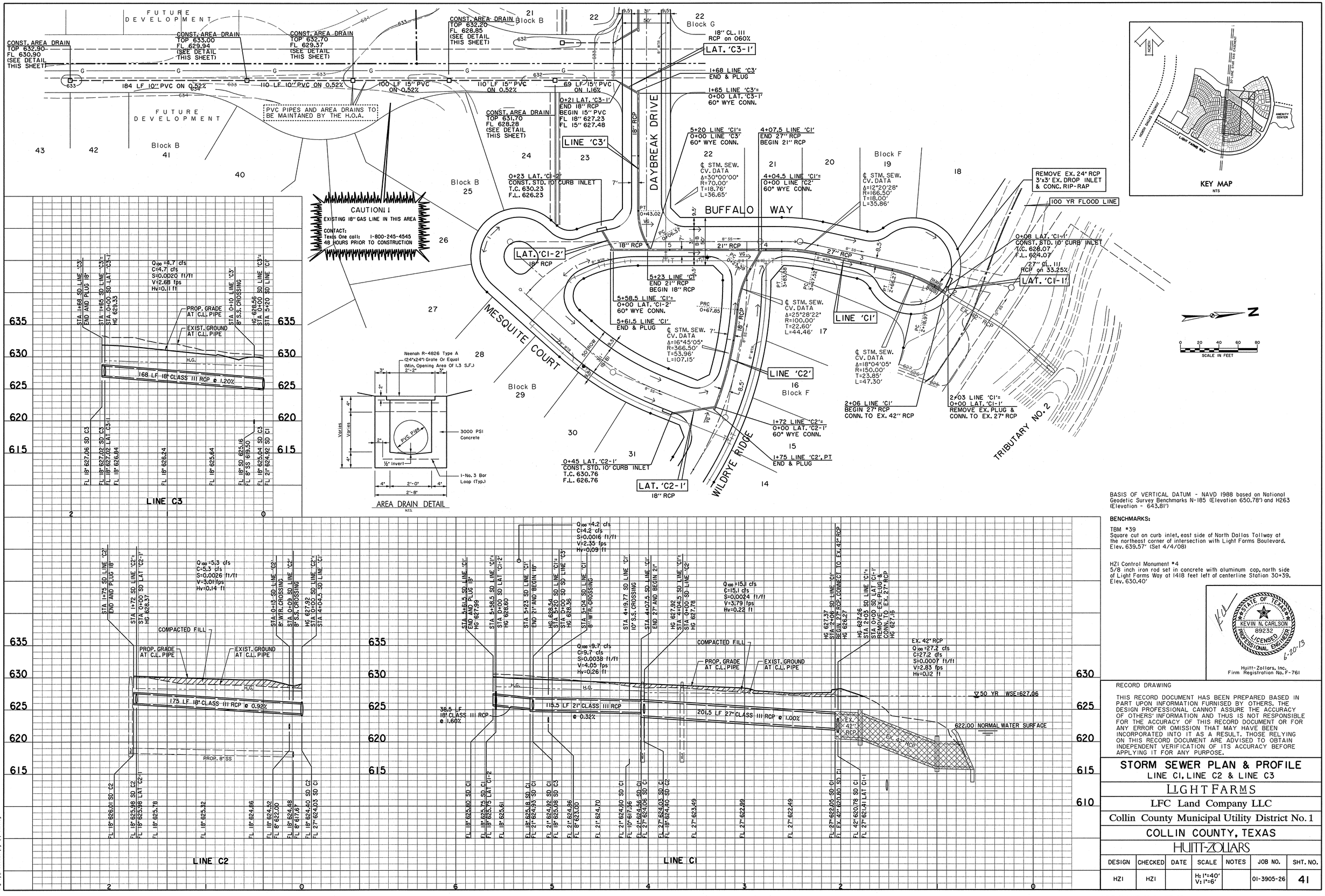

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6-20-13

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STORM SEWER PLAN & PROFILE
LINE C1, LINE C2 & LINE C3

LIGHT FARMS

LFC Land Company LLC

Collin County Municipal Utility District No. 1

COLLIN COUNTY, TEXAS

HUITT-ZOLLARS

DESIGN	CHECKED	DATE	SCALE	NOTES	JOB NO.	SHT. NO.
HZI	HZI		H: 1"=40' V: 1"=6'		01-3905-26	41

LINE C1, LINE C2 & LINE C3

P-201301-01

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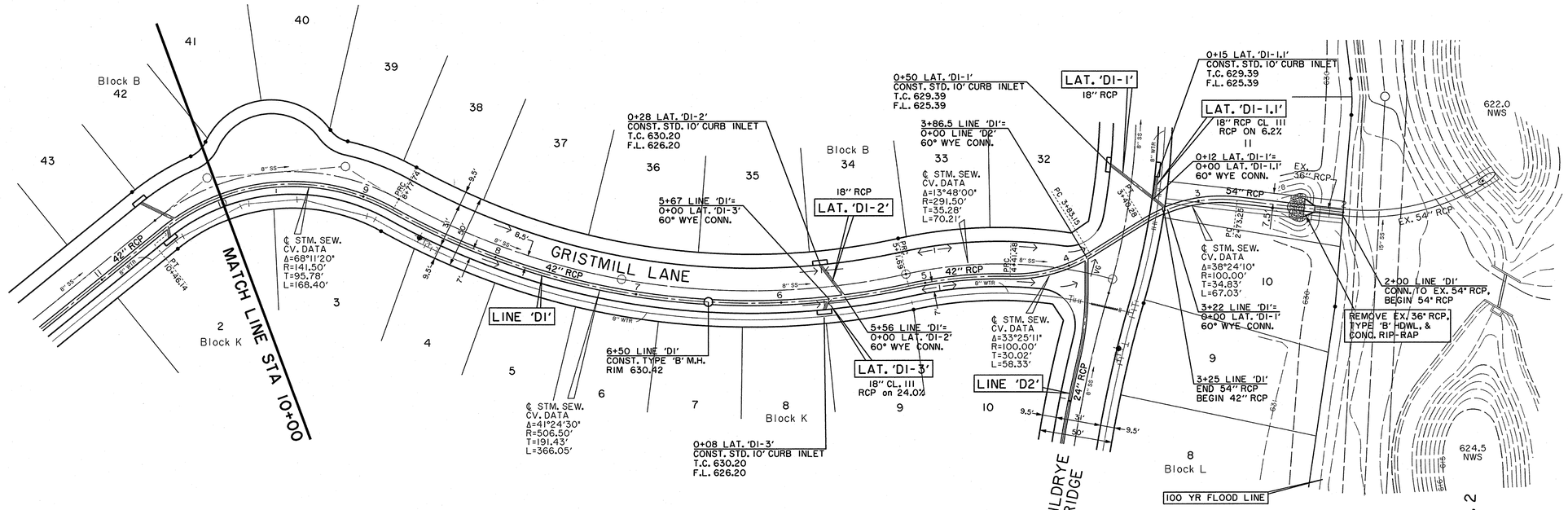

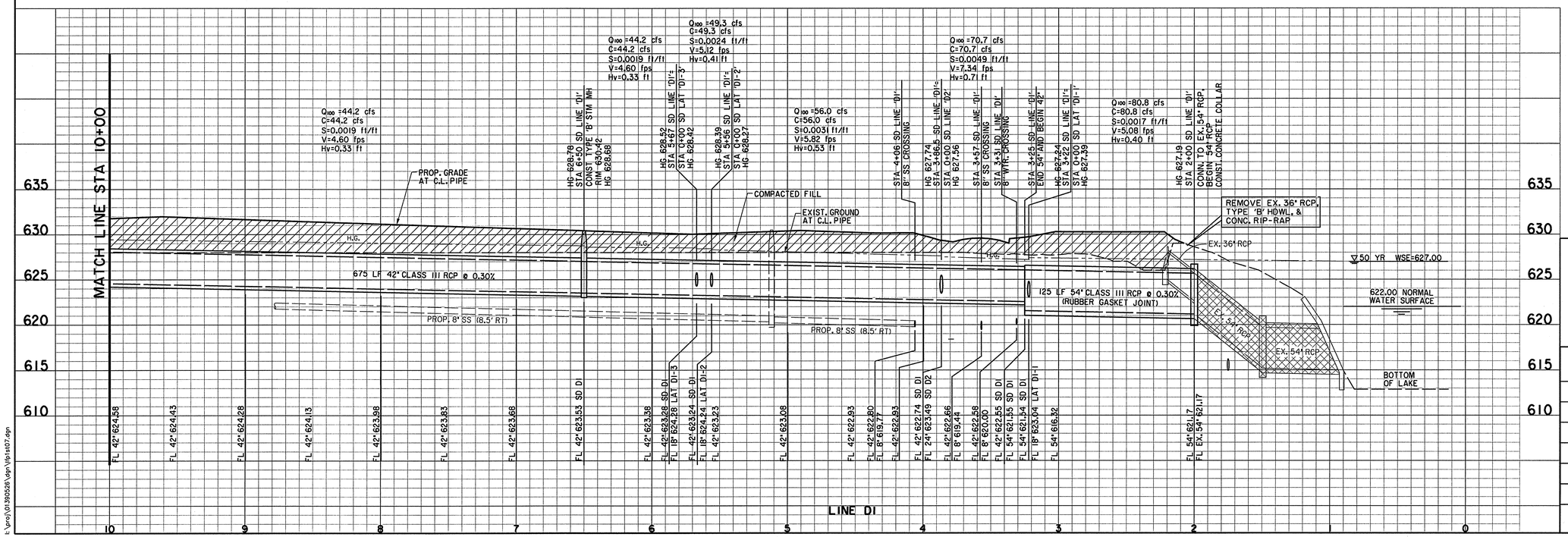

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STATE OF TEXAS
KEVIN N. CARLSON
89232
LICENSED PROFESSIONAL ENGINEER
6-20-13

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STORM SEWER PLAN & PROFILE
LINE D1

LIGHT FARMS

LFC Land Company LLC

Collin County Municipal Utility District No. 1

COLLIN COUNTY, TEXAS

HUITT-ZOLLARS

DESIGN	CHECKED	DATE	SCALE	NOTES	JOB NO.	SHT. NO.
HZI	HZI		H: 1"=40' V: 1"=6'		01-3905-26	42

LINE D1

P-201301-01

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CAUTION!
EXISTING 18" GAS LINE IN THIS AREA
CONTACT:
Texas One call: 1-800-245-4545
48 HOURS PRIOR TO CONSTRUCTION

LIGHT FARMS WAY
100' ROW
68'
Exist. Conc. Pvmt.
Exist. Conc. Pvmt.
FUTURE DEVELOPMENT
FUTURE DEVELOPMENT
FUTURE DEVELOPMENT
FUTURE DEVELOPMENT
FUTURE DEVELOPMENT
GRASSLAND DRIVE
COTTONWOOD DRIVE
GRISTMILL LANE
MATCH LINE STA 10+00
Block H
Block J
Block B
Block K
12
11
44
43
42
41
40
39
2
1
2
3

CONST. AREA DRAIN
TOP 633.50
FL 631.50
(SEE DETAIL THIS SHEET)

CONST. AREA DRAIN
TOP 633.30
FL 630.70
(SEE DETAIL THIS SHEET)

CONST. AREA DRAIN
TOP 633.30
FL 630.20

77 LF 15" PVC ON 0.70%
73 LF 15" PVC ON 0.70%
150 LF 12" PVC ON 0.53%
12.5'
PVC PIPES AND AREA DRAINS TO BE MAINTANED BY THE H.O.A.

CONST. TYPE 'B' HDWL
FL 15" 633.25

0+23 LAT. 'D4-1'
END 18" RCP
BEGIN 15" PVC
FL 18" RCP 629.43
FL 15" PVC 629.65

LAT. 'D4-1'
18" CL. III RCP
@ 1.00%

1+58 LINE 'D4'
END & PLUG

1+55 LINE 'D4'
0+00 LAT. 'D4-1'
60° WYE CONN.

LINE 'D4'
℄ STM. SEW.
CV. DATA
Δ=37°21'25"
R=100.00'
T=33.81'
L=65.20'

0+28 LAT. 'DI-4'
CONST. STD. 10' CURB INLET
T.C. 631.70
F.L. 627.70

18" RCP
LAT. 'DI-4'

10+34.5 LINE 'DI'=
0+00 LAT. 'DI-4'
60° WYE CONN.

20 LF 15" PVC
POSITIVE OVERFLOW
PIPE ON 20.6%

0+20 LAT. 'D4-1'
60° WYE CONN.
FL 18" RCP 629.40
FL 15" PVC 629.12

12+59.5 LINE 'DI'=
0+00 LAT. 'DI-7'
60° WYE CONN.

11+92 LINE 'DI'=
0+00 LINE 'D4'
CONST. TYPE 'B' M.H.
RIM 632.26

0+28 LAT. 'DI-9'
END 18" RCP & PLUG
FL. 18" 629.31

LAT 'DI-9'
18" RCP

CONST.
3'x3' DROP INLET
THRT.= 631.00
FL = 627.50

9 LF 24" RCP
ON 5.67%

℄ STM. SEW.
CV. DATA
Δ=18°56'17"
R=150.00'
T=25.02'
L=49.58'

℄ STM. SEW.
CV. DATA
Δ=17°56'44"
R=150.00'
T=23.68'
L=46.98'

LINE 'DI'
15' DRAINAGE EASEMENT
DRAINAGE EASEMENT
36" RCP
30" RCP
42" RCP
8" SS
8" WTR
EX. 30" RCP
EX. 18" RCP
EX. 27" RCP

16+71.50 LINE 'DI'
REMOVE PLUG &
CONN TO EXIST 30" RCP
FL. 627.59

℄ STM. SEW.
CV. DATA
Δ=16°48'37"
R=291.50'
T=43.07'
L=85.53'

13+57 LINE 'DI'
END 36" RCP
BEGIN 30" RCP

13+67 LINE 'DI'
60° WYE CONN.

℄ STM. SEW.
CV. DATA
Δ=09°59'12"
R=300.00'
T=26.21'
L=52.29'

LAT. 'DI-7'
18" RCP
on 27.25%

13+54 LINE 'DI'=
0+00 LAT. 'DI-9'
60° WYE CONN.

0+08 LAT. 'DI-7'
CONST. STD. 10' CURB INLET
T.C. 632.78
F.L. 628.78

0+39 LAT. 'DI-6'
CONST. STD. 10' CURB INLET
T.C. 633.08
F.L. 629.08

LAT. 'DI-6'
18" RCP
on 6.72%

12+12 LINE 'DI'=
0+00 LAT. 'DI-6'
60° WYE CONN.

0+08 LAT. 'DI-5'
CONST. STD. 10' CURB INLET
T.C. 631.70
F.L. 627.70

10+41.5 LINE 'DI'=
0+00 LAT. 'DI-5'
60° WYE CONN.

LAT. 'DI-5'
18" CL. III
RCP on 25.0%

VG
PC 0+60.24
PT 0+85.44
PC 0+04.20
PT 0+25.83
PT 10+46.14
8.5'
9.5'
90'
30' B/B
31' B/B

KEY MAP
NTS
NORTH DALLAS TOLLWAY
120' ELECTRIC and GAS EASEMENT
AMENITY CENTER
LIGHT FARMS WAY

N
0 20 40 60 80
SCALE IN FEET

Neenah R-4826 Type A
(24"x24") Grate Or Equal
(Min. Opening Area Of 1.3 S.F.)
2'-2"
3"
2"
4"
Varies
PVC Pipe
3000 PSI Concrete
½" Invert
1-No. 3 Bar Loop (Typ.)
4"
2'-0"
2'-8"
AREA DRAIN DETAIL
NTS

BASIS OF VERTICAL DATUM - NAVD 1988 based on National Geodetic Survey Benchmarks N-185 (Elevation 650.78') and H263 (Elevation - 643.81')

BENCHMARKS:

TBM #39
Square cut on curb inlet, east side of North Dallas Tollway at the northeast corner of intersection with Light Farms Boulevard. Elev. 639.57' (Set 4/4/08)

HZI Control Monument #3
5/8 inch iron rod set in concrete with aluminum cap, north side of Light Farms Way at 408.50 feet left of centerline Station 24+57. Elev. 632.52'

STA 0+00 SD LINE 'D4'=
STA 1+92 SD LINE 'D1'
CONST. TYPE 'B' STM MH
HG 630.09
Q100 =3.9 cfs
C=3.9 cfs
S=0.0014 ft/ft
V=2.22 fps
Hv=0.08 ft
PARTIAL FLOW
STA 0+10 SD LINE 'D4'
8" SS CROSSING
STA 0+50 SD LINE 'D4'
PVI (NO VC)
Q100 =3.9 cfs
C=7.6 cfs
S=0.0052 ft/ft
Vp=4.3fps
STA 1+55 SD LINE 'D4'=
STA 0+00 SD LAT 'D4-1'
STA 1+58 SD LINE 'D4'
END AND PLUG 18"
PROP. GRADE AT C.L. PIPE
EXIST. GROUND AT C.L. PIPE
H.G.
50' LF 18" CLASS III RCP @ 3.00%
108 LF 18" CLASS III RCP @ 0.52%
FL 42" 623.15 SD D1
FL 36" 623.65 SD D1
FL 18" 627.15 SD D4
FL 18" 627.44
FL 8" 622.91
FL 18" 628.65
FL 18" 628.91
FL 18" 629.20 SD D4
FL 18" 629.20 LAT D4-1
FL 18" 629.21 SD D4
LINE D4

STA 16+71.5 LINE 'D1'
REMOVE PLUG & CONN TO EX. 30" RCP
HG 630.91
Q100 =15.0 cfs
C=15.0 cfs
S=0.0013 ft/ft
V=3.05 fps
Hv=0.14 ft
PROP. GRADE AT C.L. PIPE
EXIST. GROUND AT C.L. PIPE
COMPACTED FILL
H.G.
EX. 30" RCP on 0.30%
314 LF 30" CLASS III RCP @ 0.30%
13+87 LINE 'D1'
60° WYE CONN.
STA 13+57 SD LINE 'D1'
END 36" AND BEGIN 27"
HG 630.51
STA 13+54 SD LINE 'D1'=
STA 0+00 SD LAT 'D1-9'
HG 630.41
Q100 =22.0 cfs
C=22.0 cfs
S=0.0011 ft/ft
V=3.12 fps
Hv=0.15 ft
HG 630.31
STA 12+59.5 SD LINE 'D1'=
STA 0+00 SD LAT 'D1-7'
HG 630.21
165 LF 36" CLASS III RCP @ 0.30%
HG 630.14
STA 12+12 SD LINE 'D1'=
STA 0+00 SD LAT 'D1-6'
HG 630.04
Q100 =26.2 cfs
C=26.2 cfs
S=0.0015 ft/ft
V=3.7 fps
Hv=0.21 ft
HG 630.00
STA 11+92 SD LINE 'D1'=
STA 0+00 SD LINE 'D4'
RIM 632.26
HG 629.90
STA 11+88 SD LINE 'D4'
8" WTR CROSSING
192 LF 42" CLASS III RCP @ 0.30%
PROP. 8" SS (8.5' RT)
Q100 =29.5 cfs
C=29.5 cfs
S=0.0020 ft/ft
V=4.17 fps
Hv=0.27 ft
HG 629.72
STA 10+41.5 SD LINE 'D1'=
STA 0+00 SD LAT 'D1-5'
HG 629.62
Q100 =34.4 cfs
C=34.4 cfs
S=0.0012 ft/ft
V=3.55 fps
Hv=0.20 ft
HG 629.61
STA 10+34.5 SD LINE 'D1'=
STA 0+00 SD LAT 'D1-4'
HG 629.51
Q100 =37.8 cfs
C=37.8 cfs
S=0.0014 ft/ft
V=3.92 fps
Hv=0.24 ft
MATCH LINE STA 10+00
FL 42" 624.73
FL 42" 624.70 SD D1
FL 18" 625.70 LAT D1-5
FL 42" 624.68 SD D1
FL 18" 625.68 LAT D1-4
FL 42" 624.58
LINE D1 (CONT.)

KEVIN N. CARLSON
89232
LICENSED PROFESSIONAL ENGINEER
STATE OF TEXAS
6-20-13
Huitt-Zollars, Inc.
Firm Registration No. F-761

RECORD DRAWING

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STORM SEWER PLAN & PROFILE
LINE DI (CONT.)

LIGHT FARMS
LFC Land Company LLC
Collin County Municipal Utility District No. 1
COLLIN COUNTY, TEXAS
HUITT-ZOLLARS

DESIGN	CHECKED	DATE	SCALE	NOTES	JOB NO.	SHT. NO.
HZI	HZI		H: 1"=40' V: 1"=6'		01-3905-26	43

LINE DI (CONT.)

P-201301-01

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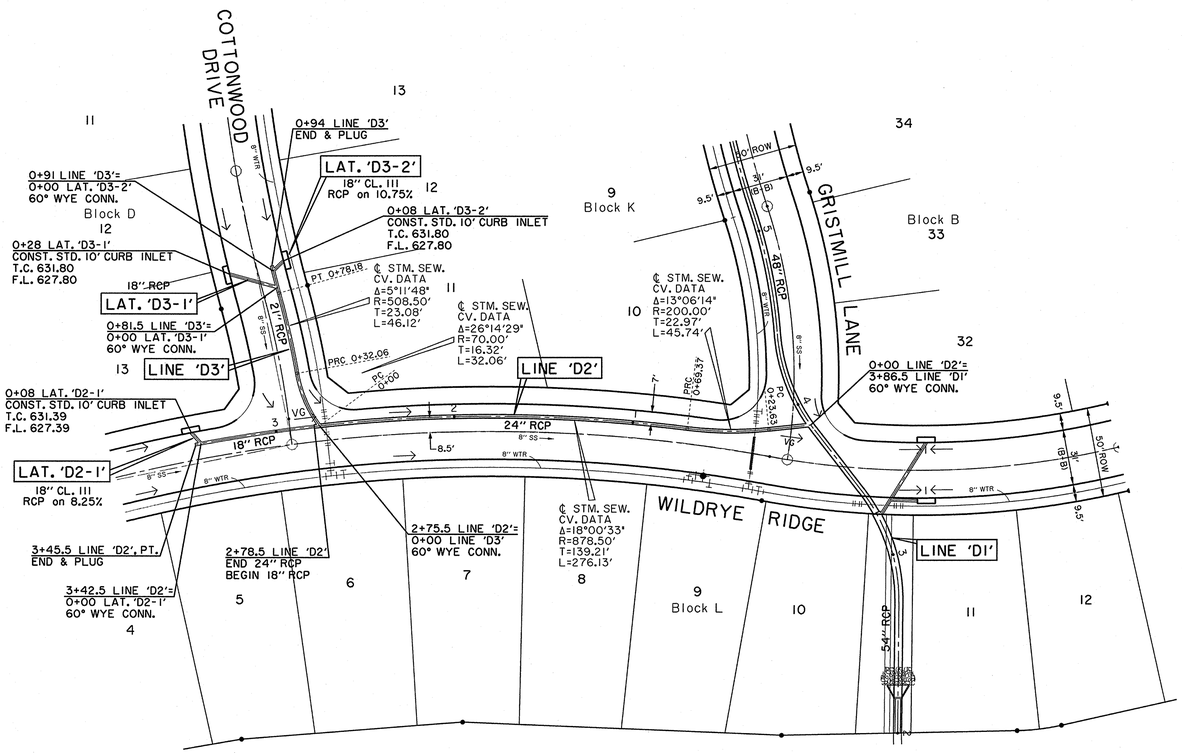
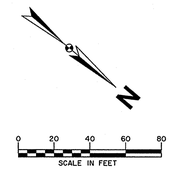
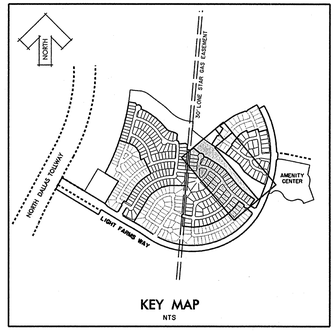






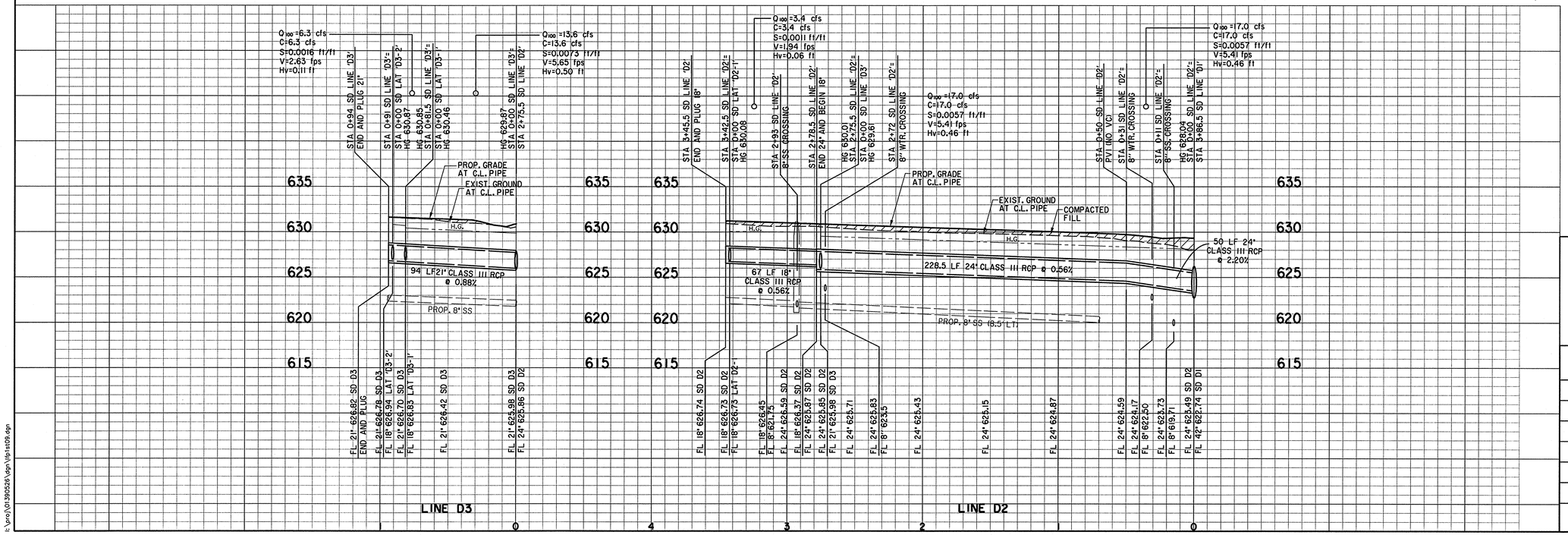
KEY MAP
NTS

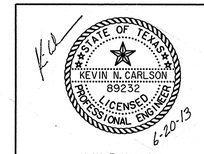
BASIS OF VERTICAL DATUM - NAVD 1988 based on National Geodetic Survey Benchmarks N-185 (Elevation 650.78') and H263 (Elevation - 643.81')

BENCHMARKS:

TBM #39
Square cut on curb inlet, east side of North Dallas Tollway at the northeast corner of intersection with Light Farms Boulevard. Elev. 639.57' (Set 4/4/08)

HZI Control Monument #3
5/8 inch iron rod set in concrete with aluminum cap, north side of Light Farms Way at 408.50 feet left of centerline Station 24+57. Elev. 632.52'





Huitt-Zollars, Inc.
Firm Registration No. F-761

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STORM SEWER PLAN & PROFILE
LINE D2 & LINE D3

LIGHT FARMS

LFC Land Company LLC

Collin County Municipal Utility District No. 1

COLLIN COUNTY, TEXAS

HUITT-ZOLLARS

DESIGN	CHECKED	DATE	SCALE	NOTES	JOB NO.	SHT. NO.
HZI	HZI		H: 1"=40' V: 1"=6'		01-3905-26	44

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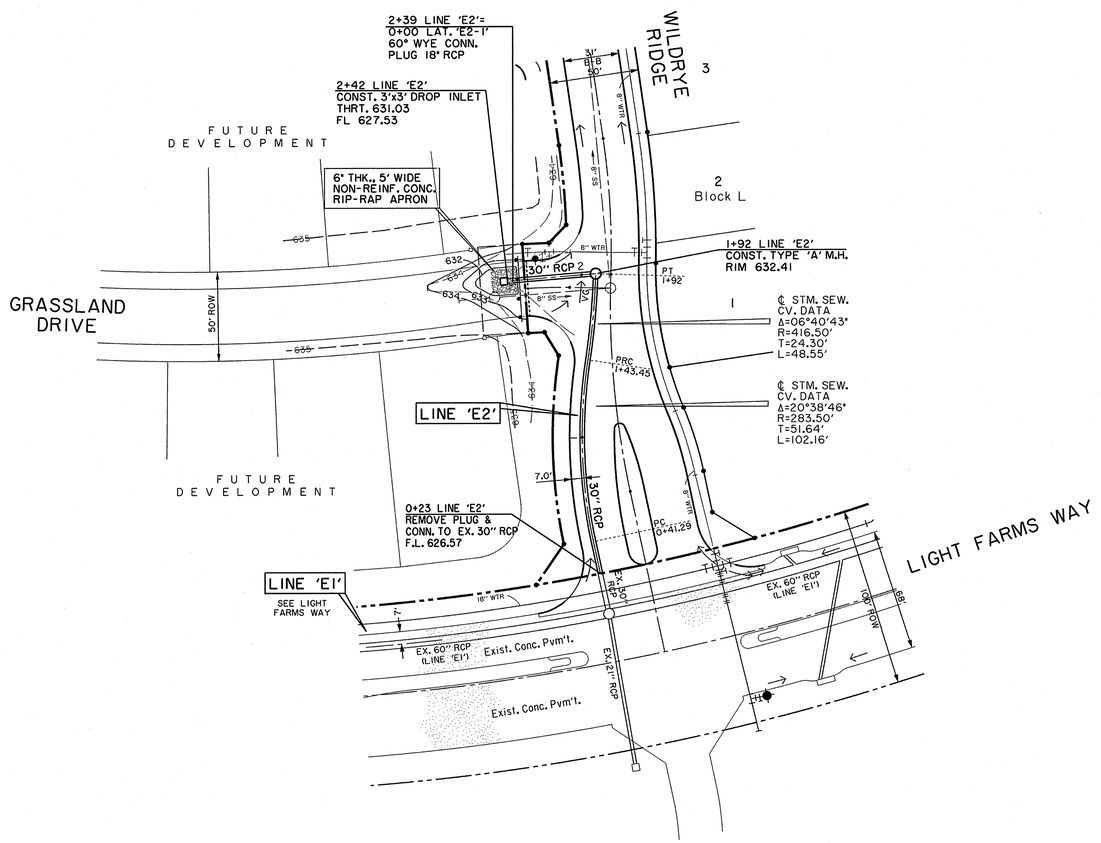
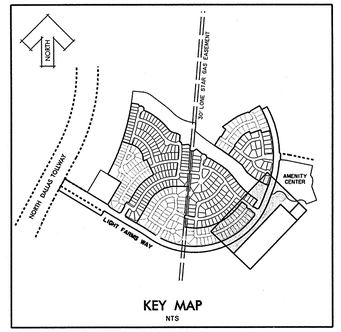
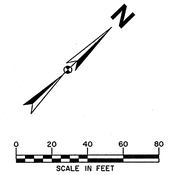
LINE D2 & LINE D3

P-201301-01





KEY MAP
NTS



BASIS OF VERTICAL DATUM - NAVD 1988 based on National Geodetic Survey Benchmarks N-185 (Elevation 650.78') and H263 (Elevation - 643.81')

BENCHMARKS:

TBM #39
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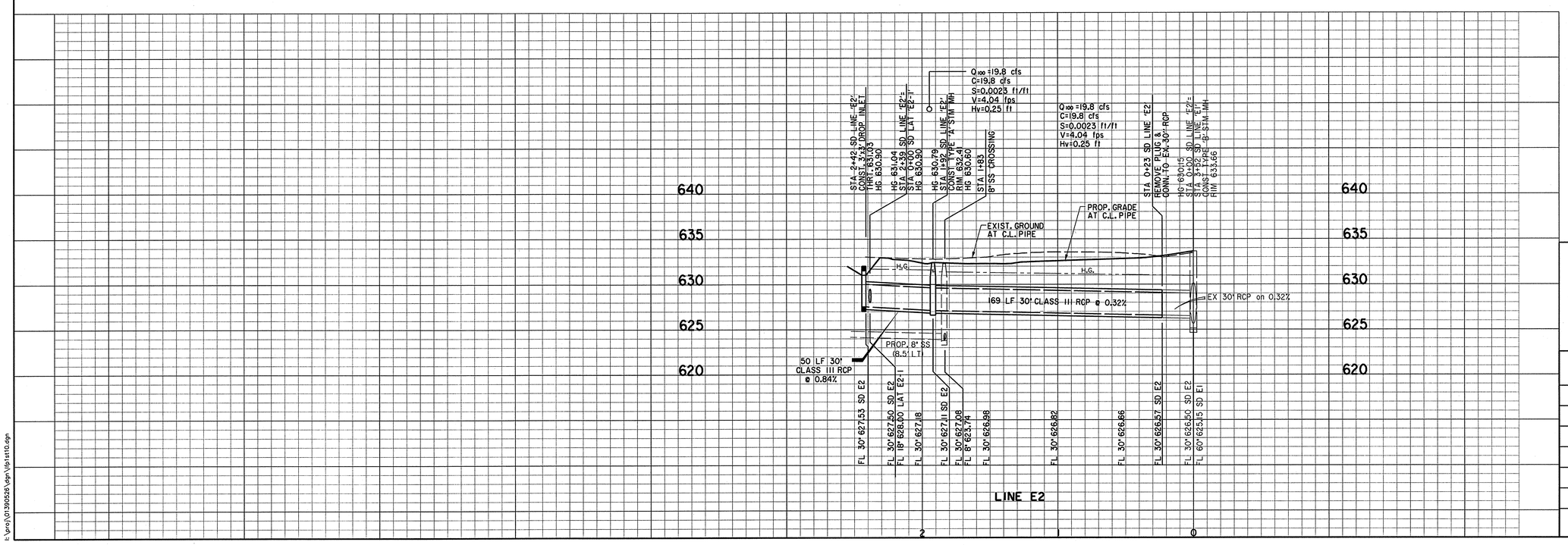

STATE OF TEXAS
KEVIN N. CARLSON
89232
LICENSED PROFESSIONAL ENGINEER
6-20-13

Huitt-Zollars, Inc.
Firm Registration No. F-761

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STORM SEWER PLAN & PROFILE
LINE E2

LIGHT FARMS

LFC Land Company LLC

Collin County Municipal Utility District No. 1

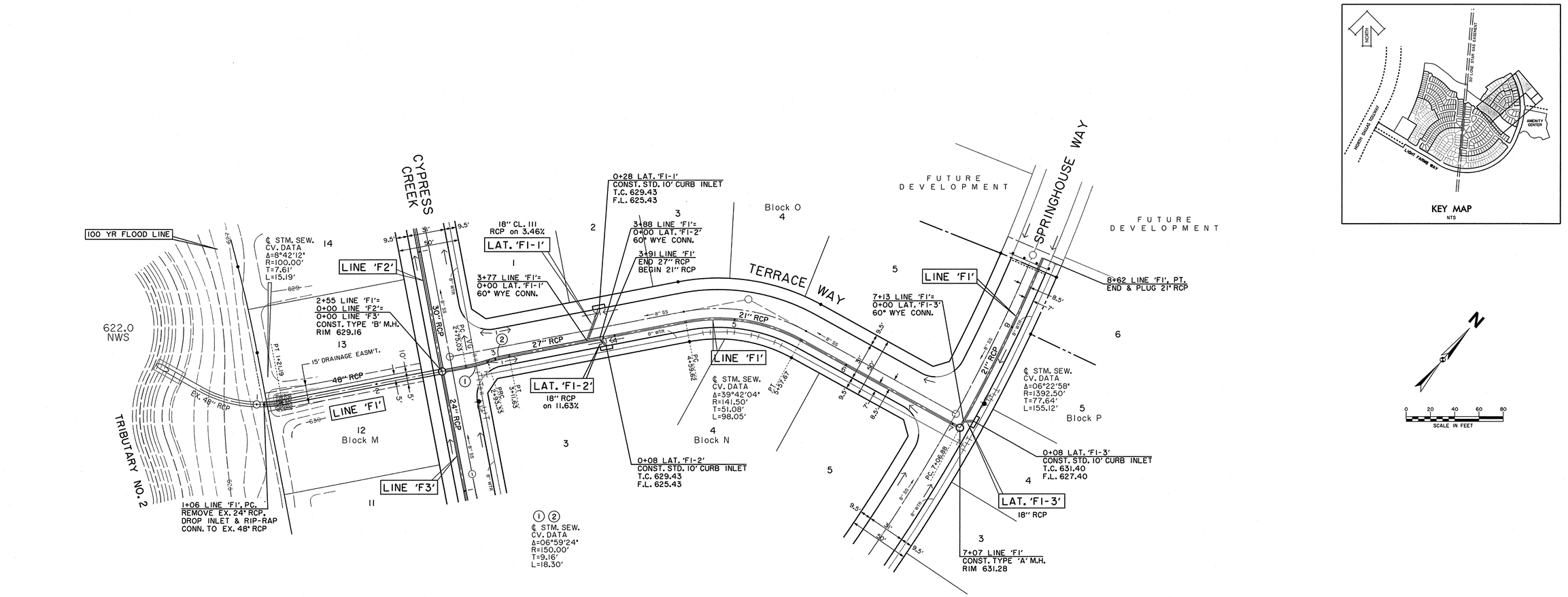
COLLIN COUNTY, TEXAS

HUITT-ZOLLARS

DESIGN	CHECKED	DATE	SCALE	NOTES	JOB NO.	SHT. NO.
HZI	HZI		H: 1"=40' V: 1"=6'		01-3905-26	45

LINE E2

P-201301-01

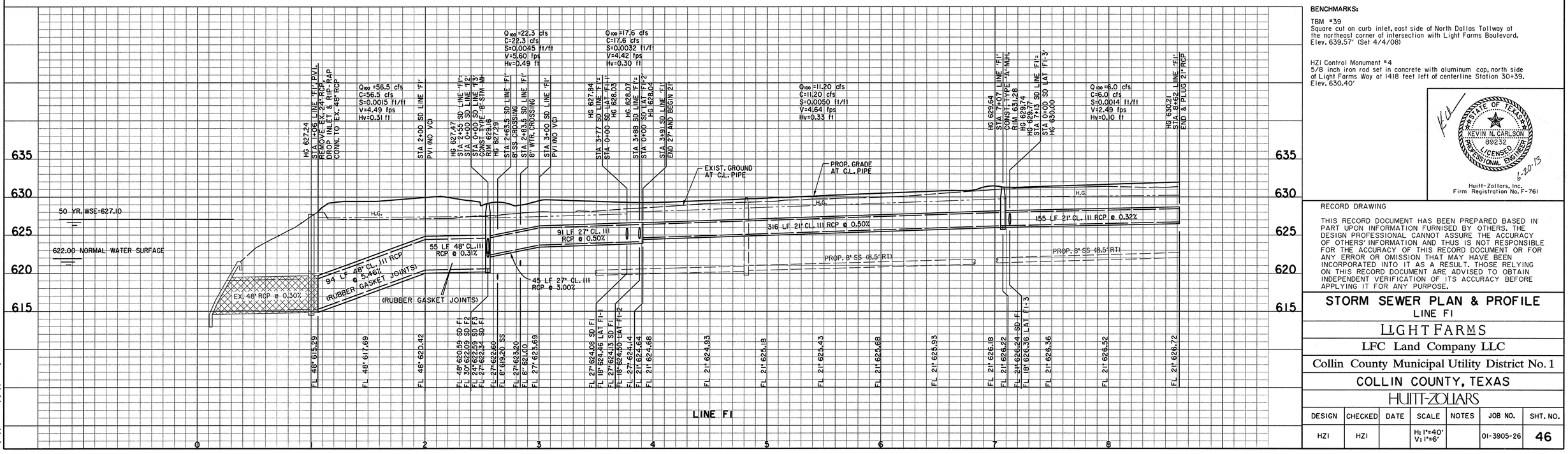


BASIS OF VERTICAL DATUM - NAVD 1988 based on National Geodetic Survey Benchmarks N-185 (Elevation 650.78') and H263 (Elevation - 643.81')

BENCHMARKS:

TBM #39
Square cut on curb inlet, east side of North Dallas Tollway at the northeast corner of intersection with Light Farms Boulevard.
Elev. 639.57' (Set 4/4/08)

HZI Control Monument #4
5/8 inch iron rod set in concrete with aluminum cap, north side of Light Farms Way at 1418 feet left of centerline Station 30+39.
Elev. 630.40'



STATE OF TEXAS
KEVIN N. CARLSON
89232
LICENSED
PROFESSIONAL ENGINEER
6-20-13
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STORM SEWER PLAN & PROFILE
LINE F1

LIGHT FARMS

LFC Land Company LLC

Collin County Municipal Utility District No. 1

COLLIN COUNTY, TEXAS

HUITT-ZOLLARS

DESIGN	CHECKED	DATE	SCALE	NOTES	JOB NO.	SHT. NO.
HZI	HZI		H: 1"=40' V: 1"=6'		01-3905-26	46

LINE F1

P-201301-01

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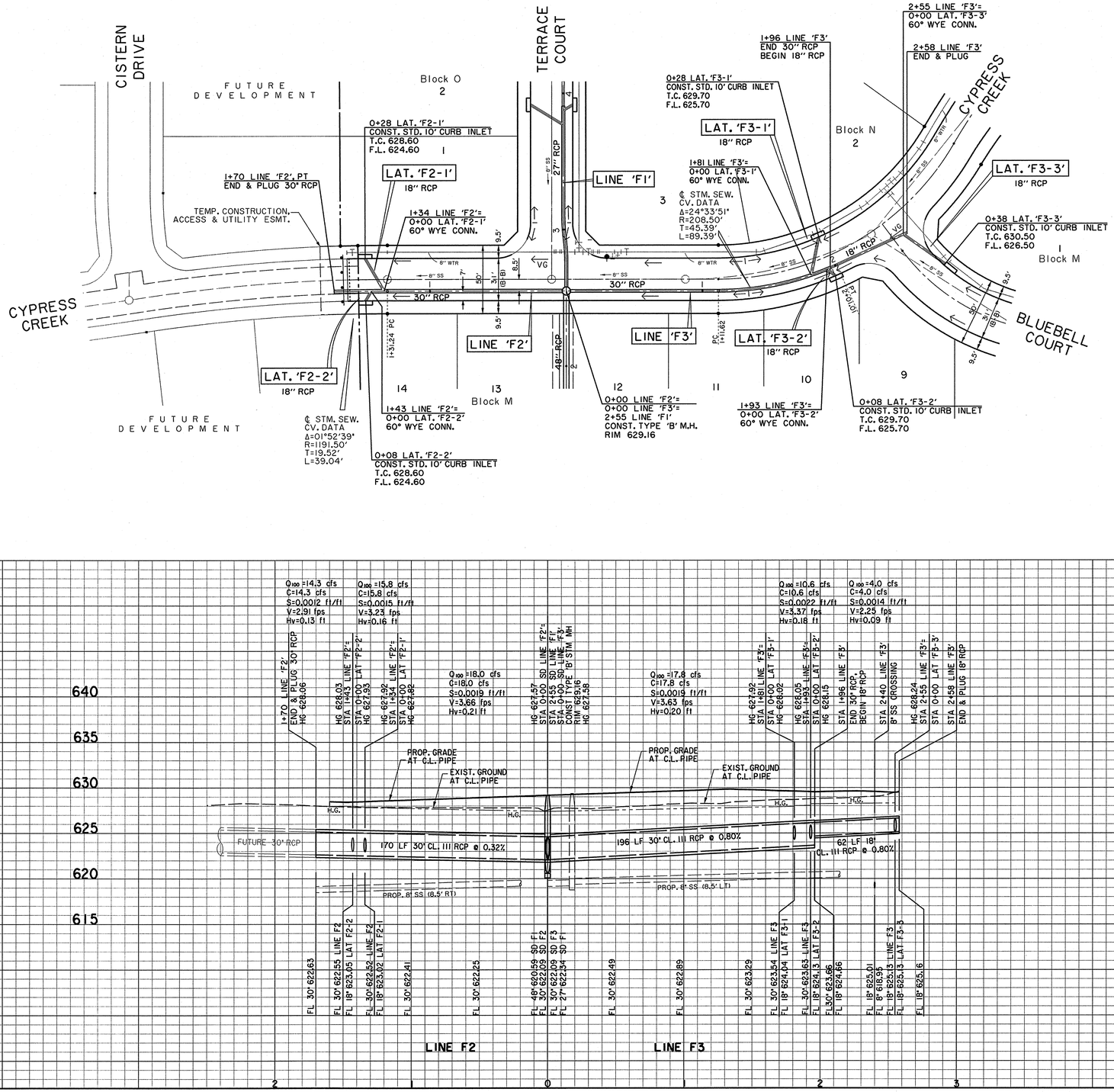

BASIS OF VERTICAL DATUM - NAVD 1988 based on National Geodetic Survey Benchmarks N-185 (Elevation 650.78') and H263 (Elevation - 643.81')

BENCHMARKS:

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Elev. 639.57' (Set 4/4/08)

HZI Control Monument #4
5/8 inch iron rod set in concrete with aluminum cap, north side of Light Farms Way at 1418 feet left of centerline Station 30+39.
Elev. 630.40'

STATE OF TEXAS
KEVIN N. CARLSON
89232
LICENSED PROFESSIONAL ENGINEER
6-20-13

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STORM SEWER PLAN & PROFILE
LINE F2 & LINE F3

LIGHT FARMS

LFC Land Company LLC

Collin County Municipal Utility District No. 1

COLLIN COUNTY, TEXAS

HUITT-ZOLLARS

DESIGN	CHECKED	DATE	SCALE	NOTES	JOB NO.	SHT. NO.
HZI	HZI		H: 1"=40' V: 1"=6'		01-3905-26	47

LINE F2 & LINE F3

P-201301-01

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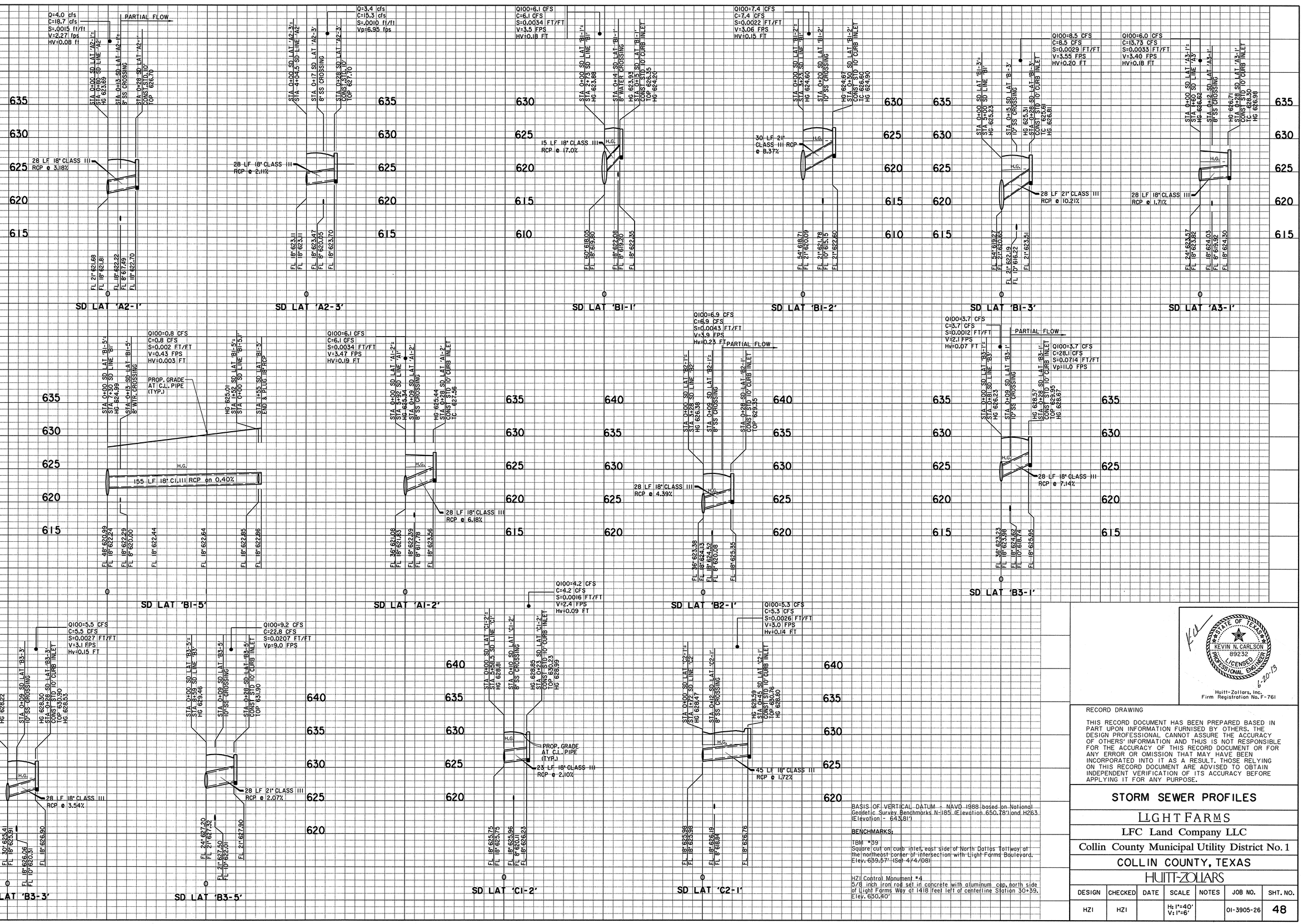

BASIS OF VERTICAL DATUM - NAVD 1988 based on National Geodetic Survey Benchmarks N-185 (Elevation 650.78') and H263 (Elevation - 643.81')

BENCHMARKS:

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Square cut on curb inlet, east side of North Dallas Tollway at the northeast corner of intersection with Light Farms Boulevard. Elev. 639.57' (Set 4/4/08)

HZI Control Monument #4
5/8 inch iron rod set in concrete with aluminum cap, north side of Light Farms Way at 1418 feet left of centerline Station 30+39. Elev. 630.40'

STATE OF TEXAS
KEVIN N. CARLSON
89232
LICENSED
PROFESSIONAL ENGINEER
6-20-13

Huitt-Zollars, Inc.
Firm Registration No. F-761

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STORM SEWER PROFILES

LIGHT FARMS

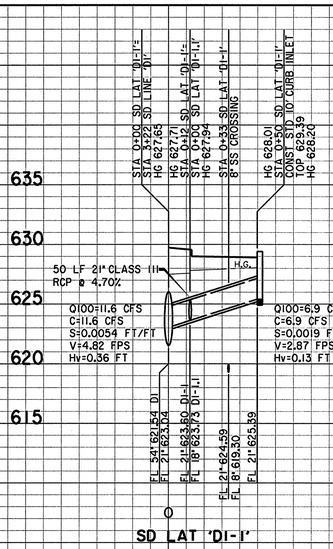
LFC Land Company LLC

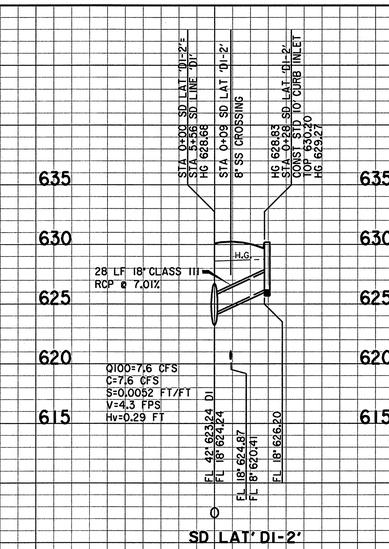
Collin County Municipal Utility District No. 1

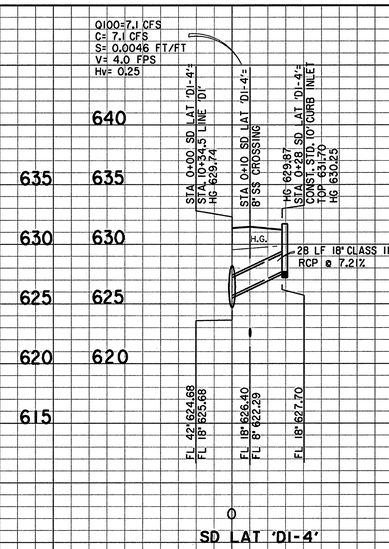
COLLIN COUNTY, TEXAS

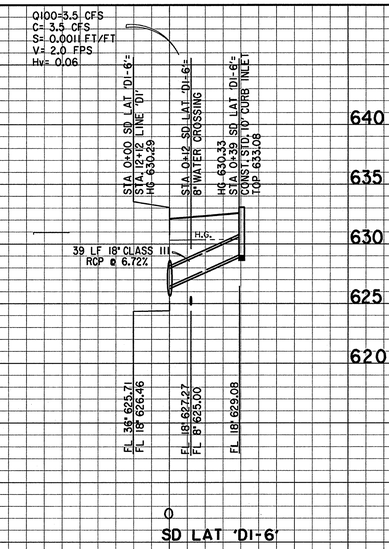
HUITT-ZOLLARS

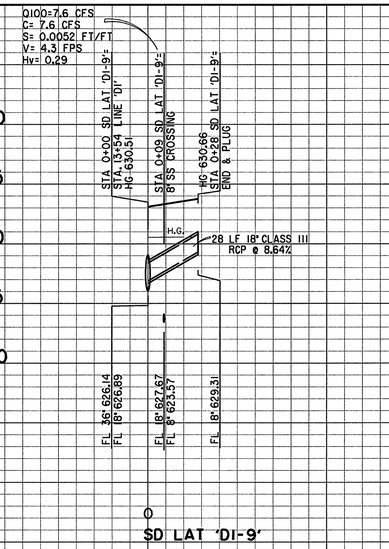
DESIGN	CHECKED	DATE	SCALE	NOTES	JOB NO.	SHT. NO.
HZI	HZI		H: 1"=40' V: 1"=6'		01-3905-26	48

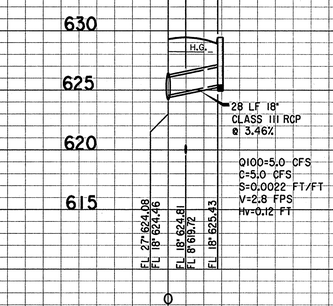


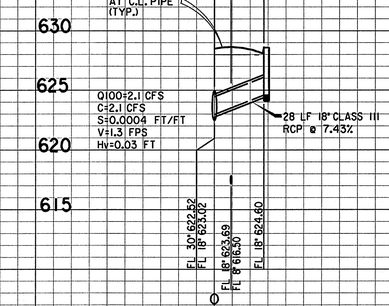


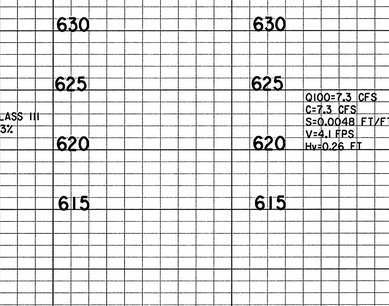


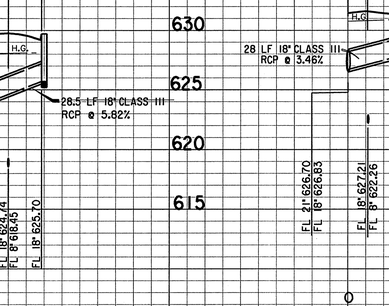












STATE OF TEXAS
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Huitt-Zollars, Inc.
Firm Registration No. F-761

RECORD DRAWING

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BASIS OF VERTICAL DATUM - NAVD 1988 based on National Geodetic Survey Benchmarks N-185 (Elevation 650.78') and H263 (Elevation - 643.81')

BENCHMARKS:

TBM #39
Square cut on curb inlet, east side of North Dallas Tollway at the northeast corner of intersection with Light Farms Boulevard. Elev. 659.57' (Sep 4/4/08)

HZI Control Monument #4
5/8 inch iron rod set in concrete with aluminum cap, north side of Light Farms Way at 1418 feet left of centerline Station 30+39. Elev. 650.40'

STORM SEWER PROFILES

LIGHT FARMS

LFC Land Company LLC

Collin County Municipal Utility District No. 1

COLLIN COUNTY, TEXAS

HUITT-ZOLLARS

DESIGN	CHECKED	DATE	SCALE	NOTES	JOB NO.	SHT. NO.
HZI	HZI		H: 1"=40' V: 1"=6'		01-3905-26	49

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P-201301-01

BASIS OF VERTICAL DATUM - NAVD 1988 based on National Geodetic Survey Benchmarks N-185 (Elevation 650.78') and H263 (Elevation - 643.81')

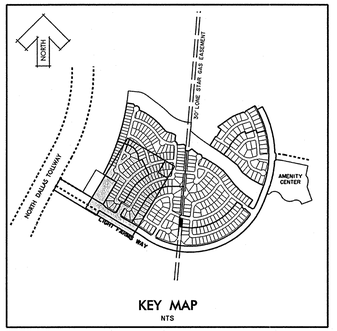
BENCHMARKS:

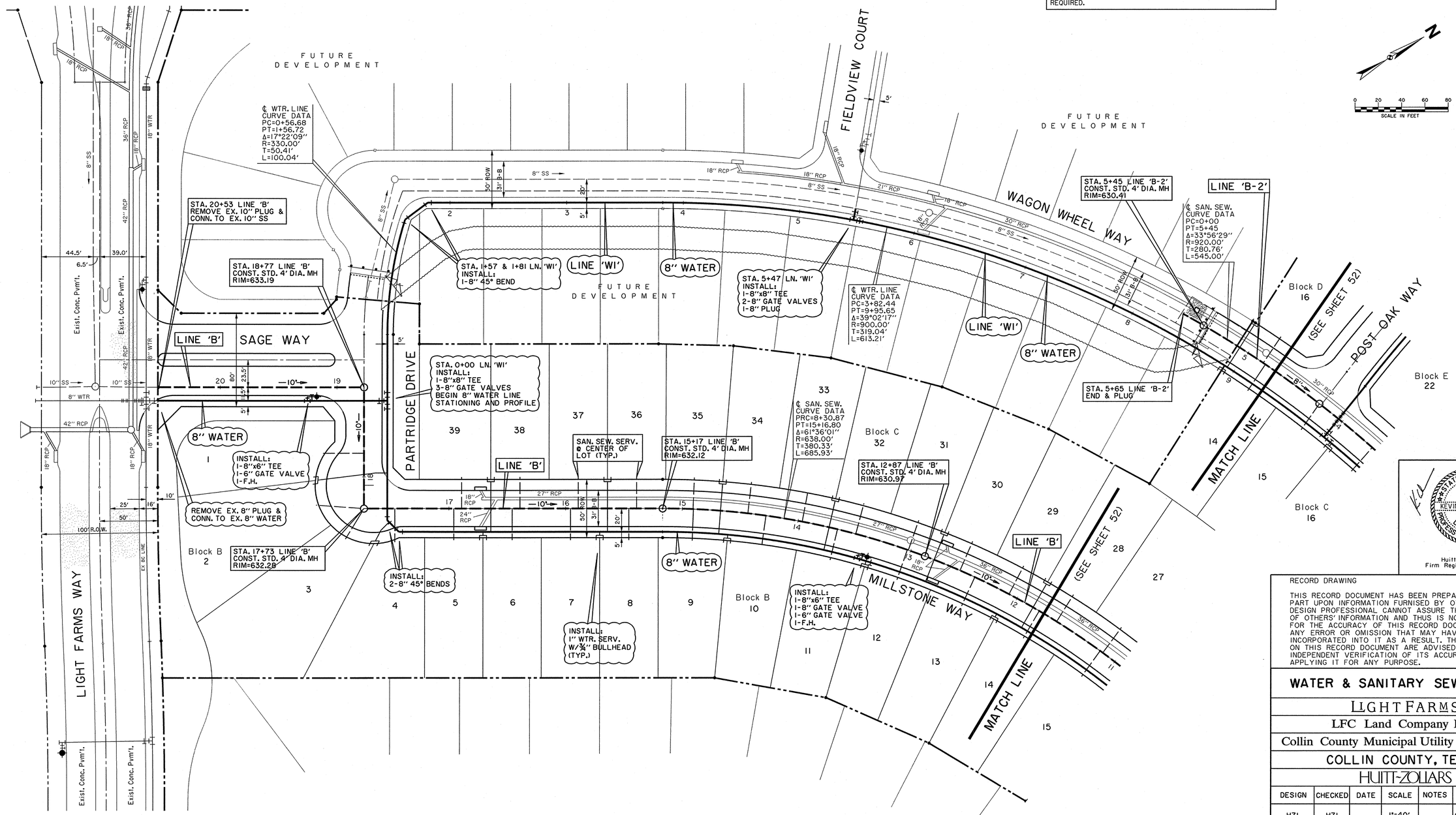
TBM #39
Square cut on curb inlet, east side of North Dallas Tollway at the northeast corner of intersection with Light Farms Boulevard. Elev. 639.57' (Set 4/4/08)

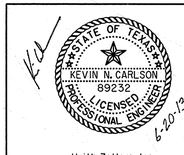
HZI Control Monument #7
5/8 inch iron rod set in concrete with aluminum cap, northeasterly side of Light Farms Way at 168 feet left of centerline Station 11+49 Elev. 632.76'

NOTE:

CONTRACTOR SHALL LOCATE AND VERIFY DEPTH OF EXISTING SANITARY SEWER PIPE CONNECTIONS AT STA. 20+53 LINE 'B' & STA. 4+41 LINE 'C-3' PRIOR TO COMMENCEMENT OF WORK. ENGINEER SHALL BE NOTIFIED AND PROVIDED VERIFED FLOW LINE ELEVATIONS TO DETERMINE IF ANY MODIFICATIONS TO PROPOSED SANITARY SEWER INVERT ELEVATIONS WILL BE REQUIRED.







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WATER & SANITARY SEWER PLAN

LIGHT FARMS

LFC Land Company LLC

Collin County Municipal Utility District No. 1

COLLIN COUNTY, TEXAS

HUITT-ZOLLARS

DESIGN	CHECKED	DATE	SCALE	NOTES	JOB NO.	SHT. NO.
HZI	HZI		1"=40'		01-3905-26	50

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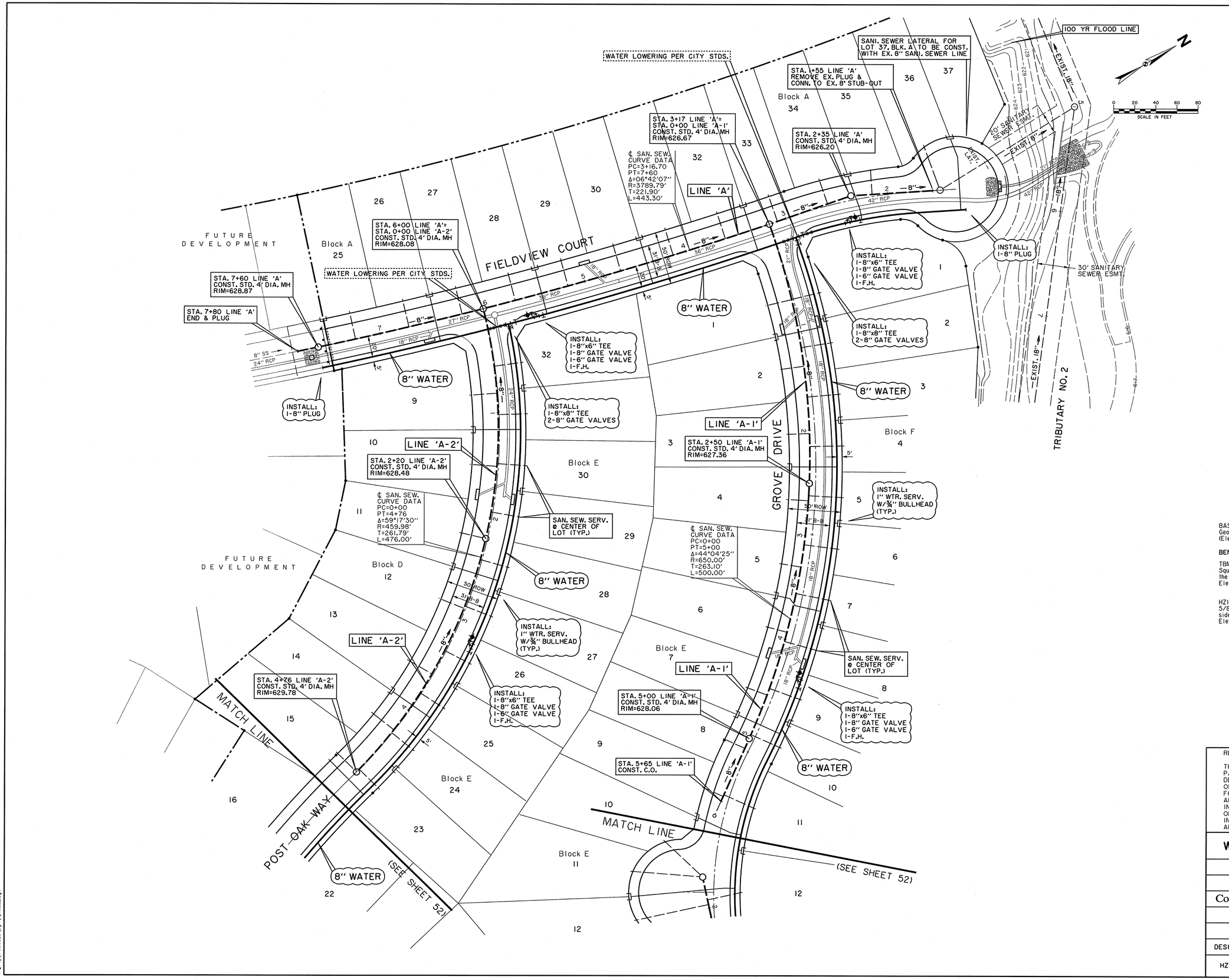

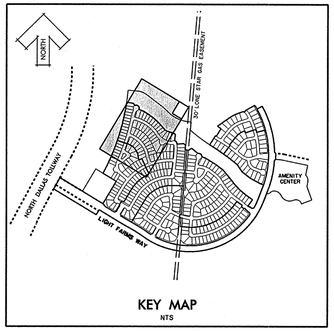

KEY MAP
NTS

BASIS OF VERTICAL DATUM - NAVD 1988 based on National Geodetic Survey Benchmarks N-185 (Elevation 650.78') and H263 (Elevation - 643.81')

BENCHMARKS:

TBM #39
Square cut on curb inlet, east side of North Dallas Tollway at the northeast corner of intersection with Light Farms Boulevard. Elev. 639.57' (Set 4/4/08)

HZI Control Monument #7
5/8 inch iron rod set in concrete with aluminum cap, northeasterly side of Light Farms Way at 168 feet left of centerline Station 11+49 Elev. 632.76'

STATE OF TEXAS
KEVIN N. CARLSON
89232
LICENSED PROFESSIONAL ENGINEER
6-20-13

Huitt-Zollars, Inc.
Firm Registration No. F-761

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WATER & SANITARY SEWER PLAN

LIGHT FARMS

LFC Land Company LLC

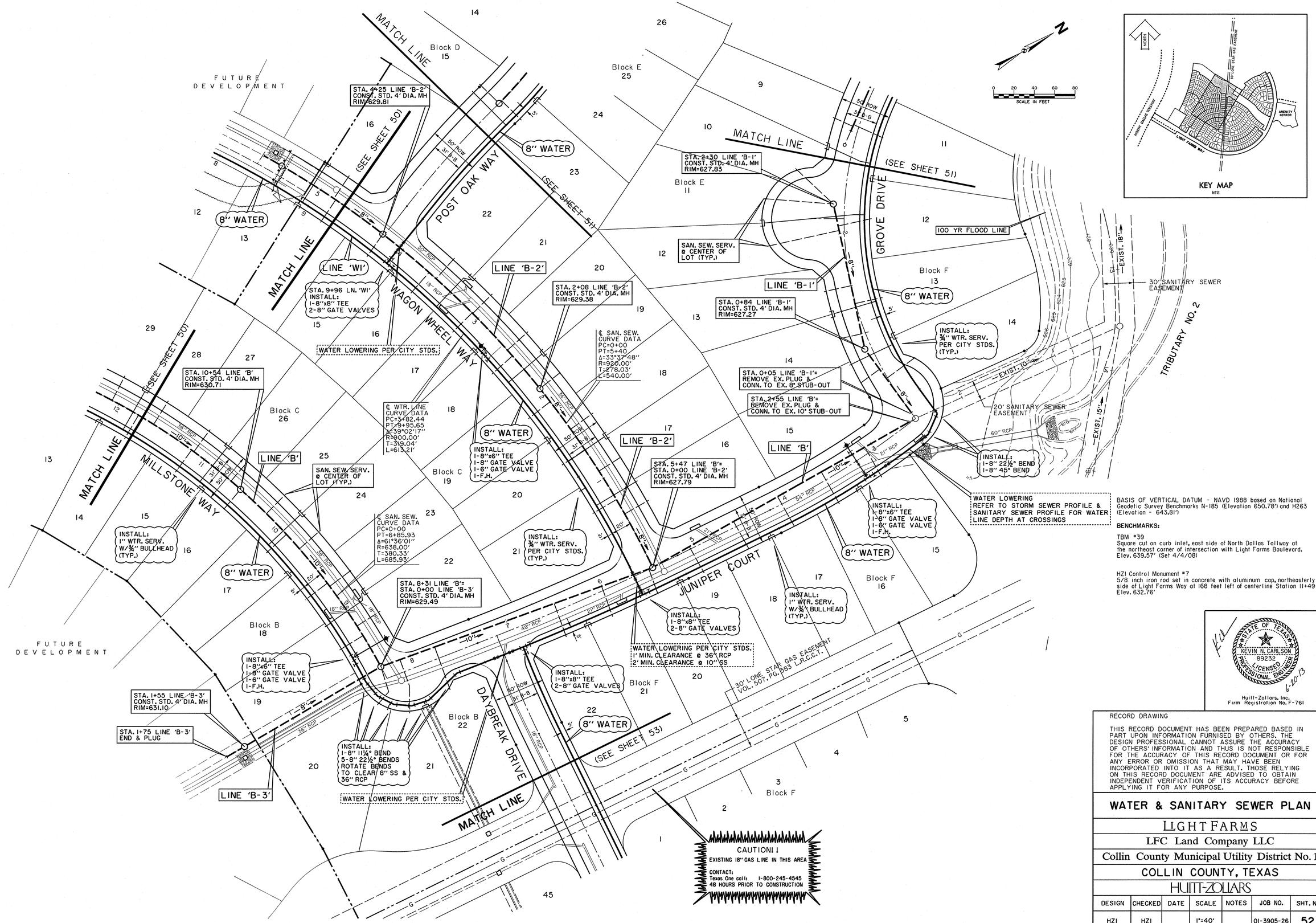
Collin County Municipal Utility District No. 1

COLLIN COUNTY, TEXAS

HUITT-ZOLLARS

DESIGN	CHECKED	DATE	SCALE	NOTES	JOB NO.	SHT. NO.
HZI	HZI		1"=40'		01-3905-26	51

WATER & SANITARY SEWER PLAN P-201301-01



BASIS OF VERTICAL DATUM - NAVD 1988 based on National Geodetic Survey Benchmarks N-185 (Elevation 650.78') and H263 (Elevation - 643.81')

BENCHMARKS:

TBM #39
Square cut on curb inlet, east side of North Dallas Tollway at the northeast corner of intersection with Light Farms Boulevard. Elev. 639.57' (Set 4/4/08)

HZI Control Monument #7
5/8 inch iron rod set in concrete with aluminum cap, northeasterly side of Light Farms Way at 168 feet left of centerline Station 11+49 Elev. 632.76'

STATE OF TEXAS
KEVIN N. CARLSON
89232
LICENSED PROFESSIONAL ENGINEER
1-20-13

Huitt-Zollars, Inc.
Firm Registration No. F-761

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WATER & SANITARY SEWER PLAN

LIGHT FARMS

LFC Land Company LLC

Collin County Municipal Utility District No. 1

COLLIN COUNTY, TEXAS

HUITT-ZOLLARS

DESIGN	CHECKED	DATE	SCALE	NOTES	JOB NO.	SHT. NO.
HZI	HZI		1"=40'		01-3905-26	52

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CAUTION!!
EXISTING 18" GAS LINE IN THIS AREA
CONTACT:
Texas One call: 1-800-245-4545
48 HOURS PRIOR TO CONSTRUCTION

SANI. SEWER LATERALS FOR LOTS 25,26 & 27 BLK. F TO BE CONST. WITH EX. 8" SANI. SEWER LINE

STA. 3+00 LINE 'D' REMOVE EX. PLUG & CONN. TO EX. 8" STUB-OUT

LINE 'D'

STA. 3+36 LINE 'D'= STA. 0+00 LINE 'D-1' CONST. STD. 4' DIA. MH RIM=629.36

WATER LOWERING PER CITY STDS.

8" WATER

INSTALL: 1-8"x8" TEE 1-8" GATE VALVE

INSTALL: 1-8"x6" TEE 1-6" GATE VALVE 1-F.H.

INSTALL: 1-8" GATE VALVE 1-8" PLUG

INSTALL: ¾" WTR. SERV. PER CITY STDS. (TYP.)

EXISTING SANI. SEWER LATERAL

STA. 5+22 LINE 'D'= STA. 0+00 LINE 'D-2' CONST. STD. 4' DIA. MH RIM=630.35

30' SANITARY SEWER EASEMENT

20' SANITARY SEWER EASEMENT

(SEE SHEET 52)

MATCH LINE

BUFFALO WAY

DAYBREAK DRIVE

LINE 'D-1'

STA. 2+60 LINE 'D-1' CONST. STD. 4' DIA. MH RIM=632.30

STA. 1+26 LINE 'D-2' CONST. STD. 4' DIA. MH RIM=631.04

LINE 'D-2'

INSTALL: 2-8" 11¼° BENDS 1-8" 22½° BEND

INSTALL: 1-8"x8" TEE 2-8" GATE VALVES

INSTALL: 1" WTR. SERV. W/¾" BULLHEAD (TYP.)

MESQUITE COURT

WILDRYE RIDGE

SAN. SEW. SERV. @ CENTER OF LOT (TYP.)

STA. 2+40 LINE 'D-2' CONST. C.O.

INSTALL: 1-8" 90° BEND

INSTALL: 1-8"x6" TEE 1-8" GATE VALVE 1-6" GATE VALVE 1-F.H.

STA. 6+60 LINE 'D' CONST. STD. 4' DIA. MH RIM=629.99

℄ SAN. SEW. CURVE DATA
PC=6+59.85
PRC=8+46.78
Δ=22°32'35"
R=475.00'
T=94.67'
L=186.89'

℄ SAN. SEW. CURVE DATA
PC=0+00
PRC=1+43.41
Δ=27°23'20"
R=300.00'
T=73.10'
L=143.41'

STA. 8+47 LINE 'D'= STA. 0+00 LINE 'D-3' CONST. STD. 4' DIA. MH RIM=629.74

WATER LOWERING PER CITY STDS.

INSTALL: 1-8"x8" TEE 2-8" GATE VALVES

8" PRESSURE ENCASEMENT PER UTLITY SEPARATION NOTE 4.E ON SHT. 2

INSTALL: 1-8"x6" TEE 1-8" GATE VALVE 1-6" GATE VALVE 1-F.H.

STA. 1+43 LINE 'D-3' CONST. STD. 4' DIA. MH RIM=630.49

GRISTMILL LANE

STA. 3+40 LINE 'D-3' CONST. STD. 4' DIA. MH RIM=630.83

℄ SAN. SEW. CURVE DATA
PRC=1+43.41
PT=5+46.34
Δ=46°21'29"
R=498.00'
T=213.23'
L=402.93'

℄ SAN. SEW. CURVE DATA
PRC=8+46.74
PT=11+25.08
Δ=18°19'51"
R=870.00'
T=140.37'
L=278.34'

STA. 5+47 LINE 'D-3' CONST. STD. 4' DIA. MH RIM=631.76

LINE 'D-3'

STA. 6+42 LINE 'D-3' CONST. STD. 4' DIA. MH RIM=631.80

INSTALL: 2-8" 11¼° BENDS 2-8" 22½° BENDS

INSTALL: 1-8"x6" TEE 1-8" GATE VALVE 1-6" GATE VALVE 1-F.H.

INSTALL: 1" WTR. SERV. W/¾" BULLHEAD (TYP.)

LINE 'D'

8" WATER

MATCH LINE (SEE SHEET 54)

MATCH LINE (SEE SHEET 54)

30' LONE STAR GAS EASEMENT VOL. 507, PG. 383 L.R.C.C.T.

FUTURE DEVELOPMENT

Block B 22
Block F 21
Block B 25
Block F 24
Block B 29
Block B 33
Block B 38
Block B 42
Block K 3
Block K 8
Block L 14
Block L 7

N

0 20 40 60 80
SCALE IN FEET

KEY MAP
NTS

BASIS OF VERTICAL DATUM - NAVD 1988 based on National Geodetic Survey Benchmarks N-185 (Elevation 650.78') and H263 (Elevation - 643.81')

BENCHMARKS:

TBM #39
Square cut on curb inlet, east side of North Dallas Tollway at the northeast corner of intersection with Light Farms Boulevard. Elev. 639.57' (Set 4/4/08)

HZI Control Monument #4
5/8 inch iron rod set in concrete with aluminum cap, north side of Light Farms Way at 1418 feet left of centerline Station 30+39. Elev. 630.40'

STATE OF TEXAS
KEVIN N. CARLSON
89232
LICENSED PROFESSIONAL ENGINEER
6-20-13

Huitt-Zollars, Inc.
Firm Registration No. F-761

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WATER & SANITARY SEWER PLAN

LIGHT FARMS
LFC Land Company LLC
Collin County Municipal Utility District No. 1
COLLIN COUNTY, TEXAS
HUITT-ZOLLARS

DESIGN	CHECKED	DATE	SCALE	NOTES	JOB NO.	SHT. NO.
HZI	HZI		1"=40'		01-3905-26	53

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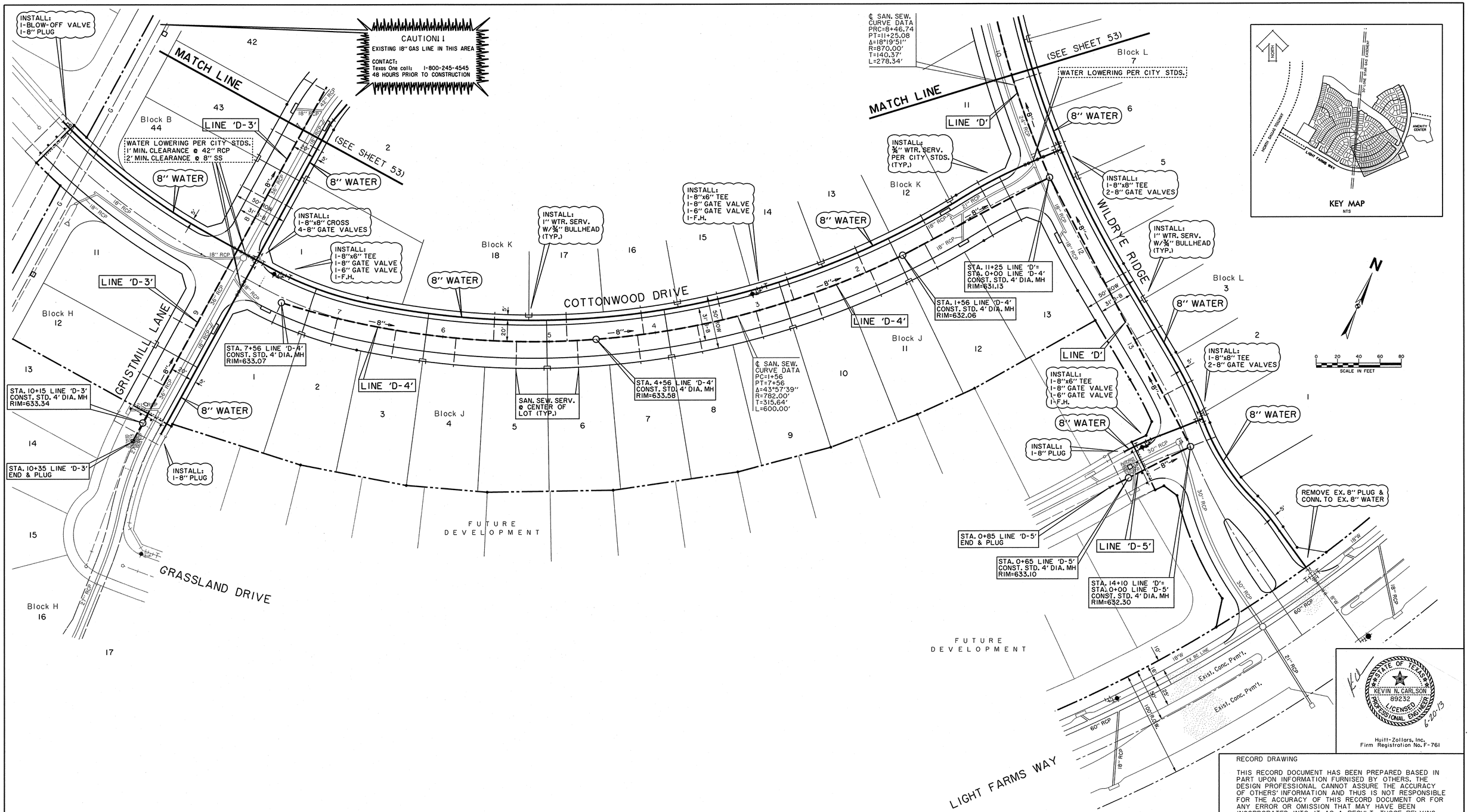

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BASIS OF VERTICAL DATUM - NAVD 1988 based on National Geodetic Survey Benchmarks N-185 (Elevation 650.78') and H263 (Elevation - 643.81')

BENCHMARKS:

TBM #39
Square cut on curb inlet, east side of North Dallas Tollway at the northeast corner of intersection with Light Farms Boulevard. Elev. 639.57' (Set 4/4/08)

HZI Control Monument #3
5/8 inch iron rod set in concrete with aluminum cap, north side of Light Farms Way at 408.50 feet left of centerline Station 24+57. Elev. 632.52'

WATER & SANITARY SEWER PLAN

LIGHT FARMS

LFC Land Company LLC

Collin County Municipal Utility District No. 1

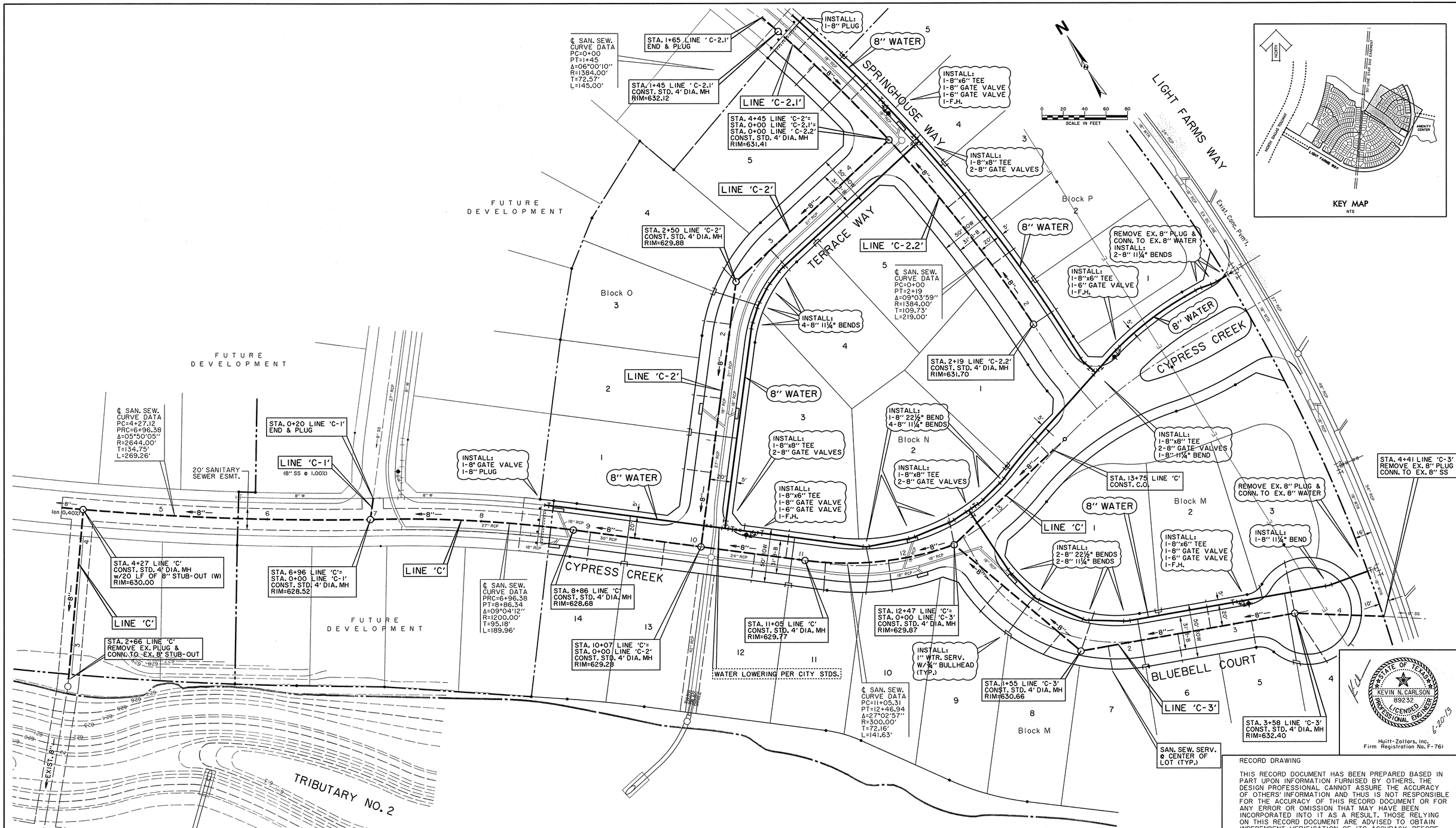
COLLIN COUNTY, TEXAS

HUITT-ZOLLARS

DESIGN	CHECKED	DATE	SCALE	NOTES	JOB NO.	SHT. NO.
HZI	HZI		1"=40'		01-3905-26	54

WATER & SANITARY SEWER PLAN

P-201301-01



BASIS OF VERTICAL DATUM - NAVD 1988 based on National Geodetic Survey Benchmarks N-185 (Elevation 650.78') and H263 (Elevation - 643.81')

BENCHMARKS:

TBM #39
Square cut on curb inlet, east side of North Dallas Tollway at the northeast corner of intersection with Light Farms Boulevard. Elev. 639.57' (Set 4/4/08)

HZI Control Monument #3
5/8 inch iron rod set in concrete with aluminum cap, north side of Light Farms Way at 408.50 feet left of centerline Station 24+57. Elev. 632.52'

NOTE:

CONTRACTOR SHALL LOCATE AND VERIFY DEPTH OF EXISTING SANITARY SEWER PIPE CONNECTIONS AT STA. 20+53 LINE 'B' & STA. 4+41 LINE 'C-3' PRIOR TO COMMENCEMENT OF WORK. ENGINEER SHALL BE NOTIFIED AND PROVIDED VERIFED FLOW LINE ELEVATIONS TO DETERMINE IF ANY MODIFICATIONS TO PROPOSED SANITARY SEWER INVERT ELEVATIONS WILL BE REQUIRED.

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WATER & SANITARY SEWER PLAN

LIGHT FARMS

LFC Land Company LLC

Collin County Municipal Utility District No. 1

COLLIN COUNTY, TEXAS

HUITT-ZOLLARS

DESIGN	CHECKED	DATE	SCALE	NOTES	JOB NO.	SHT. NO.
HZI	HZI		1"=40'		01-3905-26	55

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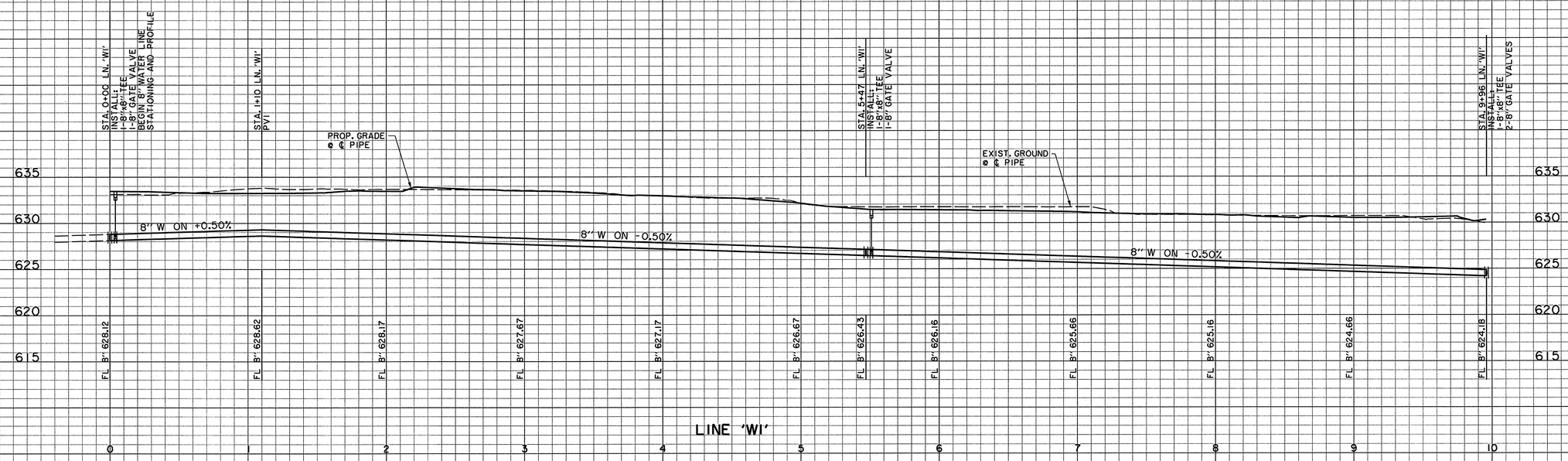

BASIS OF VERTICAL DATUM - NAVD 1988 based on National Geodetic Survey Benchmarks N-185 (Elevation 650.78') and H263 (Elevation - 643.81')

BENCHMARKS:

TBM #39
Square cut on curb inlet, east side of North Dallas Tollway at the northeast corner of intersection with Light Farms Boulevard. Elev. 639.57' (Set 4/4/08)

HZI Control Monument #4
5/8 inch iron rod set in concrete with aluminum cap, north side of Light Farms Way at 1418 feet left of centerline Station 30+39. Elev. 630.40'

STATE OF TEXAS
KEVIN N. CARLSON
89232
LICENSED
PROFESSIONAL ENGINEER
6-20-13

Huitt-Zollars, Inc.
Firm Registration No. F-761

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WATER LINE PROFILE
LINE 'WI'

LIGHT FARMS

LFC Land Company LLC

Collin County Municipal Utility District No. 1

COLLIN COUNTY, TEXAS

HUITT-ZOLLARS

DESIGN	CHECKED	DATE	SCALE	NOTES	JOB NO.	SHT. NO.
HZI	HZI		H: 1"=40' V: 1"=6'		01-3905-26	56

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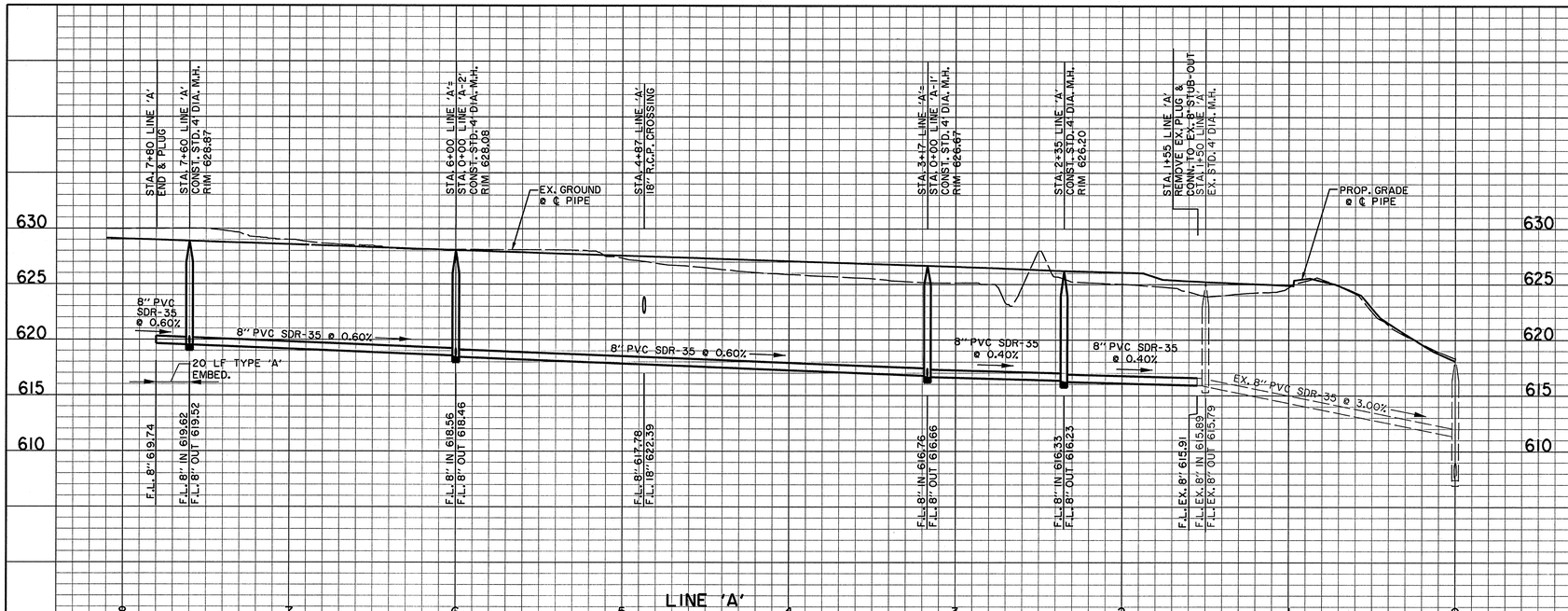
WATER LINE PROFILE LINE 'WI'

P-201301-01



BASIS OF VERTICAL DATUM - NAVD 1988 based on National Geodetic Survey Benchmarks N-185 (Elevation 650.78') and H263 (Elevation = 643.81')

BENCHMARKS:

TBM #39
Saubre cut on curb inlet, east side of North Dallas Tollway at the northeast corner of intersection with Light Farms Boulevard. Elev. 639.57' (Set 4/4/08)

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STATE OF TEXAS
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LICENSED PROFESSIONAL ENGINEER
6-20-13

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SANITARY SEWER PROFILES
LINES 'A', 'A-1' & 'A-2'

LIGHT FARMS

LFC Land Company LLC

Collin County Municipal Utility District No. 1

COLLIN COUNTY, TEXAS

HUITT-ZOLLARS

DESIGN	CHECKED	DATE	SCALE	NOTES	JOB NO.	SHT. NO.
HZI	HZI		H: 1"=40' V: 1"=6'		01-3905-26	57

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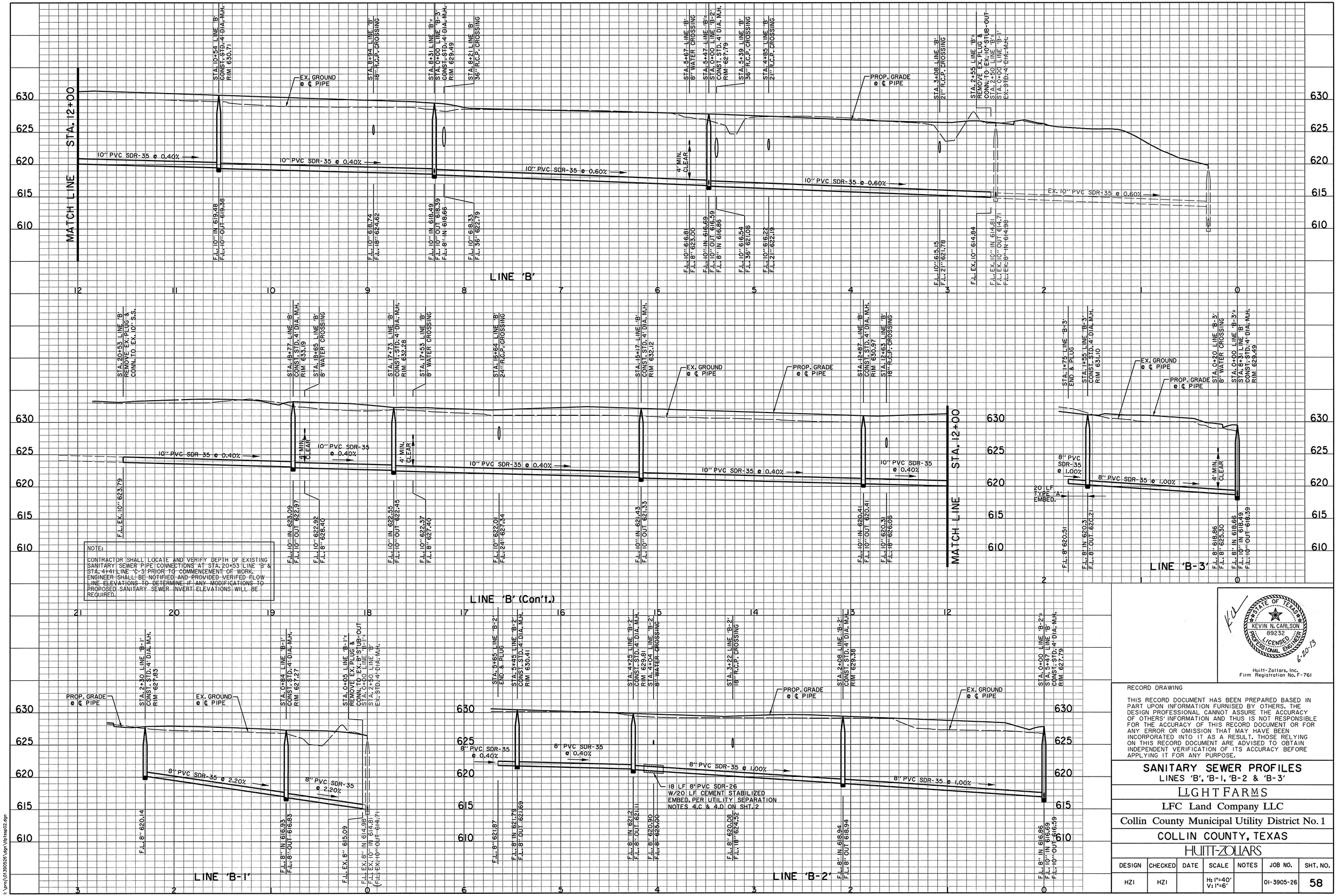

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SANITARY SEWER PROFILES
LINES 'B', 'B-1', 'B-2' & 'B-3'

LIGHT FARMS

LFC Land Company LLC

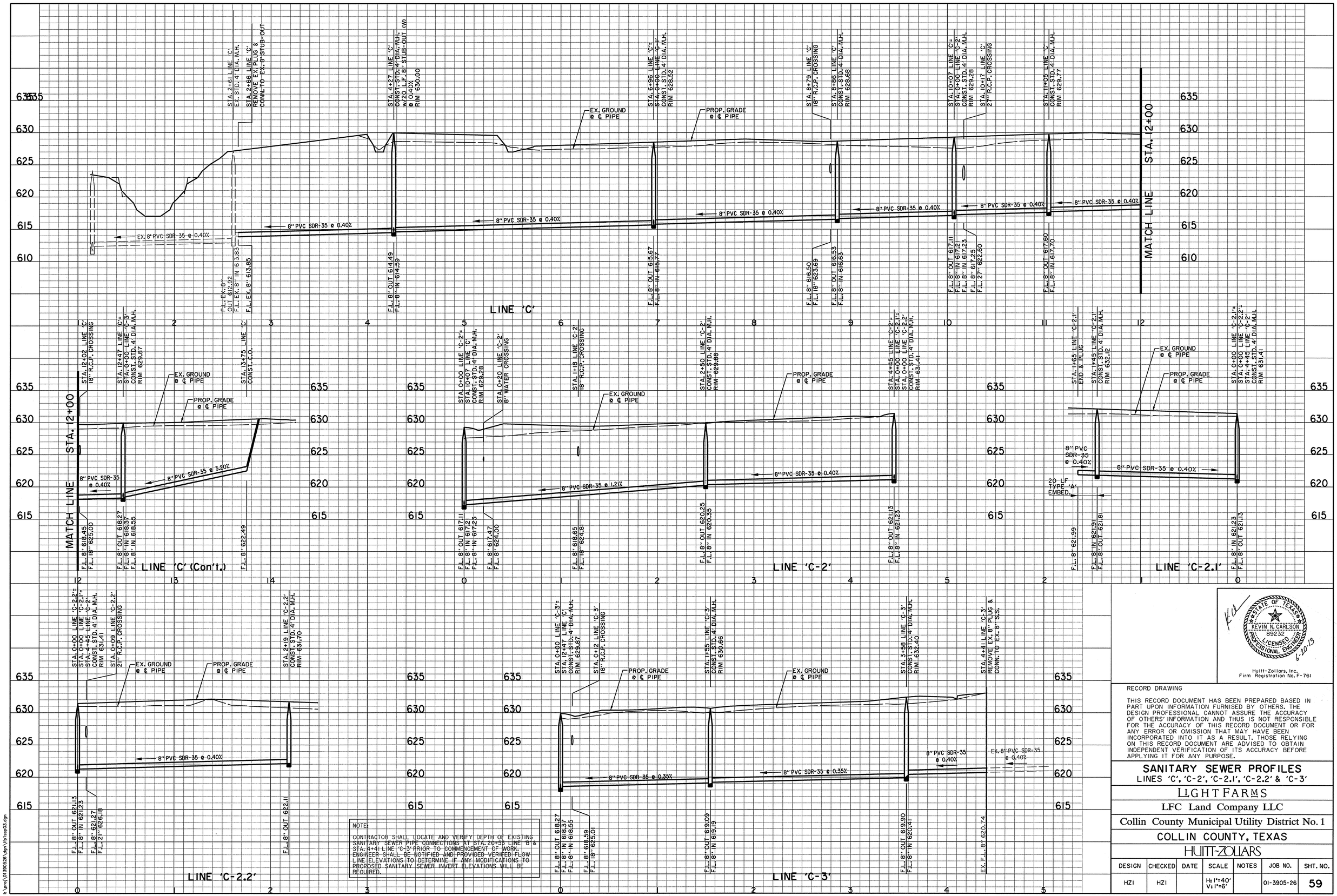
Collin County Municipal Utility District No. 1

COLLIN COUNTY, TEXAS

HUITT-ZOLLARS

DESIGN	CHECKED	DATE	SCALE	NOTES	JOB NO.	SHT. NO.
HZI	HZI		H: 1"=40' V: 1"=6'		01-3905-26	58

SANI. SEWER PROFILES LINES 'B', 'B-1', 'B-2' & 'B-3' P-201301-01



NOTE:
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STATE OF TEXAS
KEVIN W. CARLSON
89232
LICENSED
PROFESSIONAL ENGINEER
6-20-13

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SANITARY SEWER PROFILES
LINES 'C', 'C-2', 'C-2.1', 'C-2.2' & 'C-3'

LIGHT FARMS

LFC Land Company LLC

Collin County Municipal Utility District No. 1

COLLIN COUNTY, TEXAS

HUITT-ZOLLARS

DESIGN	CHECKED	DATE	SCALE	NOTES	JOB NO.	SHT. NO.
HZI	HZI		H: 1"=40' V: 1"=6'		01-3905-26	59

SANI. SEWER PROFILES LINES 'C', 'C-2', 'C-2.1', 'C-2.2' & 'C-3' P-201301-01

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BASIS OF VERTICAL DATUM - NAVD 1988 based on National Geodetic Survey Benchmarks N-185 (Elevation 650.78') and H263 (Elevation - 643.81')

BENCHMARKS:

TBM #39
Square cut on curb inlet, east side of North Dallas Tollway at the northeast corner of intersection with Light Farms Boulevard.
Elev. 639.57' (Set 4747/08)

HZI Control Monument #4
5/8 inch iron rod set in concrete with aluminum cap, north side of Light Farms Way at 1418 feet left of centerline Station 30+39.
Elev. 630.40'

LINE 'D'

STA. 11+25 LINE 'D'= STA. 0+00 LINE 'D-4' CONST. STD. 4' DIA. M.H. RIM 631.13
F.L. 8" IN 621.70
F.L. 8" OUT 621.60
MATCH LINE STA. 12+00
8" PVC SDR-35 @ 0.70%
PROP. GRADE @ ℄ PIPE
STA. 8+67 LINE 'D' 8" WATER CROSSING
STA. 8+47 LINE 'D-3' CONST. STD. 4' DIA. M.H. RIM 629.74
STA. 8+16 LINE 'D' 42" R.C.P. CROSSING
STA. 7+78 LINE 'D' 21" R.C.P. CROSSING
4' MIN. CLR.
8" PVC SDR-35 @ 0.34%
F.L. 8" IN 619.79
F.L. 8" OUT 625.00
F.L. 8" IN 619.65
F.L. 8" OUT 619.55
F.L. 8" IN 619.44
F.L. 42" 622.86
F.L. 8" IN 619.31
F.L. 21" 624.59
STA. 6+60 LINE 'D' CONST. STD. 4' DIA. M.H. RIM 629.99
F.L. 8" IN 618.89
F.L. 8" OUT 618.81
STA. 5+42 LINE 'D' 8" WATER CROSSING
STA. 5+22 LINE 'D'= STA. 0+00 LINE 'D-2' CONST. STD. 4' DIA. M.H. RIM 630.35
F.L. 8" IN 618.41
F.L. 8" 625.20
F.L. 8" IN 618.34
F.L. 8" OUT 618.24
EX. GROUND @ ℄ PIPE
STA. 3+57 LINE 'D' 8" WATER CROSSING
STA. 3+33 LINE 'D' 18" R.C.P. CROSSING
STA. 3+36 LINE 'D'= STA. 0+00 LINE 'D-1' CONST. STD. 4' DIA. M.H. RIM 629.36
STA. 3+00 LINE 'D' REMOVE EX. 8" PVC & CONNECT TO EX. 8" STUB OUT
STA. 2+95 LINE 'D' EX. STD. 4' DIA. M.H.
8" PVC SDR-35 @ 0.34%
EX. 8" PVC SDR-35 @ 0.34%
18 LF 8" PVC SDR-26 W/20 LF CEMENT STABILIZED EMBED. PER UTILITY SEPARATION NOTES 4.C & 4.D ON SHT. 2
F.L. 8" 617.39
F.L. EX. 8" IN 617.37
F.L. EX. 8" OUT 617.27
F.L. 8" 617.68
F.L. 8" 622.00
F.L. 8" 617.67
F.L. 18" 624.48

STA. 14+10 LINE 'D' CONST. STD. 4' DIA. M.H. RIM 632.30
EX. GROUND @ ℄ PIPE
PROP. GRADE @ ℄ PIPE
8" PVC SDR-35 @ 0.70%
F.L. 8" IN 623.70
F.L. 8" OUT 623.60
STA. 2+60 LINE 'D-1' CONST. STD. 4' DIA. M.H. RIM 632.30
STA. 1+56 LINE 'D-1' 18" R.C.P. CROSSING
STA. 1+19 LINE 'D-1' 18" R.C.P. CROSSING
STA. 0+98 LINE 'D-1' 8" WATER CROSSING
STA. 0+00 LINE 'D-1'= STA. 3+36 LINE 'D' CONST. STD. 4' DIA. M.H. RIM 629.20
EX. GROUND @ ℄ PIPE
PROP. GRADE @ ℄ PIPE
8" PVC SDR-35 @ 1.60%
18 LF 8" PVC SDR-26 W/20 LF CEMENT STABILIZED EMBED. PER UTILITY SEPARATION NOTES 4.C & 4.D ON SHT. 2
F.L. 8" OUT 621.77
F.L. 8" IN 620.11
F.L. 18" 625.96
F.L. 8" IN 619.51
F.L. 18" 625.16
F.L. 8" IN 619.18
F.L. 8" 623.00
F.L. 8" IN 617.61
F.L. 8" OUT 617.51
STA. 2+40 LINE 'D-2' END & C.O.
STA. 2+27 LINE 'D-2' 8" WATER CROSSING
EX. GROUND @ ℄ PIPE
STA. 1+26 LINE 'D-2' CONST. STD. 4' DIA. M.H. RIM 631.04
PROP. GRADE @ ℄ PIPE
STA. 0+25 LINE 'D-2' 18" R.C.P. CROSSING
STA. 0+00 LINE 'D-2'= STA. 5+22 LINE 'D' CONST. STD. 4' DIA. M.H. RIM 630.35
8" PVC SDR-35 @ 2.00%
18 LF 8" PVC SDR-26 W/20 LF CEMENT STABILIZED EMBED. PER UTILITY SEPARATION NOTES 4.C & 4.D ON SHT. 2
F.L. 8" 623.24
F.L. 8" 622.98
F.L. 8" 626.80
F.L. 8" IN 620.96
F.L. 8" OUT 620.86
F.L. 8" 618.84
F.L. 18" 626.19
F.L. 8" IN 618.34
F.L. 8" OUT 618.24

LINE 'D' (Con't.)

STA. 10+35 LINE 'D-3' END & PLUG
STA. 10+15 LINE 'D-3' CONST. STD. 4' DIA. M.H. RIM 633.34
STA. 10+02 LINE 'D-3' 18" R.C.P. CROSSING
F.L. 8" 623.80
F.L. 8" IN 623.72
F.L. 8" OUT 623.62
F.L. 8" 623.57
F.L. 18" 627.67
8" PVC SDR-35 @ 0.70%
MATCH LINE STA. 12+00

LINE 'D-1'

STA. 8+38 LINE 'D-3' 18" R.C.P. CROSSING
STA. 8+30 LINE 'D-3' 8" WATER CROSSING
F.L. 8" 622.91
F.L. 18" 627.44
F.L. 8" 622.88
F.L. 8" 620.20
STA. 6+81 LINE 'D-3' 18" R.C.P. CROSSING
F.L. 8" 622.29
F.L. 18" 626.40
STA. 6+42 LINE 'D-3' CONST. STD. 4' DIA. M.H. RIM 631.80
F.L. 8" IN 622.13
F.L. 8" OUT 622.03
STA. 5+47 LINE 'D-3' CONST. STD. 4' DIA. M.H. RIM 631.76
F.L. 8" IN 621.71
F.L. 8" OUT 621.61
STA. 3+40 LINE 'D-3' CONST. STD. 4' DIA. M.H. RIM 630.83
F.L. 8" IN 620.91
F.L. 8" OUT 620.91
STA. 1+92 LINE 'D-3' 21" R.C.P. CROSSING
F.L. 8" 620.41
F.L. 21" 624.87
STA. 1+43 LINE 'D-3' CONST. STD. 4' DIA. M.H. RIM 630.49
F.L. 8" IN 620.24
F.L. 8" OUT 620.14
STA. 0+35 LINE 'D-3' 42" R.C.P. CROSSING
STA. 0+18 LINE 'D-3' 24" R.C.P. CROSSING
STA. 0+00 LINE 'D-3'= STA. 8+47 LINE 'D' CONST. STD. 4' DIA. M.H. RIM 629.74
F.L. 8" 619.77
F.L. 42" 622.80
F.L. 8" 619.71
F.L. 24" 623.73
F.L. 8" IN 619.65
F.L. 8" OUT 619.55
20 LF TYPE 'A' EMBED.
12" MIN. CLR.
8" WATER W/ PRESSURE ENCASEMENT PER UTILITY SEPARATION NOTE 4.E ON SHT. 2
EX. GROUND @ ℄ PIPE
PROP. GRADE @ ℄ PIPE
8" PVC SDR-35 @ 0.40%
8" PVC SDR-35 @ 0.34%

LINE 'D-3'

Huitt-Zollars, Inc.
Firm Registration No. F-761

RECORD DRAWING

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SANITARY SEWER PROFILES
LINES 'D', 'D-1', 'D-2' & 'D-3'

LIGHT FARMS

LFC Land Company LLC

Collin County Municipal Utility District No. 1

COLLIN COUNTY, TEXAS

HUITT-ZOLLARS

DESIGN	CHECKED	DATE	SCALE	NOTES	JOB NO.	SHT. NO.
HZI	HZI		H: 1"=40' V: 1"=6'		01-3905-26	60

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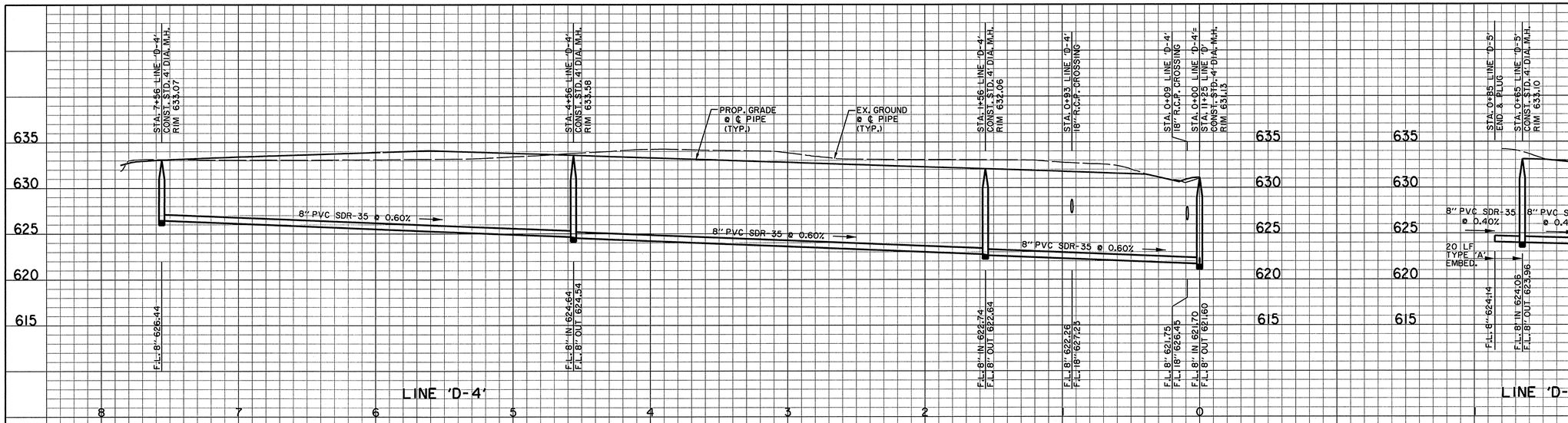
SANI. SEWER PROFILES LINES 'D', 'D-1', 'D-2' & 'D-3' P-201301-01



BASIS OF VERTICAL DATUM - NAVD 1988 based on National Geodetic Survey Benchmarks N-185 (Elevation 650.78') and H263 (Elevation - 643.81')

BENCHMARKS:

TBM #39
Square cut on curb inlet, east side of North Dallas Tollway at the northeast corner of intersection with Light Farms Boulevard. Elev. 639.57' (Set 4/4/08)

HZI Control Monument #4
5/8 inch iron rod set in concrete with aluminum cap, north side of Light Farms Way at 1418 feet left of centerline Station 30+39. Elev. 630.40'

STATE OF TEXAS
KEVIN N. CARLSON
89232
LICENSED PROFESSIONAL ENGINEER
6-20-13

Huitt-Zollars, Inc.
Firm Registration No. F-761

RECORD DRAWING

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SANITARY SEWER PROFILES
LINES 'D-4' & 'D-5'

LIGHT FARMS

LFC Land Company LLC

Collin County Municipal Utility District No. 1

COLLIN COUNTY, TEXAS

HUITT-ZOLLARS

DESIGN	CHECKED	DATE	SCALE	NOTES	JOB NO.	SHT. NO.
HZI	HZI		H: 1"=40' V: 1"=6'		01-3905-26	61

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SANI. SEWER PROFILES LINES 'D-4' & 'D-5'

P-201301-01

AREA OF DISTURBANCE 57.8 AC.

PHASES OF EROSION CONTROL:

A. GRADING:

1) MAINTAIN SILT FENCE
2) MAINTAIN CONST. ENTRANCE
3) MAINTAIN CHECK DAM
4) MAINTAIN SED. BASINS

B. UTILITIES:

1) MAINTAIN SILT FENCE
2) MAINTAIN CONST. ENTRANCE
3) MAINTAIN CHECK DAMS
4) MAINTAIN SED. BASINS
5) INSTALL NEW INLET PROTECTION

C. WATER INJECTION OF PADS:

1) MAINTAIN SILT FENCE
2) MAINTAIN CONST. ENTRANCE
3) MAINTAIN CHECK DAMS
4) MAINTAIN INLET PROTECTION
5) MAINTAIN SED. BASINS
6) WATER INJECT PADS CLEAR OF STOCKPILE & SED. BASINS

D. WATER INJECTION OF PADS (REMAINING LOTS)

1) MAINTAIN SILT FENCE
2) MAINTAIN CONST. ENTRANCE
3) MAINTAIN CHECK DAMS
4) MAINTAIN INLET PROTECTION
5) REMOVE SED. BASINS & STOCKPILE AREAS. ESTABLISH FINAL GRADE FOR LOTS IN THIS AREA.

E. PAVING:

1) MAINTAIN SILT FENCE
2) MAINTAIN CHECK DAMS
3) REMOVE CONST. ENTRANCE
4) MAINTAIN INLET PROTECTION
5) INSTALL EROSION CONTROL BLANKET ALONG BACK OF CURB
6) INSTALL LOT SWALE SILT FENCE CHEVRONS

NOTES:

1) ALL SILT FENCE, ROCK CHECK DAMS, SEDIMENTATION BASINS, INLET PROTECTION SHOWN AS EXISTING WERE INSTALLED BY MASS GRADING CONTRACTOR.

2) SUBDIVISION CONTRACTOR REQUIRED TO REPAIR AND/OR REPLACE DAMAGED EROSION CONTROL DEVICES CAUSED BY HIS ACTIVITES.

* DENOTES EXISTING EROSION CONTROL DEVICES

N

0 50 100 150 200
SCALE IN FEET

NOTE:
ALL DISTURBED AREAS MUST BE PERMANENTLY STABILIZED BY HYDROMULCH OR BROADCAST SEEDING PER NCTCOG STANDARDS TO REESTABLISH VEGETATION UNDER THE DIRECTION OF THE ENGINEER / DEVELOPER.

BASIS OF VERTICAL DATUM - NAVD 1988 based on National Geodetic Survey Benchmarks N-185 (Elevation 650.78') and H263 (Elevation - 643.81')

BENCHMARKS:

TBM #39
Square cut on curb inlet, east side of North Dallas Tollway at the northeast corner of intersection with Light Farms Boulevard. Elev. 639.57' (Set 4/4/08)

HZI Control Monument #7
5/8 inch iron rod set in concrete with aluminum cap, northeasterly side of Light Farms Way at 168 feet left of centerline Station 11+49 Elev. 632.76'

STATE OF TEXAS
KEVIN N. CARLSON
89232
LICENSED PROFESSIONAL ENGINEER
4-2013

Huitt-Zollars, Inc.
Firm Registration No. F-761

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EROSION CONTROL PLAN
EXISTING

LIGHT FARMS

LFC Land Company LLC

Collin County Municipal Utility District No. 1

COLLIN COUNTY, TEXAS

HUITT-ZOLLARS

DESIGN	CHECKED	DATE	SCALE	NOTES	JOB NO.	SHT. NO.
HZI	HZI		1"=100'		01-3905-26	62

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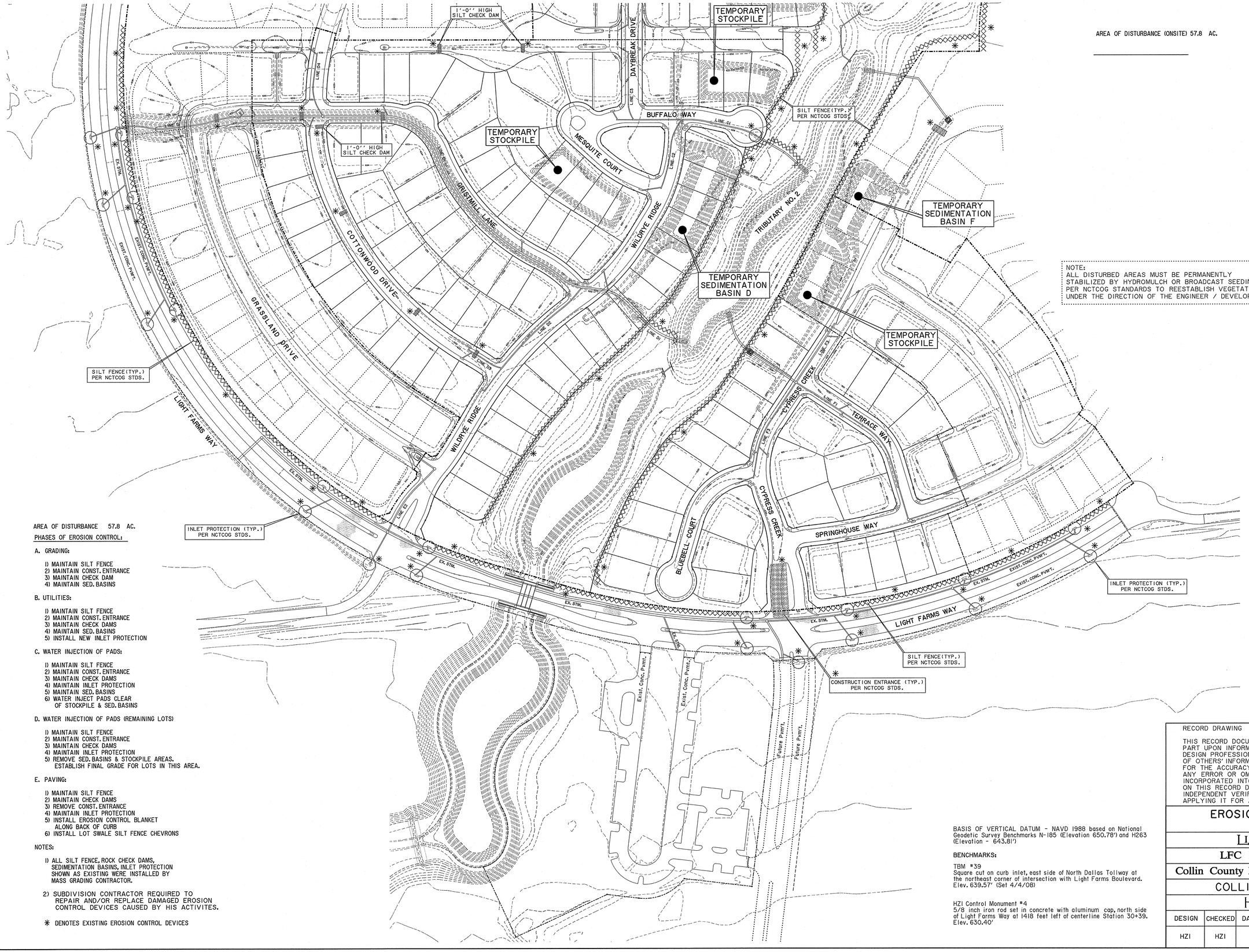
EROSION CONTROL PLAN (EXISTING)

P-201301-01



AREA OF DISTURBANCE (ONSITE) 57.8 AC.

0 50 100 150 200
SCALE IN FEET

NOTE:
ALL DISTURBED AREAS MUST BE PERMANENTLY STABILIZED BY HYDROMULCH OR BROADCAST SEEDING PER NCTCOG STANDARDS TO REESTABLISH VEGETATION UNDER THE DIRECTION OF THE ENGINEER / DEVELOPER.

AREA OF DISTURBANCE 57.8 AC.

PHASES OF EROSION CONTROL:

A. GRADING:

1) MAINTAIN SILT FENCE
2) MAINTAIN CONST. ENTRANCE
3) MAINTAIN CHECK DAM
4) MAINTAIN SED. BASINS

B. UTILITIES:

1) MAINTAIN SILT FENCE
2) MAINTAIN CONST. ENTRANCE
3) MAINTAIN CHECK DAMS
4) MAINTAIN SED. BASINS
5) INSTALL NEW INLET PROTECTION

C. WATER INJECTION OF PADS:

1) MAINTAIN SILT FENCE
2) MAINTAIN CONST. ENTRANCE
3) MAINTAIN CHECK DAMS
4) MAINTAIN INLET PROTECTION
5) MAINTAIN SED. BASINS
6) WATER INJECT PADS CLEAR OF STOCKPILE & SED. BASINS

D. WATER INJECTION OF PADS (REMAINING LOTS)

1) MAINTAIN SILT FENCE
2) MAINTAIN CONST. ENTRANCE
3) MAINTAIN CHECK DAMS
4) MAINTAIN INLET PROTECTION
5) REMOVE SED. BASINS & STOCKPILE AREAS. ESTABLISH FINAL GRADE FOR LOTS IN THIS AREA.

E. PAVING:

1) MAINTAIN SILT FENCE
2) MAINTAIN CHECK DAMS
3) REMOVE CONST. ENTRANCE
4) MAINTAIN INLET PROTECTION
5) INSTALL EROSION CONTROL BLANKET ALONG BACK OF CURB
6) INSTALL LOT SWALE SILT FENCE CHEVRONS

NOTES:

1) ALL SILT FENCE, ROCK CHECK DAMS, SEDIMENTATION BASINS, INLET PROTECTION SHOWN AS EXISTING WERE INSTALLED BY MASS GRADING CONTRACTOR.

2) SUBDIVISION CONTRACTOR REQUIRED TO REPAIR AND/OR REPLACE DAMAGED EROSION CONTROL DEVICES CAUSED BY HIS ACTIVITES.

✱ DENOTES EXISTING EROSION CONTROL DEVICES

BASIS OF VERTICAL DATUM - NAVD 1988 based on National Geodetic Survey Benchmarks N-185 (Elevation 650.78') and H263 (Elevation - 643.81')

BENCHMARKS:

TBM #39
Square cut on curb inlet, east side of North Dallas Tollway at the northeast corner of intersection with Light Farms Boulevard. Elev. 639.57' (Set 4/4/08)

HZI Control Monument #4
5/8 inch iron rod set in concrete with aluminum cap, north side of Light Farms Way at 1418 feet left of centerline Station 30+39. Elev. 630.40'

STATE OF TEXAS
KEVIN N. CARLSON
89232
LICENSED PROFESSIONAL ENGINEER
6-20-13

Huitt-Zollars, Inc.
Firm Registration No. F-761

RECORD DRAWING

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EROSION CONTROL PLAN
EXISTING

LIGHT FARMS

LFC Land Company LLC

Collin County Municipal Utility District No. 1

COLLIN COUNTY, TEXAS

HUITT-ZOLLARS

DESIGN	CHECKED	DATE	SCALE	NOTES	JOB NO.	SHT. NO.
HZI	HZI		1"=100'		01-3905-26	63

EROSION CONTROL PLAN (EXISTING)

P-201301-01

AREA OF DISTURBANCE 57.8 AC.

PHASES OF EROSION CONTROL:

A. GRADING:

1) MAINTAIN SILT FENCE
2) MAINTAIN CONST. ENTRANCE
3) MAINTAIN CHECK DAM
4) MAINTAIN SED. BASINS

B. UTILITIES:

1) MAINTAIN SILT FENCE
2) MAINTAIN CONST. ENTRANCE
3) MAINTAIN CHECK DAMS
4) MAINTAIN SED. BASINS
5) INSTALL NEW INLET PROTECTION

C. WATER INJECTION OF PADS:

1) MAINTAIN SILT FENCE
2) MAINTAIN CONST. ENTRANCE
3) MAINTAIN CHECK DAMS
4) MAINTAIN INLET PROTECTION
5) MAINTAIN SED. BASINS
6) WATER INJECT PADS CLEAR OF STOCKPILE & SED. BASINS

D. WATER INJECTION OF PADS (REMAINING LOTS)

1) MAINTAIN SILT FENCE
2) MAINTAIN CONST. ENTRANCE
3) MAINTAIN CHECK DAMS
4) MAINTAIN INLET PROTECTION
5) REMOVE SED. BASINS & STOCKPILE AREAS. ESTABLISH FINAL GRADE FOR LOTS IN THIS AREA.

E. PAVING:

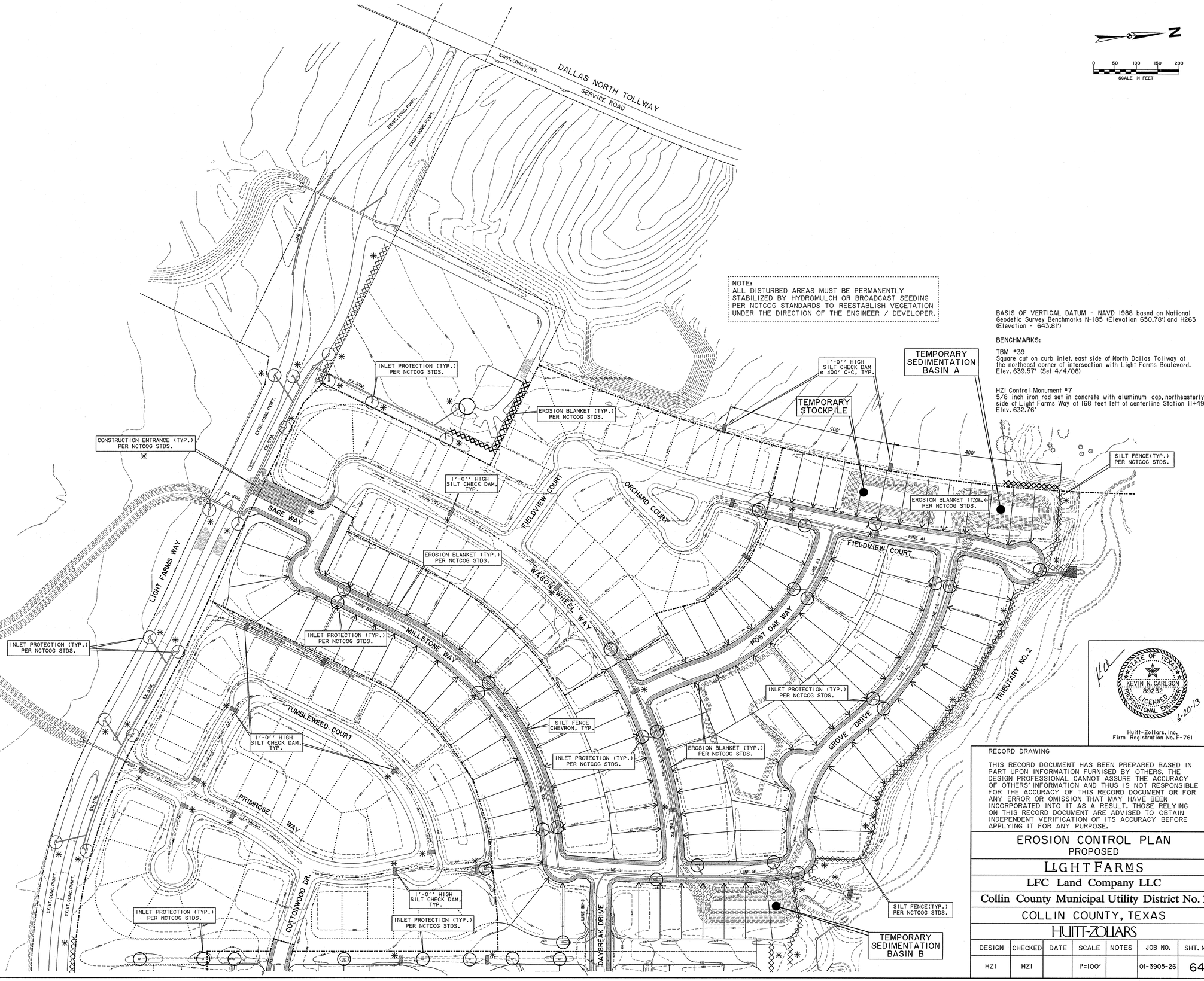
1) MAINTAIN SILT FENCE
2) MAINTAIN CHECK DAMS
3) REMOVE CONST. ENTRANCE
4) MAINTAIN INLET PROTECTION
5) INSTALL EROSION CONTROL BLANKET ALONG BACK OF CURB
6) INSTALL LOT SWALE SILT FENCE CHEVRONS

NOTES:

1) ALL SILT FENCE, ROCK CHECK DAMS, SEDIMENTATION BASINS, INLET PROTECTION SHOWN AS EXISTING WERE INSTALLED BY MASS GRADING CONTRACTOR.

2) SUBDIVISION CONTRACTOR REQUIRED TO REPAIR AND/OR REPLACE DAMAGED EROSION CONTROL DEVICES CAUSED BY HIS ACTIVITES.

✱ DENOTES EXISTING EROSION CONTROL DEVICES



NOTE:
ALL DISTURBED AREAS MUST BE PERMANENTLY STABILIZED BY HYDROMULCH OR BROADCAST SEEDING PER NCTCOG STANDARDS TO REESTABLISH VEGETATION UNDER THE DIRECTION OF THE ENGINEER / DEVELOPER.

BASIS OF VERTICAL DATUM - NAVD 1988 based on National Geodetic Survey Benchmarks N-185 (Elevation 650.78') and H263 (Elevation - 643.81')

BENCHMARKS:

TBM #39
Square cut on curb inlet, east side of North Dallas Tollway at the northeast corner of intersection with Light Farms Boulevard. Elev. 639.57' (Set 4/4/08)

HZI Control Monument #7
5/8 inch iron rod set in concrete with aluminum cap, northeasterly side of Light Farms Way at 168 feet left of centerline Station 11+49 Elev. 632.76'

STATE OF TEXAS
KEVIN N. CARLSON
89232
LICENSED
PROFESSIONAL ENGINEER
6-20-13

Huitt-Zollars, Inc.
Firm Registration No. F-761

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EROSION CONTROL PLAN
PROPOSED

LIGHT FARMS

LFC Land Company LLC

Collin County Municipal Utility District No. 1

COLLIN COUNTY, TEXAS

HUITT-ZOLLARS

DESIGN	CHECKED	DATE	SCALE	NOTES	JOB NO.	SHT. NO.
HZI	HZI		1"=100'		01-3905-26	64

EROSION CONTROL PLAN (PROPOSED)

P-201301-01

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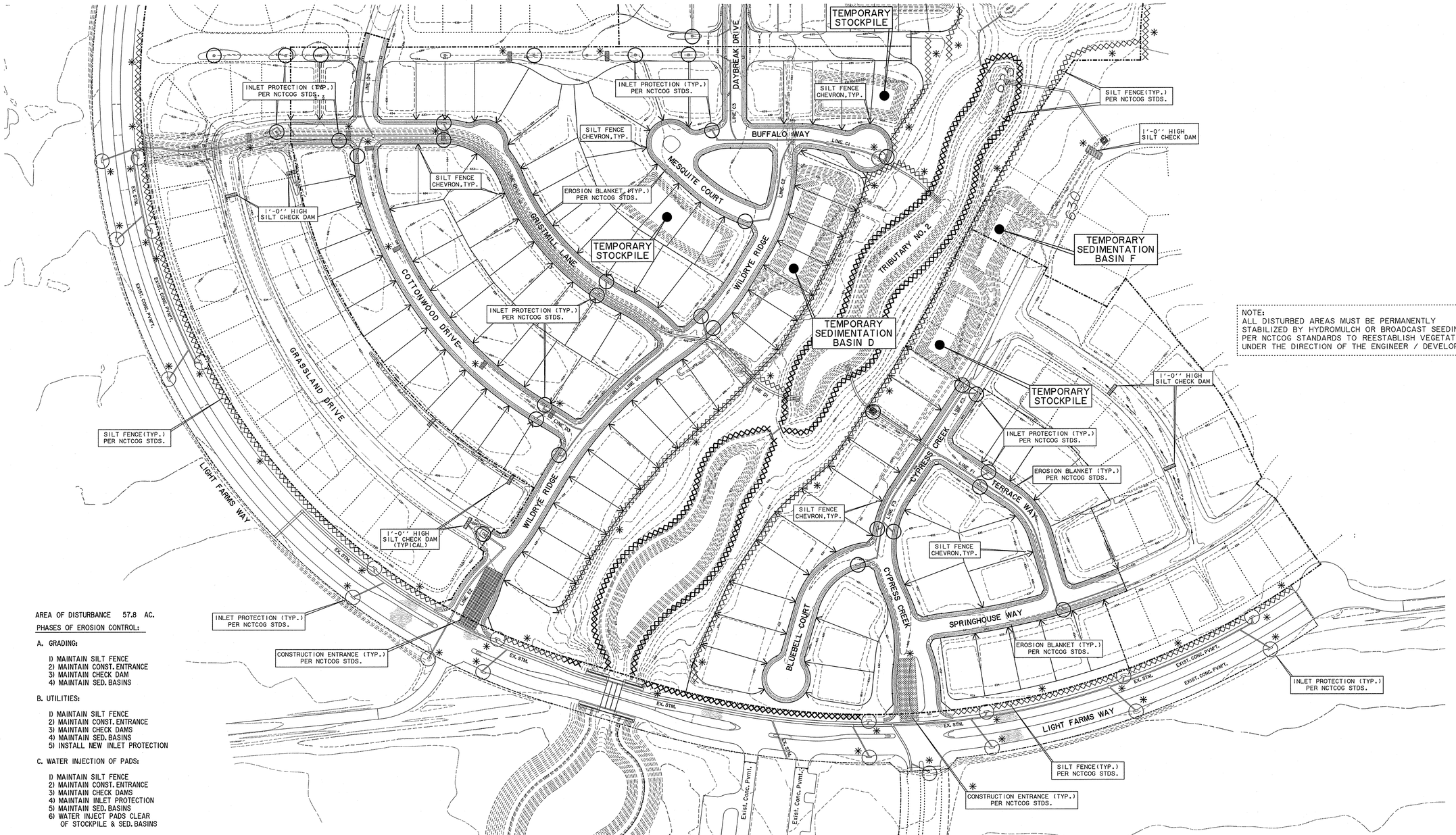

NOTE:
ALL DISTURBED AREAS MUST BE PERMANENTLY STABILIZED BY HYDROMULCH OR BROADCAST SEEDING PER NCTCOG STANDARDS TO REESTABLISH VEGETATION UNDER THE DIRECTION OF THE ENGINEER / DEVELOPER.

AREA OF DISTURBANCE 57.8 AC.

PHASES OF EROSION CONTROL:

A. GRADING:

1) MAINTAIN SILT FENCE
2) MAINTAIN CONST. ENTRANCE
3) MAINTAIN CHECK DAM
4) MAINTAIN SED. BASINS

B. UTILITIES:

1) MAINTAIN SILT FENCE
2) MAINTAIN CONST. ENTRANCE
3) MAINTAIN CHECK DAMS
4) MAINTAIN SED. BASINS
5) INSTALL NEW INLET PROTECTION

C. WATER INJECTION OF PADS:

1) MAINTAIN SILT FENCE
2) MAINTAIN CONST. ENTRANCE
3) MAINTAIN CHECK DAMS
4) MAINTAIN INLET PROTECTION
5) MAINTAIN SED. BASINS
6) WATER INJECT PADS CLEAR OF STOCKPILE & SED. BASINS

D. WATER INJECTION OF PADS (REMAINING LOTS)

1) MAINTAIN SILT FENCE
2) MAINTAIN CONST. ENTRANCE
3) MAINTAIN CHECK DAMS
4) MAINTAIN INLET PROTECTION
5) REMOVE SED. BASINS & STOCKPILE AREAS. ESTABLISH FINAL GRADE FOR LOTS IN THIS AREA.

E. PAVING:

1) MAINTAIN SILT FENCE
2) MAINTAIN CHECK DAMS
3) REMOVE CONST. ENTRANCE
4) MAINTAIN INLET PROTECTION
5) INSTALL EROSION CONTROL BLANKET ALONG BACK OF CURB
6) INSTALL LOT SWALE SILT FENCE CHEVRONS

NOTES:

1) ALL SILT FENCE, ROCK CHECK DAMS, SEDIMENTATION BASINS, INLET PROTECTION SHOWN AS EXISTING WERE INSTALLED BY MASS GRADING CONTRACTOR.

2) SUBDIVISION CONTRACTOR REQUIRED TO REPAIR AND/OR REPLACE DAMAGED EROSION CONTROL DEVICES CAUSED BY HIS ACTIVITES.

✳ DENOTES EXISTING EROSION CONTROL DEVICES

BASIS OF VERTICAL DATUM - NAVD 1988 based on National Geodetic Survey Benchmarks N-185 (Elevation 650.78') and H263 (Elevation - 643.81')

BENCHMARKS:

TBM #39
Square cut on curb inlet, east side of North Dallas Tollway at the northeast corner of intersection with Light Farms Boulevard. Elev. 639.57' (Set 4/4/08)

HZI Control Monument #4
5/8 inch iron rod set in concrete with aluminum cap, north side of Light Farms Way at 1418 feet left of centerline Station 30+39. Elev. 630.40'

STATE OF TEXAS
KEVIN N. CARLSON
89232
LICENSED PROFESSIONAL ENGINEER
6-20-13

Huitt-Zollars, Inc.
Firm Registration No. F-761

RECORD DRAWING

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EROSION CONTROL PLAN
PROPOSED

LIGHT FARMS

LFC Land Company LLC

Collin County Municipal Utility District No. 1

COLLIN COUNTY, TEXAS

HUITT-ZOLLARS

DESIGN	CHECKED	DATE	SCALE	NOTES	JOB NO.	SHT. NO.
HZI	HZI		1"=100'		01-3905-26	65

EROSION CONTROL PLAN (PROPOSED)

P-201301-01

Cast Aluminum Backplate Highlights:

Heavy cast aluminum design with 1" wide and ¼" thick raised border.

Designed to accept D.O.T. standard street signs in sizes and shapes below.

Easy installation on 3", 4" or 5" O.D., straight, round poles, with no alterations to pole, with two (2) of our 3", 4" or 5" mounting collars.

Installation on 3", 4" or 5" O.D., tapered round poles, may be accomplished by using our 3", 4" or 5" mounting collars with extra setscrews for leveling.

All Stainless Steel hardware

Durable Powder coat finish, (Medium Gloss Black Polyester, Standard).

Custom colors available.

18" Stop Signs available for golf course cart path application.*

Applied Vinyl, aluminum, D.O.T. standard, street signs are available but not included. (See our "SIGN" section)

Ordering Information:

Sample catalog number
#TSC-24x24-D-4S-BLK
Type TSC | Size 24x24 | Orientation D | Mounting 4S | Color BLK

Stop Sign - Cast Aluminum Back plate, with two mtg. collars:
Type & Nominal Size — Actual size of Stop Sign
STC-18 — 18" (For Golf Courses Only)
STC-24 — 24"
STC-30 — 30"
STC-36 — 36"

Traffic Sign - Cast Aluminum Back plate with two mtg. collars:
Type & Nominal Size — Actual size of Sign
TSC-6x12 — 6" x 12" (Needs only one mtg. collar)
TSC-12x18 — 12" x 18"
TSC-18x18 — 18" x 18"
TSC-18x24 — 18" x 24"
TSC-24x24 — 24" x 24"
TSC-24x30 — 24" x 30"
TSC-30x30 — 30" x 30"

Orientation of Traffic Sign
D — Diamond

Yield Sign - Cast Aluminum Back plate, with two mtg. collars:
Type & Nominal Size — Actual size of Sign
YDC-30 — 30"
YDC-36 — 36"

Mounting collar size and type
3S — Two 3" Mounting Collars for 3" straight pole
4S — Two 4" Mounting Collars for 4" straight pole
5S — Two 5" Mounting Collars for 5" straight pole
3T — Two 3" Mounting Collars for tapered pole
4T — Two 4" Mounting Collars for tapered pole
5T — Two 5" Mounting Collars for tapered pole
6.5T — Two 6.5" x 2" Mounting collars for tapered poles
BOS — Two Bolt or strap on brackets for any pole

Colors
BLK — Medium Gloss Black Polyester (Standard)
BLKP — Medium Gloss Black Polyester, Orange Peel Texture.
RAL-6012 — Dark Green Polyester
WHT — White Polyester
CC — Custom Colors.

Notes
1. Contact us for pricing.
2. Mounting collars are shipped in separate, individual boxes.
3. Applied Vinyl, aluminum, D.O.T. standard, street signs are available but not included. (See our "SIGN" section)
4. Tapered poles must be accurately measured at of mounting points. Next size collar must be used when pole diameter is larger than standard size.

Arcadian - Aluminum Street Name Frame Highlights and Specifications:

Handcrafted street name frames of 319T5 cast aluminum ends and extrusions are welded and blended for a custom, no rust appearance.

Sizes to accept D.O.T. standard street name blades, 6" or 9" high, 24" to 48" long, in 6" increments, up to ½" thick.

Removable end plate for installation and replacement of street name blades

Frames are bolted to mounting collars with two ¼" stainless steel bolts for added strength and ease of installation.

One or two frames may be installed on a single 3", 4" or 5" round pole mounting collar @ 90 degrees apart.

Easy installation on 3", 4" or 5" O.D., straight round poles, with no alterations to pole, by using our 3", 4" or 5" mounting collars.

Installation on 3", 4" or 5" O.D., tapered round poles, may be accomplished by using our 3", 4" or 5" mounting collars with extra setscrews for leveling.

All Stainless Steel hardware

Durable Powder coat finish, (Medium Gloss Black Polyester, Standard).

Custom colors available.

Applied Vinyl, aluminum, D.O.T. standard, street name blades are available but not included. (See our "SIGN" section)

Ordering Information:

Sample catalog number
#AR2-6x30-4S-BLK-SA1
Sign frame AR2 | Size 6x30 | Mounting 4S | Color BLK | Options SA1

Sign Frames
AR1 — One Arcadian Frames on one mounting collar
AR2 — Two Arcadian Frames on one mounting collar

Nominal Frame Size — Actual size of street name blade
6x24 — 6" High x 24" Long
6x30 — 6" High x 30" Long
6x36 — 6" High x 36" Long
6x42 — 6" High x 42" Long
6x48 — 6" High x 48" Long
9x24 — 9" High x 24" Long
9x30 — 9" High x 30" Long
9x36 — 9" High x 36" Long
9x42 — 9" High x 42" Long
9x48 — 9" High x 48" Long

Sign Frame Options
SA1 — #1 Scroll arm w/Arcadian swinging frame
SO1 — #1 Scroll over welded to frame
SU1 — #1 Scroll under welded to frame
LOGO — Logo frame bolted to frame
CU — Custom

Mounting collar size and type
3S — 3" Mounting Collar for 3" straight pole
4S — 4" Mounting Collar for 4" straight pole
5S — 5" Mounting Collar for 5" straight pole
3T — 3" Mounting Collar for tapered pole
4T — 4" Mounting Collar for tapered pole
5T — 5" Mounting Collar for tapered pole
BOS — Bolt or strap on bracket for any pole

Colors
BLK — Medium Gloss Black Polyester (Standard)
BLKP — Medium Gloss Black Polyester, Orange Peel Texture.
RAL-6012 — Dark Green Polyester
WHT — White Polyester
CC — Custom Colors.

Notes
1. Contact us for pricing.
2. Mounting collars are shipped in separate, individual boxes.
3. D.O.T. standard, street name blades available at extra cost. (See our "Sign" Section)

Banner Arm and Combination Banner Arm/Flag Holder Highlights:

Single Banner Arm assembly includes (1) cast aluminum holder, (1) round cast aluminum ball end, and (1) 1" round extruded aluminum tube arm on a single mounting collar.

Double Banner Arm assembly includes (2) cast aluminum holders, (2) round cast aluminum ball ends, and (2) 1" round extruded aluminum tubes arm on a single mounting collar.

Combination Banner Arm/Flag Holder bracket will hold a 1" diameter flag arm at a 45 deg. angle to the pole and or a 1" diameter banner arm at 90 deg. to the pole

Single Combination Banner Arm / Flag Holder assembly includes (1) cast aluminum combination banner arm / flag holder bracket on a single mounting collar.

Double Combination Banner Arm / Flag Holder assembly includes (2) cast aluminum combination banner arm / flag holders, on a single mounting collar.

Single Banner Anchor assembly includes (1) ¼" eyebolt on a single mounting collar.

Double Banner Anchor assembly includes (2) ¼" eyebolts on a single mounting collar.

Easy installation on 3", 4" or 5" O.D., straight round poles, with no alterations to pole, by using our 3", 4" or 5" mounting collars.

Installation on 3", 4" or 5" O.D., tapered round poles, may be accomplished by using our 3", 4" or 5" mounting collars with extra setscrews for leveling.

All Stainless Steel hardware

Durable Powder coat finish, (Medium Gloss Black Polyester, Standard).

Custom colors available.

Ordering Information:

Sample catalog number
#BA1-24-4S-BLK
Type BA1 | Size 24 | Mounting 4S | Color BLK

Bracket Type
BA1 — One Banner Arm Holder on one mounting collar
BA2 — Two Banner Arm Holders on one mounting collar
BA/FH1 — One Banner Arm/Flag Holder on one mounting collar
BA/FH2 — Two Banner Arm/Flag Holders on one mounting collar
BA/EB1 — One Banner anchor, (¼" eyebolt on one mounting collar)
BA/EB2 — Two Banner anchors, (¼" eyebolt on one mounting collar)

Banner Arm with Ball End
Nominal size — Actual size
24 — 1" Diameter x 27¼" Long
30 — 1" Diameter x 33¼" Long
36 — 1" Diameter x 39¼" Long

Mounting collar size and type
3S — 3" Mounting Collar for 3" straight pole
4S — 4" Mounting Collar for 4" straight pole
5S — 5" Mounting Collar for 5" straight pole
3T — 3" Mounting Collar for tapered pole
4T — 4" Mounting Collar for tapered pole
5T — 5" Mounting Collar for tapered pole
BOS — Bolt or strap on bracket for any pole

Colors
BLK — Medium Gloss Black Polyester (Standard)
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RAL-6012 — Dark Green Polyester
WHT — White Polyester
CC — Custom Colors.

Notes
1 Contact us for pricing.
2 Mounting collars are shipped in separate, individual boxes.
3 Tapered poles must be accurately measured at of mounting points. Next size collar must be used when pole diameter is larger than standard size.

Twin (PTH2820) Specification Sheet

Project Name: | Location: | MFG: Philips Hadco
Fixture Type: | Catalog No.: | Qty:

Ordering Guide

Example: PTH2820 P3 A

Product Code	PTH2820	Twin
Post diameter	P3	3" Post Mount
	P4	4" Post Mount
Finish	A	Black
	B	White
	G	Verde
	H	Bronze
	I	Gray
	J	Green

Specifications

HOUSING:
356 HM high-strength, low-copper, proprietary cast aluminum alloy.

FINISH:
Thermoset polyester powdercoat is electrostatically applied after a five-stage conversion cleaning process and bonded by heat fusion thermosetting. Laboratory tested for superior weatherability and fade resistance in accordance with ASTM B117 specifications. For larger projects where a custom color is required, contact the factory for more information.

MOUNTING:
Cast Aluminum Hub mounts to a 3" OD x 3" long (P3) [if applicable] or 4" OD x 6 1/2" long (P4) [if applicable] tenon and is secured with at least (3) 5/16"-18 stainless steel set screws.

WARRANTY:
Three-year limited warranty.

Height:
17 5/8" (45 cm)

Length:
41 7/8" (106 cm)

EPA:
1.45 sq. ft.

ISO 9001:2008 Registered — Page 1 of 1

PHILIPS HADCO — Note: Philips reserves the right to modify the above details to reflect changes in the cost of materials and/or production and/or design without prior notice. 100 Craftway Drive, Littlestown, PA 17340 | P: +1-717-359-7131 F: +1-717-359-9289 | http://www.hadco.com | Copyright 2011 Philips HW1

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Full Specification (Complete Assembly) Drawing

HADCO
a Genlyte company
ISO 9000: 2000 Certified
"Over 50 Years of Excellence"
100 Craftway P.O. Box 128
Littlestown, Pennsylvania 17340-0128
Phone 717-359-7131
Fax 717-359-9515
www.hadcolighting.com

JOB NAME: Polytech Composite Foamed Pole Sample
REP. TERRITORY: 09 | DRAWN BY: SMK
SCALE: 1:20 | DATE: 03/01/06
DRAWING NUMBER: C2268-DWG01
REP: Genlyte Dallas
REV: 0 | PO#: 06-030
BY: SMK | DATE: 03/03/06

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"Over 50 Years of Excellence"
100 Craftway P.O. Box 128
Littlestown, Pennsylvania 17340-0128
Phone 717-359-7131
Fax 717-359-9515
www.hadcolighting.com

JOB NAME: Hills of Lonestar
REP. TERRITORY: 09 | DRAWN BY: SMK
SCALE: 1:20 | DATE: 10/27/05
DRAWING NUMBER: C1927-DWG01
REP: Genlyte Dallas
REV: A | PO#: 05-174
BY: . | DATE: .

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Fax 717-359-9515
www.hadco.com

JOB NAME: Light Farms Project - Median Lighting
REP. TERRITORY: 09 | DRAWN BY: SMK
SCALE: 1:25 | DATE: 09/11/08
DRAWING NUMBER: C4410-DWG05
REP: Lightolier-Dallas
REV: B | PO#: 08-058
BY: SMK | DATE: 09/11/08

STATE OF TEXAS
KEVIN N. CARLSON
89232
LICENSED
PROFESSIONAL ENGINEER
5/17/12

05/17/12
NOT FOR CONSTRUCTION, FOR REVIEW & BIDDING PURPOSES ONLY

Huitt-Zollars, Inc.
Firm Registration No. F-761

DATE	DESCRIPTION	REF NO.
05/17/12	3rd City Submittal	
04/27/12	2nd City Submittal	
03/28/12	Ist City Submittal	

STREET SIGN DETAILS
LIGHT FARMS
LFC Land Company LLC
Collin County Municipal Utility District No. 1
COLLIN COUNTY, TEXAS
HUITT-ZOLLARS

DESIGN	CHECKED	DATE	SCALE	NOTES	JOB NO.	SHT. NO.
HZI	HZI		NA		01-3905-26	64

STREET SIGN DETAILS

I: \proj\01390526\dgn\lfp1dcal1.dgn

STATE OF TEXAS
KEVIN N. CARLSON
89232
LICENSED
PROFESSIONAL ENGINEER
6-20-13

Huitt-Zollars, Inc.
Firm Registration No. F-761

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STREET SIGN DETAILS

LIGHT FARMS
LFC Land Company LLC
Collin County Municipal Utility District No. 1
COLLIN COUNTY, TEXAS
HUITT-ZOLLARS

DESIGN	CHECKED	DATE	SCALE	NOTES	JOB NO.	SHT. NO.
HZI	HZI		NA		01-3905-26	66