

# CONSTRUCTION PLANS FOR THE ESTATES AT STINSON HIGHLANDS

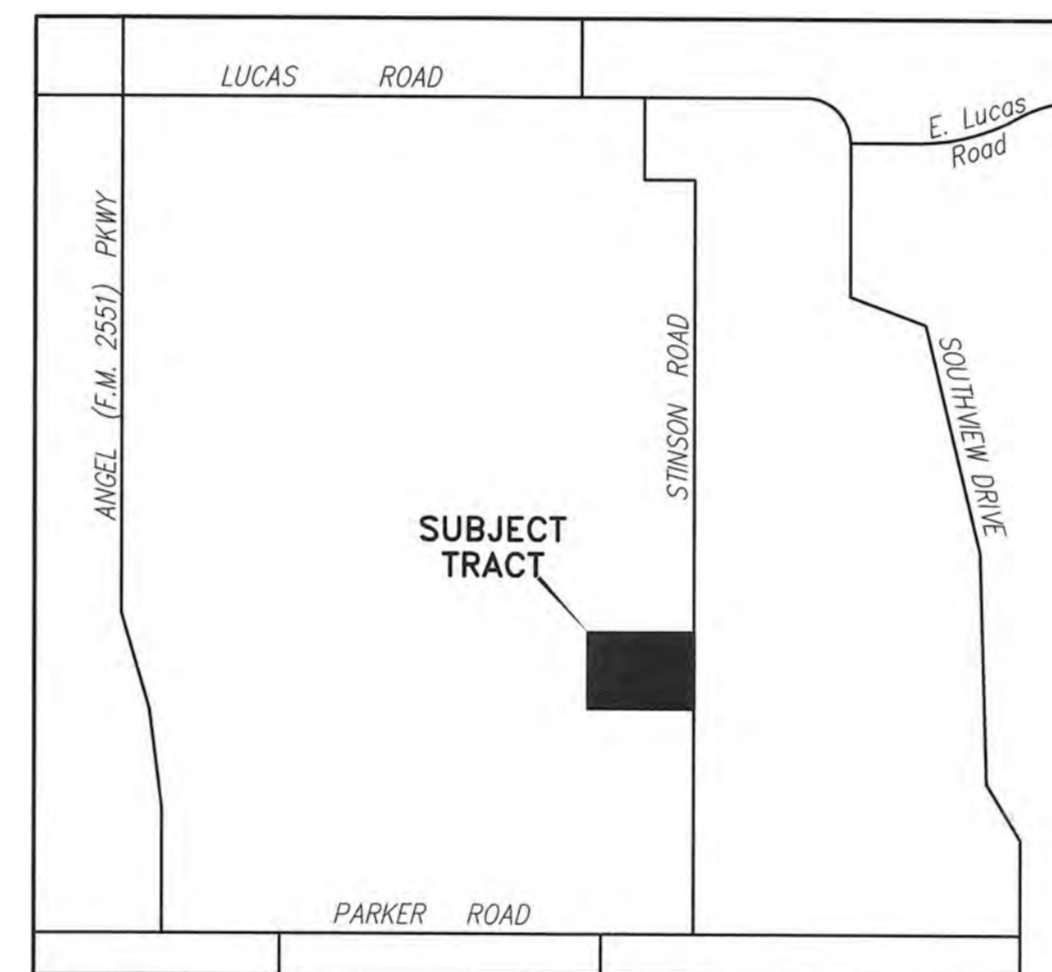
**CONTACT INFORMATION:**

Development Services Director: Joe Hilbourn  
972-912-1207

Lucas Engineer: Stanton Foerster  
972-912-1208

## 19 RESIDENTIAL LOT SUBDIVISION AN ADDITION TO THE CITY OF LUCAS COLLIN COUNTY, TEXAS 30.690 ACRES

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VICINITY MAP  
N.T.S.

**GENERAL NOTES**

1. All street and alley intersections and connections shall be built by the developer.
2. Excavation from streets shall be deposited in low areas to allow proper drainage, except existing creek.
3. All existing ditches, except as noted on drainage plans, shall be filled to conform to surrounding terrain.
4. It will be the responsibility of the developer and/or the contractor to protect and maintain to proper line and grade all public utilities, manholes, cleanouts, valve boxes, fire hydrants, etc. during the construction of this project, prior to and after placing permanent pavement.
5. All materials and workmanship shall conform to City of Lucas Standards and Specifications or NTCOG Standards as applicable.

RECORD DRAWINGS

9/17/2019

THE ESTATES AT STINSON HIGHLANDS  
THE CITY OF LUCAS, COLLIN COUNTY, TEXAS

SHEET  
1  
OF  
20

**CAUTION! EXISTING UTILITIES**

CONTRACTOR SHOULD CALL 1-800-DIG-TESS PRIOR TO BEGINNING ANY CONSTRUCTION ACTIVITIES FOR EXISTING UTILITY LOCATIONS. EXISTING UTILITIES AND UNDERGROUND FACILITIES INDICATED ON THESE PLANS HAVE BEEN LOCATED FROM REFERENCE INFORMATION. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY BOTH HORIZONTALLY AND VERTICALLY THE LOCATION OF ALL EXISTING UTILITIES AND UNDERGROUND FACILITIES PRIOR TO CONSTRUCTION AND TO TAKE NECESSARY PRECAUTIONS IN ORDER TO PROTECT ALL FACILITIES ENCOUNTERED. THE CONTRACTOR SHALL PRESERVE AND PROTECT ALL EXISTING UTILITIES FROM DAMAGE DURING CONSTRUCTION.

**BENCHMARK:**

BM SQUARE CUT ON NORTHWEST CORNER OF WYE INLET LOCATED AT SOUTHWEST CORNER OF STINSON ROAD AND HIGHLAND DRIVE.  
ELEV: 589.40

**DEVELOPER**

McCREARY DONIHOO PARTNERS, LTD.  
4925 GREENVILLE AVE. STE 1020  
DALLAS, TX 75206

CONTACT: STEPHN L. SALLMAN  
PHONE: 214-368-0238



ENGINEERING / PROJECT MANAGEMENT /  
CONSTRUCTION SERVICES - FIRM REG. #F-001145  
201 WINDCO CIR. STE 200, WYLIE, TX 75098  
972-941-8400 FAX: 972-941-8401 WWW.ECDLP.COM

**REVISIONS:**

DATE: 12/11/2018  
PROJECT NO.: 06113  
DWG FILE NAME: 06113 CV.DWG

**RECORD DRAWINGS**

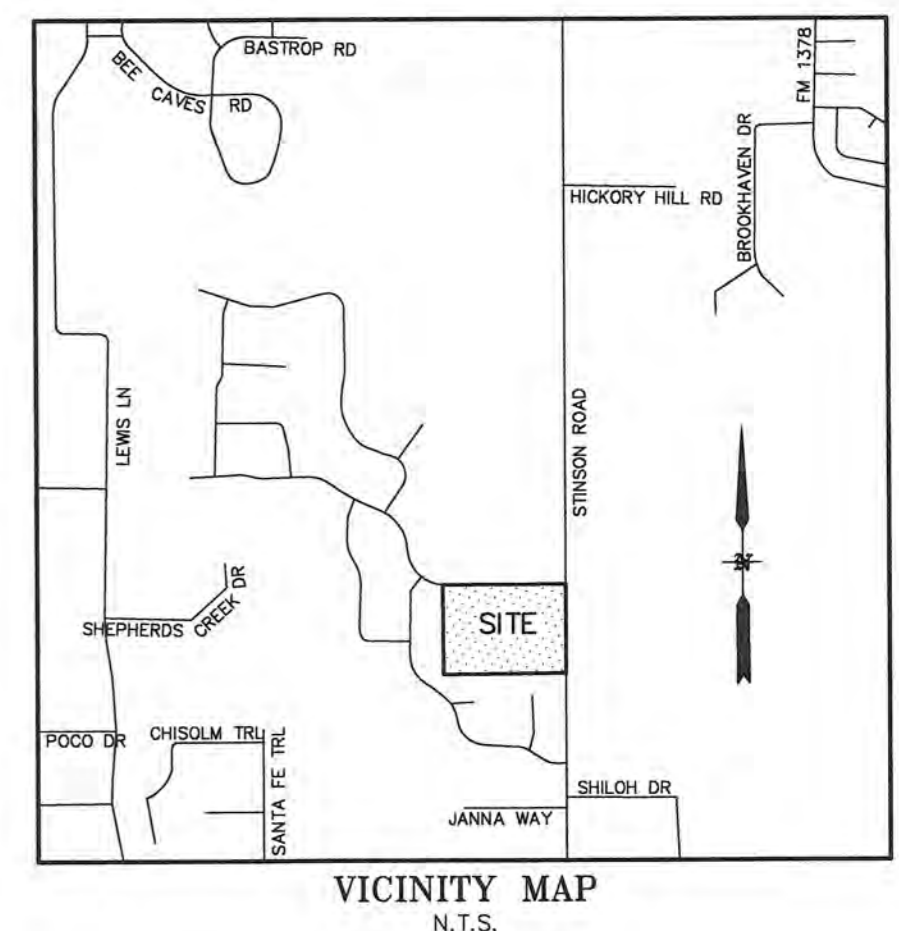
THESE RECORD DRAWINGS ARE A COMPILATION OF A COPY OF THE SEALED DRAWINGS FOR THIS PROJECT, MODIFIED BY ADDENDA, CHANGE ORDERS, AND INFORMATION FURNISHED BY THE CONTRACTOR. THE INFORMATION SHOWN ON THE RECORD DRAWINGS THAT WAS PROVIDED BY THE CONTRACTOR OR OTHERS NOT ASSOCIATED WITH THE DESIGN ENGINEER CANNOT BE VERIFIED FOR ACCURACY OR COMPLETENESS. THE ORIGINAL SEALED DRAWINGS ARE ON FILE AT THE OFFICES OF THE CITY OF PARKER, TEXAS.

ENGINEERING CONCEPTS & DESIGNS, L.P.  
Ryan C. King, PE  
12/11/2017  
DATE

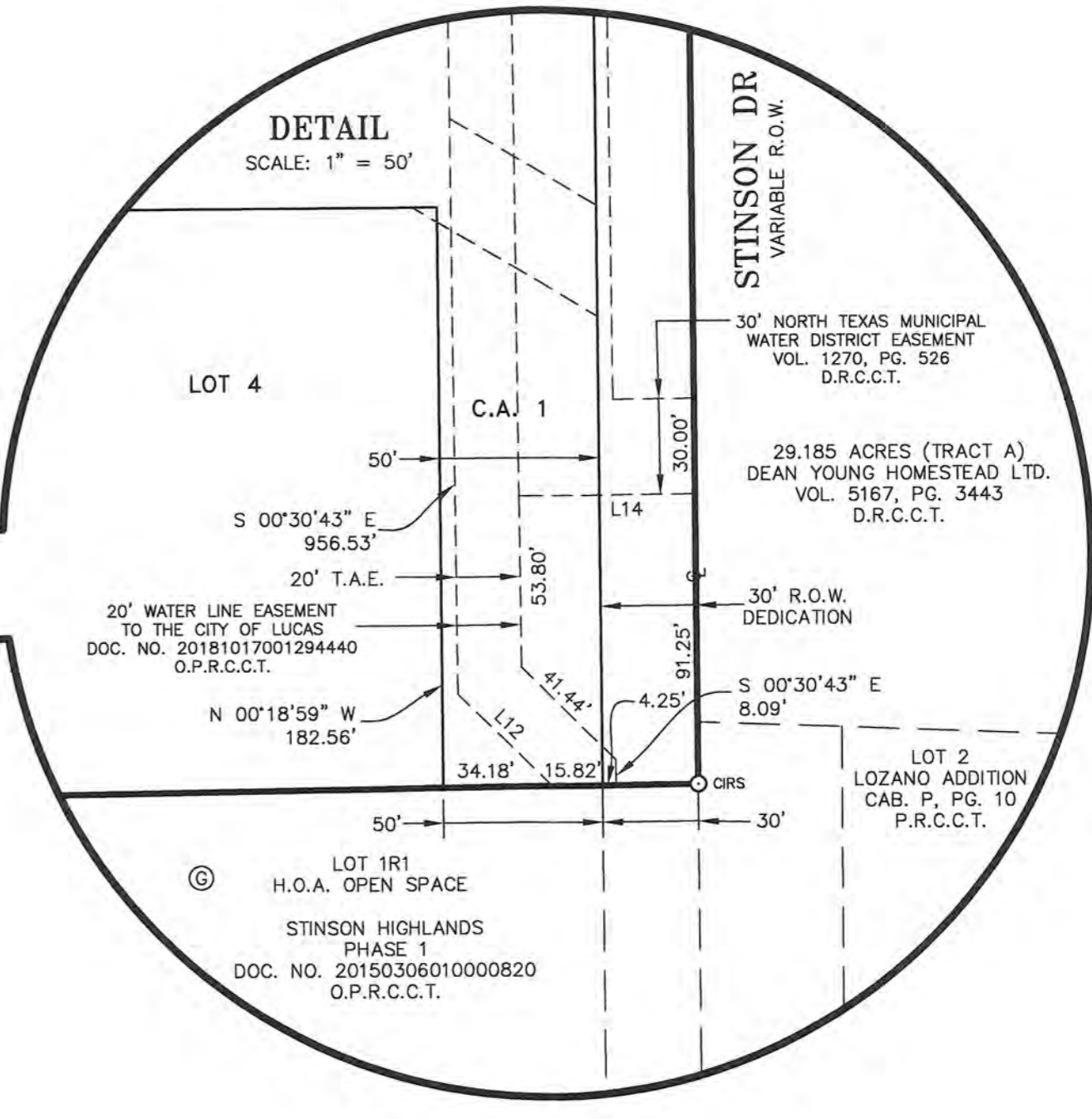
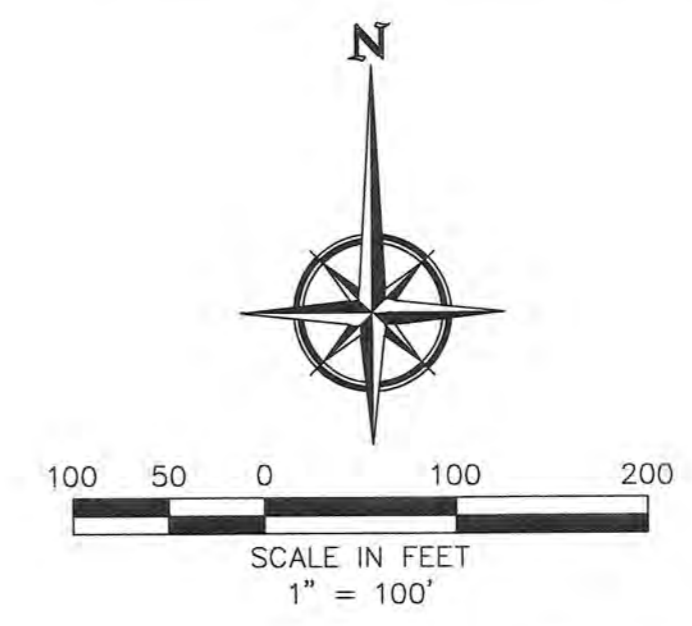


**LEGEND**

- CIRS 5/8" IRON ROD SET WITH CAP STAMPED "ADAMS SURVEYING COMPANY, LLC"
- IRF IRON ROD FOUND
- D.R.C.C.T. DEED RECORDS COLLIN COUNTY TEXAS
- P.R.C.C.T. PLAT RECORDS COLLIN COUNTY TEXAS
- O.P.R.C.C.T. OFFICIAL PUBLIC RECORDS COLLIN COUNTY TEXAS
- B.L. BUILDING SETBACK LINE
- U.E. UTILITY EASEMENT
- D.E. DRAINAGE EASEMENT
- D.U.E. DRAINAGE & UTILITY EASEMENT
- S.F.M.E. SCREENING FENCE EASEMENT
- T.A.E. TRAIL ACCESS EASEMENT
- L.S.E. LANDSCAPE EASEMENT
- C.A. COMMON AREA TRACT
- ◊ INDICATES CHANGE IN STREET NAME



**North Texas Municipal Water District (NTMWD) Note:**  
The NTMWD easement restricts construction of permanent structures such as foundations, walls, pools and permanent storage buildings. Items such as driveways, fences, sprinkler systems and normal landscaping plans that encroach on the NTMWD easements are allowed. However, the NTMWD assumes no responsibility for damages resulting from the need to repair or maintain the NTMWD pipelines. Further, any cost for repair for damage to the pipelines resulting from construction by the developer, contractor or owner will be the responsibility of the developer, contractor or owner.



**LINE TABLE**

NO.	DIRECTION	DISTANCE
L1	S 0°18'49" E	193.09'
L2	S 45°29'22" E	21.15'
L3	S 44°31'45" W	21.29'
L4	N 4°13'47" W	51.31'
L5	S 59°28'01" E	53.29'
L6	S 0°00'27" E	84.50'
L7	N 0°30'43" W	217.51'
L8	N 45°29'27" W	84.59'
L9	S 89°41'01" W	70.27'
L10	N 53°52'40" E	50.00'
L11	S 53°52'40" W	103.89'
L12	S 45°28'24" E	41.34'
L13	S 89°47'01" W	120.67'
L14	S 89°18'47" W	55.35'

**CURVE TABLE**

CURVE	DELTA	RADIUS	TANGENT	LENGTH	CHORD BEARING	CHORD
C1	031°13'50"	300.00'	83.85'	163.52'	S 15°37'22" E	161.51'
C2	030°55'28"	300.00'	82.98'	161.92'	N 15°46'33" W	159.96'
C3	031°56'21"	300.00'	85.85'	167.23'	S 15°41'34" W	165.08'
C4	035°53'31"	300.00'	97.16'	187.93'	N 13°42'59" E	184.87'

**EXISTING ZONING: R1**  
**PROPOSED ZONING: R1**  
**19 RESIDENTIAL LOTS (26.153 ACRES)**  
**2 COMMON AREA LOTS (1.597 ACRES)**  
**DENSITY: 1 LOT PER 1.615 ACRES GROSS**  
**AVG. LOT SIZE: 1.376 ACRE**  
**MIN. LOT SIZE: 1.000 ACRE**

**FINAL PLAT**  
**THE ESTATES AT STINSON HIGHLANDS**

OWNER / DEVELOPER  
**McCREARY DONIHOO PARTNERS, LTD.**  
4925 GREENVILLE AVE., SUITE 1020  
DALLAS, TX, 75206  
(214) 368-0238

LAND SURVEYOR  
**ADAMS SURVEYING CO., LLC**  
1475 RICHARDSON DR., STE 255  
RICHARDSON, TX 75080  
(469) 317-0250  
FIRM NO. 10177500

LOTS 1-11, BLOCK A;  
LOTS 1-8, BLOCK B;  
& C.A. 1 & C.A. 2  
19 RESIDENTIAL LOTS  
2 COMMON AREA LOTS  
BEING  
30.690 ACRES  
SITUATED IN THE  
JOHN GRAY SURVEY, ABSTRACT NO. 349  
CITY OF LUCAS, COLLIN COUNTY, TEXAS

**ENGINEERING CONCEPTS & DESIGN, L.P.**  
ENGINEERING/PROJECT MANAGEMENT/CONSTRUCTION SERVICES  
TEXAS FIRM REG. NO. 001145  
201 WINDCO CIRCLE, SUITE 200, WYLE TEXAS 75098  
(972) 941-8400 FAX (972) 941-8401

OWNER'S CERTIFICATE & DEDICATION

STATE OF TEXAS
COUNTY OF COLLIN

WHEREAS, McCREARY DONIHOO PARTNERS, LTD., is the Owner of a 30.690 acre tract, located in the John Gray Survey, Abstract No. 349, City of Lucas, Collin County Texas, being all of those tracts described in Document No. 20060616000827780 and Document No. 20060607000771250, both of the Official Public Records Collin County Texas, said 30.690 acres being more particularly described by metes and bounds as follows:

BEGINNING at a 3/8-inch iron rod found the northwest corner of said 30.6018 acre tract and an ell corner of Stinson Meadows, Phase 1, an addition to the City of Lucas, as recorded in Document No. 20120613010001440, Official Public Records, Collin County, Texas;

THENCE North 89 degrees 20 minutes 06 seconds East, with the common boundary line of said 30.6018 acre tract and said Phase 1, a distance of 1357.28 feet to a PK Nail found for the northeast corner of said 30.6018 acre tract and an exterior ell corner of said Phase 1, said corner being in the approximate center of Stinson Road, a variable width right-of-way;

THENCE South 00 degrees 18 minutes 59 seconds East, along the east line of said 30.6018 acre tract and said Stinson Road, a distance of 985.75 feet to a 5/8-inch iron rod with cap stamped ADAMS SURVEYING COMPANY, LLC set for the southeast corner of said 30.6018 acre tract and an exterior ell corner of said Phase 1;

THENCE South 89 degrees 10 minutes 41 seconds West, along the south line of said 30.6018 acre tract and said Phase 1, a distance of 1350.07 feet to a 3/8-inch iron rod found for the southwest corner of said 30.6018 acre tract and an interior ell of said Phase 1;

THENCE North 00 degrees 44 minutes 08 seconds West, along the west line of said 30.6018 acre tract and said Phase 1, a distance of 989.43 feet to the POINT OF BEGINNING AND CONTAINING 1,336,856 square feet or 30.690 acres of land.

NOW THEREFORE KNOW ALL MEN BY THESE PRESENTS:

That McCREARY DONIHOO PARTNERS, LTD., does hereby bind themselves and their heirs, assignees and successors of title this plat designating the hereinabove described property as THE ESTATES AT STINSON HIGHLANDS, an addition to the City of Lucas, and does hereby dedicate to the public use forever the streets, alleys, and right-of-way easements shown thereon, and does hereby reserve the easement strips shown on this plat for the mutual use and accommodation of garbage collection agencies and all public utilities desiring to use or using same. Any public utility shall have the right to remove and keep removed all or part of any buildings, fences, trees, shrubs, or other improvements or growths that in any way endanger or interfere with the construction, maintenance or efficiency of its respective systems on any of these easement strips, and any public utility shall at all times have the right of ingress and egress to and from and upon the said easement strips for the purpose of constructing, reconstructing, inspecting, patrolling, without the necessity at any time of procuring the permission of anyone. Additionally, McCREARY DONIHOO PARTNERS, LTD. certifies that it is the sole owner of the dedicated property and that no other's interest is attached to this property unless otherwise indicated on the required Mortgage Holder Certification that is included on this plat. Furthermore, as the owner of the property described herein, and in consideration of establishing the subdivision described herein, it agrees to the following:

- Every owner of fee simple title to every individual lot within the subdivision shall be a member of the homeowners' association;
• The homeowners' association shall have the authority to collect membership fees;
• As applicable as it pertains to conditions shown herein, the homeowners' association shall be responsible for the maintenance of all common areas, screening walls, landscaped areas, private streets and alleys.
• The homeowners' association shall grant the City the right of access to any areas to abate any nuisances on such areas and attach a lien upon each individual lot for the prorated costs of abatement.
• The homeowners' association shall indemnify and hold the City harmless from any and all costs, expenses, suits, demands, liabilities, damages, or otherwise, including attorney fees and costs of suit, in connection with the City's maintenance of common areas.
• The homeowners' association shall, where additional rights-of-way has been dedicated for the purpose of providing landscaping, additional areas for sidewalks, walls or other amenities, enter into a license agreement with the City and shall be responsible for the installation and maintenance of all landscape areas in the public rights-of-way.

This plat approved subject to all platting ordinances, rules, regulations and resolutions of the City of Lucas, Texas.

FOR: McCREARY DONIHOO PARTNERS, LTD

BY: Signature Name: Title:

STATE OF TEXAS
COUNTY OF COLLIN

Before me, the undersigned authority, a Notary Public in and for the State of Texas, on this day personally appeared known to me to be the person whose name is subscribed to the foregoing instrument and acknowledged to me that he executed the same for the purposes and considerations therein expressed.

Given under my hand and seal of office, this \_\_\_ day of \_\_\_, 2019.

Notary Public in and for the State of Texas

MORTGAGE HOLDER CERTIFICATION

That I, hold a mortgage or represent holders of a mortgage on the described property herein, do hereby consent to the submission and filing of this plat, designating the hereinabove described property as THE ESTATES AT STINSON HIGHLANDS, an addition to the City of Lucas and do hereby dedicate to the public use forever the streets, alleys, and right-of-way easements shown thereon and do hereby reserve the easement strips shown on this plat for the mutual use and accommodation of garbage collection agencies and all public utilities desiring to use or using same. Any public utility shall have the right to remove and keep removed all or part of any buildings, fences, trees, shrubs, or other improvements or growths which in any way endanger or interfere with the construction, maintenance or efficiency of its respective systems on any of these easements strips and any public utility shall at all times have the right of ingress and egress to and from and upon the said easement strips for the purpose of constructing, reconstructing, inspecting, patrolling, without the necessity at any time of procuring the permission of anyone.

This plat approved subject to all platting ordinances, rules, regulations and resolutions of the City of Lucas, Texas, and to requirements placed on the homeowners' association as indicated herein and remedies to the abatement of nuisance and liens on properties therein and as required.

Witness our hands at, Texas, this \_\_\_ day of \_\_\_, 2019.

Signature

Title

Company

STATE OF TEXAS
COUNTY OF COLLIN

Before me, the undersigned authority, a Notary Public in and for the State of Texas, on this day personally appeared known to me to be the person whose name is subscribed to the foregoing instrument and acknowledged to me that he executed the same for the purposes and considerations therein expressed.

Given under my hand and seal of office, this \_\_\_ day of \_\_\_, 2019.

Notary Public in and for the State of Texas

CITY APPROVAL CERTIFICATE

This plat is hereby approved by the Planning and Zoning Commission of the City of Lucas, Texas.

Chairman, Planning and Zoning Commission Date

ATTEST:

Signature Date

Name & Title Date

The The Director of Public Works of the City of Lucas, Texas hereby certifies that to the best of his/her knowledge or belief, this subdivision plat conforms to all requirements of the Code of Ordinances and with engineering construction standards and processes adopted by the City of Lucas, Texas as to which his/her approval is required.

Director of Public Works Date

The Development Services Director of the City of Lucas, Texas hereby certifies that to the best of his/her knowledge or belief, this subdivision plat conforms to all requirements of the Code of Ordinances, or as may have been amended or modified, as allowed, by the Planning and Zoning Commission as to which his/her approval is required.

Development Services Director Date

APPROVED BY THE PLANNING AND ZONING COMMISSION OF THE CITY OF LUCAS, TEXAS ON THE \_\_\_ DAY OF \_\_\_, 2019.

Chairperson, Planning and Zoning Commission Date

ATTEST:

City Secretary Date

"APPROVED FOR PREPARATION OF FINAL PLAT"

Chairman, City of Lucas Planning and Zoning Commission Date

Development Services Director Date

Director of Public Works Date

NOTES:

- 1. By graphical platting, the parcel described hereon does not lie within a Special Flood Hazard Area, as delineated on the Collin County, Texas and Incorporated Areas Flood Insurance Rate Map, Map Number 48085C0405 J, dated June 02, 2009, as published by the Federal Emergency Management Agency. The above flood statement does not imply that the property and/or structures will be free from flooding or flood damage. On occasion, greater floods can and will occur and flood heights may be increased by man-made or natural causes. The above flood statement shall not create liability on the part of the surveyor.
2. Source bearing is based on Texas State Plane Coordinate System. Projection: State Plane NAD83 Texas North Central Zone 4202, Lambert Conformal Conic (TX83-NGF).
3. Property owners to maintain property including drainage and utility easements to the edge of pavement.
4. Only wrought iron fences permitted within drainage easements, if approved by the City Engineer.
5. A 5/8-inch iron rod with cap stamped "ADAMS SURVEYING COMPANY, LLC" will be set at all boundary corners, lot corners, points of curvature, points of tangency and angle points in public rights-of-way whenever possible unless otherwise shown or noted in this drawing after all construction for this subdivision has been completed.
6. Selling a portion of any lot within this addition by metes and bounds is a violation of state law and city ordinance and is subject to fines and withholding of utilities and building permits.
7. Benchmark: A square cut on northwest corner of Y inlet located at southwest corner of Stinson Road and Highland Drive. Elev. 589.40'
8. No lot in this subdivision will have vehicular access to Highland Drive, Stinson Road, or Caman Park Drive.
9. No permanent structures, walls, trees, utilities except crossings at approximately 90 degrees shall be permitted within the NTMWD easements in Lots 4, 5, 6 and 7, Block A.
10. The Common Area lots, detention ponds and drainage easements with be maintained by the Homeowners Association.

SURVEYOR'S DECLARATION

KNOW ALL MEN BY THESE PRESENTS:

That I, J. Paul Hubert, hereby declare, that I prepared this plat from an actual on the ground survey of the land as described and that the corner monuments shown thereon were properly placed under my personal supervision in accordance with the Platting Rules and Regulations of the City of Lucas Planning and Zoning Commission.

J. PAUL HUBERT
REGISTERED PROFESSIONAL
LAND SURVEYOR NO. 1942

STATE OF TEXAS
COUNTY OF COLLIN

Before me, the undersigned authority, a Notary Public in and for the State of Texas, on this day personally appeared J. Paul Hubert, known to me to be the person whose name is subscribed to the foregoing instrument and acknowledged to me that he executed the same for the purpose and considerations therein expressed.

Given under my hand and seal of office, this \_\_\_ day of \_\_\_, 2019.

Notary Public in and for the State of Texas

ON-SITE SEWAGE FACILITIES (OSSF) NOTES:

- 1. All lots must utilize alternative type On-Site Sewage Facilities.
2. Lots CA-1 and CA-2 are not buildable lots. They are for drainage purposes only.
3. All lots must maintain state-mandated setback of all On-Site Sewage Facility components from any/all easements and drainage areas, water distribution lines, sharp breaks and/or creeks/rivers/ponds, etc. (Per State regulations).
4. The following lots have large easements and/or other site conditions (possible conditions existing in addition to those listed below) that could affect structure/impervious cover placement, OSSF placement, dwelling size, etc. and it is strongly recommended that no surface improvements, impervious cover, outbuildings, swimming pools, etc. planned on any of the following lots without pre-construction planning meeting with Registered Sanitarian/Professional Engineer and Collin County Development Services:
• Lot 1, Block A - 50' total of water line easements along the east property line.
• Lot 2, Block A - 50' total of water line easements along the east property line.
• Lot 3, Block A - 50' total of water line easements along the east property line and adjacent to a drainage easement lot.
• Lot 4, Block A - ~200' of water line/power easement along the south property line and adjacent to a drainage easement.
• Lot 5, Block A - ~200' of water line/power easement along the south property line.
• Lot 6, Block A - ~200' of water line/power easement along the south property line.
• Lot 7, Block A - ~200' of water line/power easement along the south property line and adjacent to a drainage easement.
• Lot 8, Block A - adjacent to a drainage easement.
5. There were no permitted/approved existing structures or OSSFs on the property at the time of approval. Any existing structures or OSSFs must be reviewed and permitted by Collin County Development Services prior to any use.
6. Tree removal and/or grading for OSSF may be required on individual lots.
7. There are no water wells noted in this subdivision and no water wells are allowed without prior approval from Collin County Development Services.
8. Each lot is limited to a maximum of 5,000 gallons of treated/disposed sewage each day.
9. Individual site evaluations and OSSF design plans (meeting all State and County requirements) must be submitted to and approved by Collin County for each lot prior to construction of any OSSF system.

HEALTH DEPARTMENT CERTIFICATION:

I hereby certify that the on-site sewage facilities described on this plat conform to the applicable OSSF laws of the State of Texas, that site evaluations have been submitted representing the site conditions in the area in which on-site sewage facilities are planned to be used.

Registered Sanitarian or Designated Representative
Collin County Development Services

FINAL PLAT
THE ESTATES AT STINSON HIGHLANDS

LOTS 1-11, BLOCK A;
LOTS 1-B, BLOCK B;
& C.A. 1 & C.A. 2
19 RESIDENTIAL LOTS
2 COMMON AREA LOTS

OWNER / DEVELOPER
McCREARY DONIHOO PARTNERS, LTD.
4925 GREENVILLE AVE., SUITE 1020
DALLAS, TX, 75206
(214) 368-0238

LAND SURVEYOR
ADAMS SURVEYING CO., LLC
1475 RICHARDSON DR., STE 255
RICHARDSON, TX 75080
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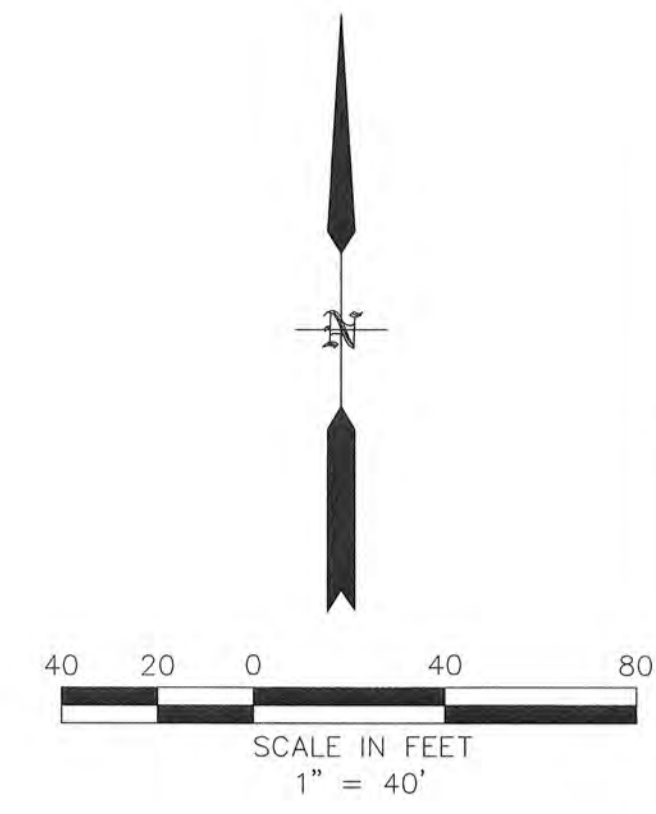
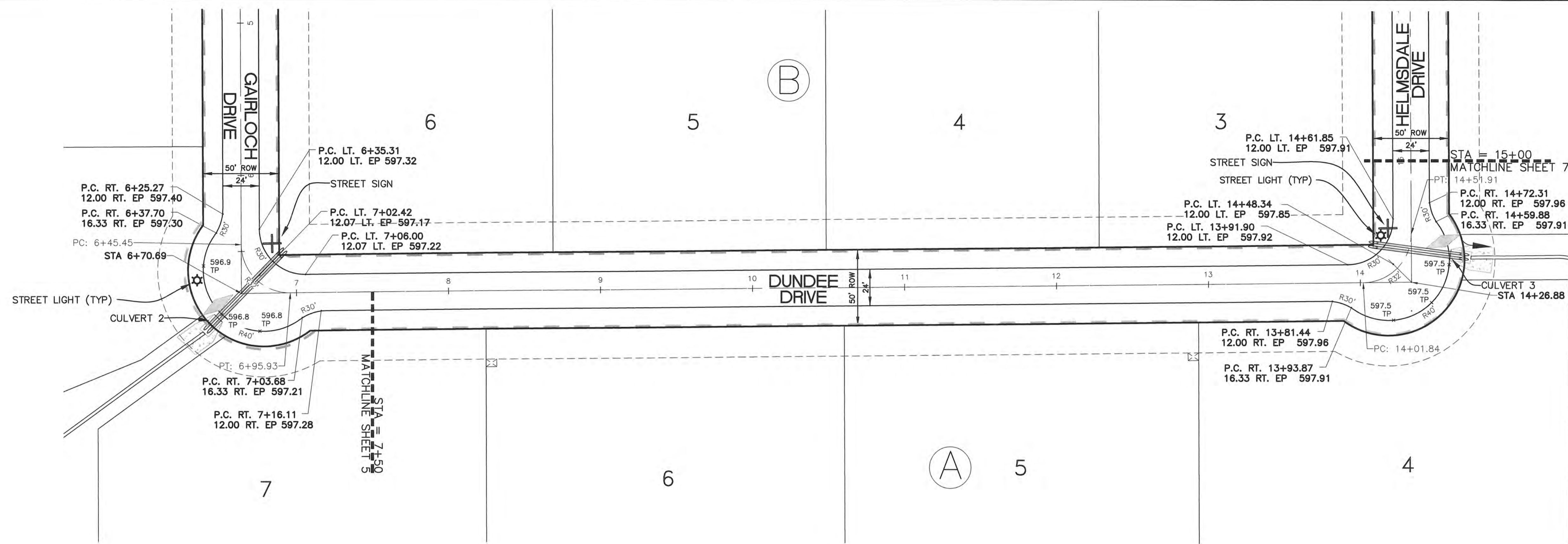
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JOHN GRAY SURVEY, ABSTRACT NO. 349
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ENGINEERING CONCEPTS & DESIGN, L.P.
ENGINEERING/PROJECT MANAGEMENT/CONSTRUCTION SERVICES
TEXAS FIRM REG. NO. 001145
201 WINDCO CIRCLE, SUITE 200, WYLLIE, TEXAS 75098
(972) 941-8400 FAX (972) 941-8401

DATE: SEPTEMBER 9, 2019

SHEET 2 OF 2

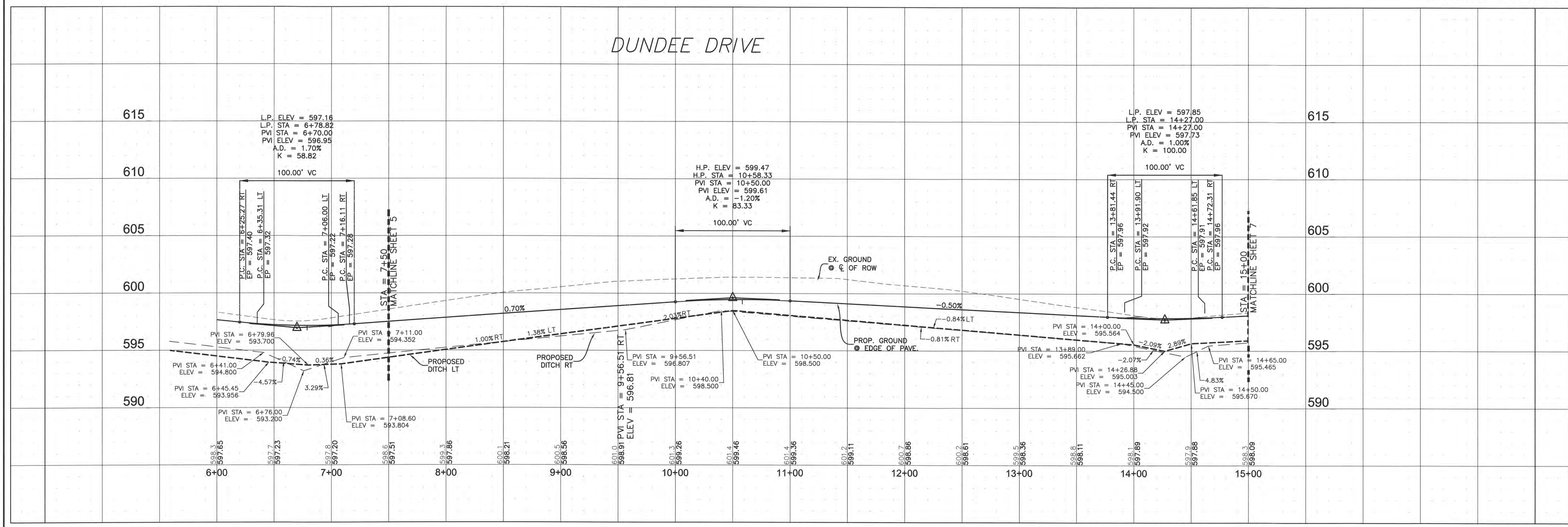






SEE SHEET 18  
FOR TYPICAL  
PAVING DETAILS

- NOTES:
1. STREET LIGHTING SHALL BE POLE MOUNTED. POLE HEIGHT SHALL BE NOMINALLY 20 FEET.
  2. STREET SIGNS AND STOP SIGNS SHALL NOT BE MOUNTED TO LIGHT POLES.



**CAUTION! EXISTING UTILITIES**

CONTRACTOR SHOULD CALL 1-800-DIG-TESS PRIOR TO BEGINNING ANY CONSTRUCTION ACTIVITIES FOR EXISTING UTILITY LOCATIONS. EXISTING UTILITIES AND UNDERGROUND FACILITIES INDICATED ON THESE PLANS HAVE BEEN LOCATED FROM REFERENCE INFORMATION. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY BOTH HORIZONTALLY AND VERTICALLY THE LOCATION OF ALL EXISTING UTILITIES AND UNDERGROUND FACILITIES PRIOR TO CONSTRUCTION AND TO TAKE NECESSARY PRECAUTIONS IN ORDER TO PROTECT ALL FACILITIES ENCOUNTERED. THE CONTRACTOR SHALL PRESERVE AND PROTECT ALL EXISTING UTILITIES FROM DAMAGE DURING CONSTRUCTION.

BENCHMARK:  
BM SQUARE CUT ON NORTHWEST CORNER OF WYE INLET LOCATED AT SOUTHWEST CORNER OF STINSON ROAD AND HIGHLAND DRIVE.  
ELEV: 589.40

**ENGINEERINGCONCEPTS & DESIGN, L.P.**

ENGINEERING / PROJECT MANAGEMENT / CONSTRUCTION SERVICES - FIRM REG. #F-001145  
201 WINDCO CIR, STE 200, WYLIE, TX 75098  
972-941-8400 FAX: 972-941-8401 WWW.ECDLP.COM

REVISIONS:	
DRAWN: RCK	DATE:
CHECKED: RKH	DATE: 12/11/2018
PROJECT NO: 06113	
DWG FILE NAME: 06113 PV.DWG	

**RECORD DRAWINGS**

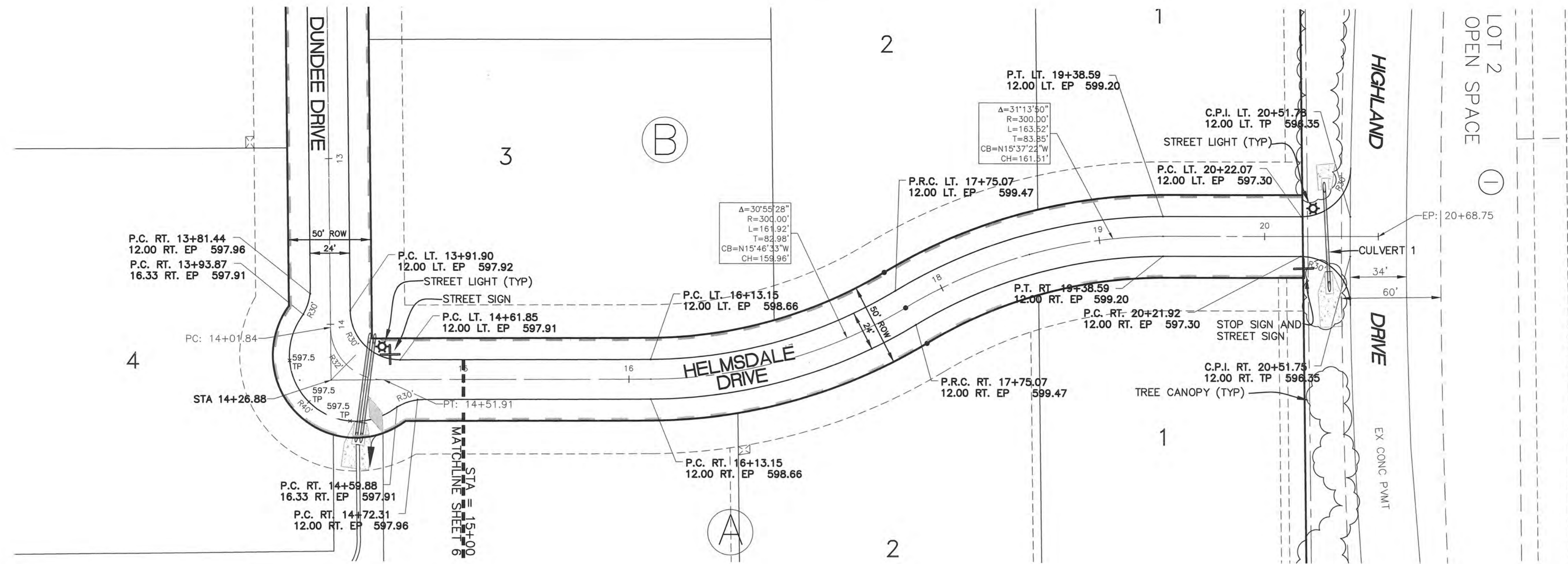
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ENGINEERING CONCEPTS & DESIGNS, L.P.  
Ryan C. King, PE  
12/19/2019  
DATE

**PAVING PLAN - DUNDEE DRIVE**

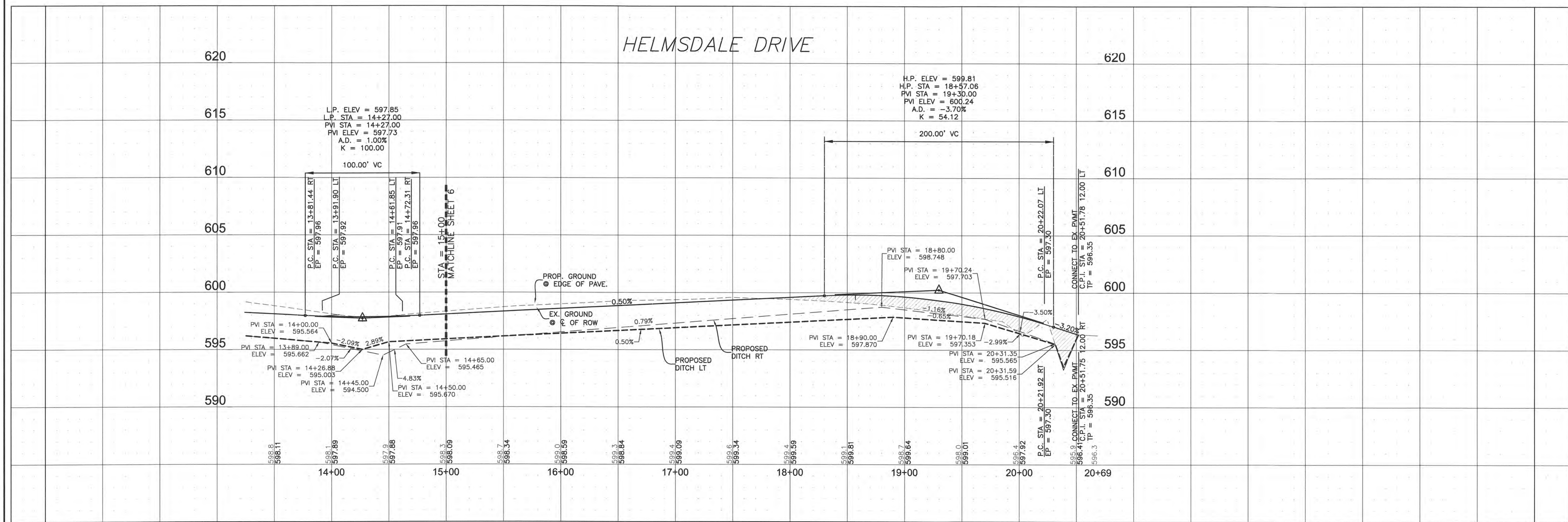
**THE ESTATES AT STINSON HIGHLANDS**  
CITY OF LUCAS, COLLIN COUNTY, TEXAS

SHEET  
6  
OF  
20



SEE SHEET 18 FOR TYPICAL PAVING DETAILS

- NOTES:
1. STREET LIGHTING SHALL BE POLE MOUNTED. POLE HEIGHT SHALL BE NOMINALLY 20 FEET.
  2. STREET SIGNS AND STOP SIGNS SHALL NOT BE MOUNTED TO LIGHT POLES.



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 ELEV: 589.40

**ENGINEERINGCONCEPTS & DESIGN, L.P.**

ENGINEERING / PROJECT MANAGEMENT / CONSTRUCTION SERVICES - FIRM REG. #F-001145  
 201 WINDCO CIR, STE 200, WYLIE, TX 75098  
 972-941-8400 FAX: 972-941-8401 WWW.ECDLP.COM

REVISIONS:	
DRAWN: RCK	DATE:
CHECKED: RKH	DATE: 12/11/2018
PROJECT NO.: 06113	
DWG FILE NAME: 06113.PV.DWG	

**RECORD DRAWINGS**

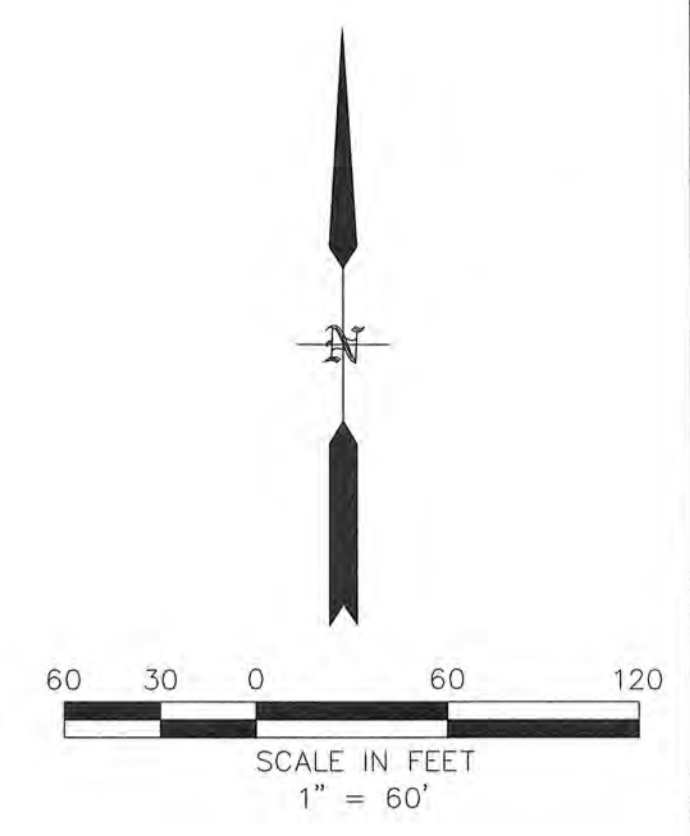
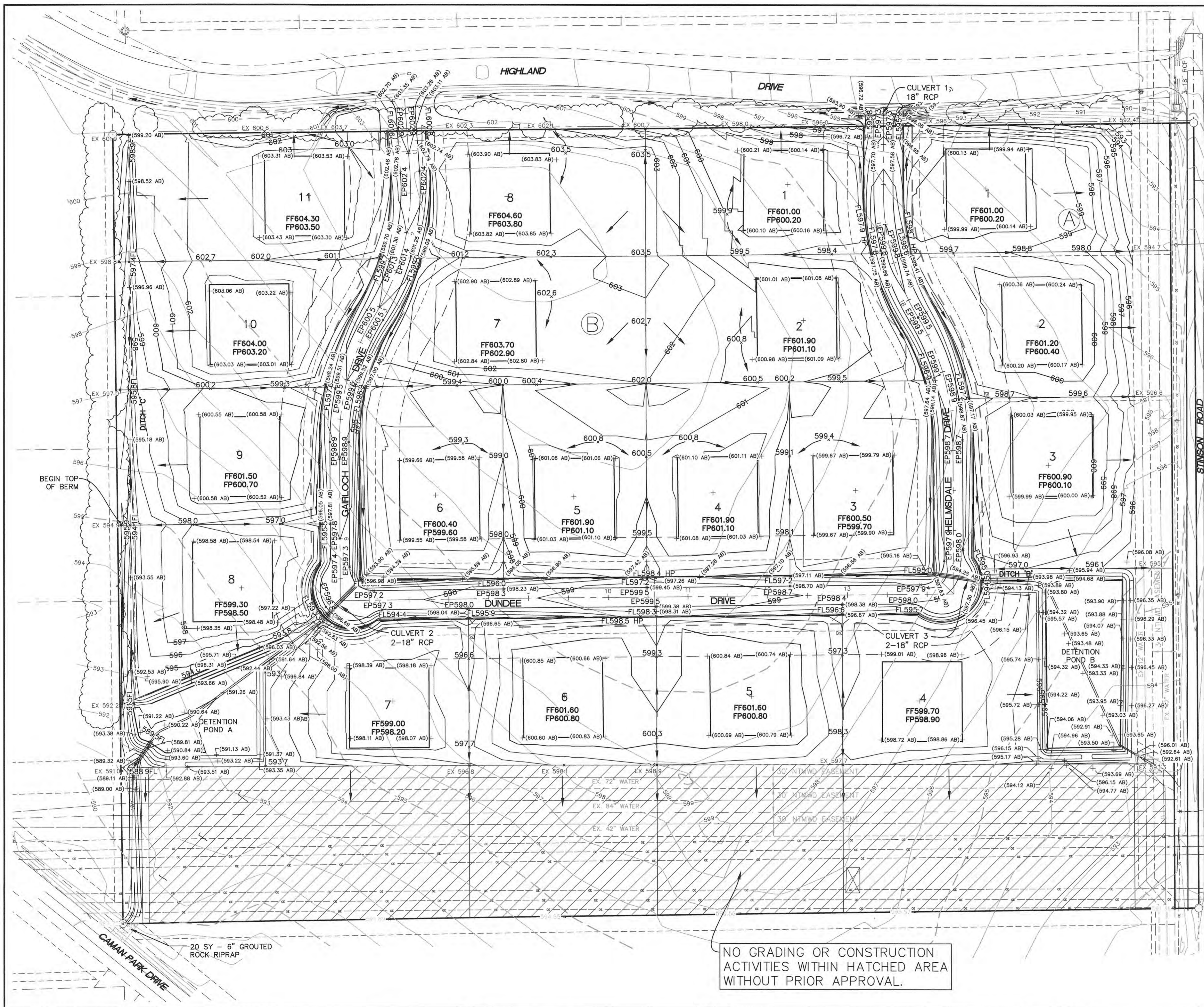
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ENGINEERING CONCEPTS & DESIGN, L.P.  
 Ryan C. King, PE  
 DATE: 12/14/2018

**PAVING PLAN - HELMSDALE DRIVE**

**THE ESTATES AT STINSON HIGHLANDS**  
 CITY OF LUCAS, COLLIN COUNTY, TEXAS

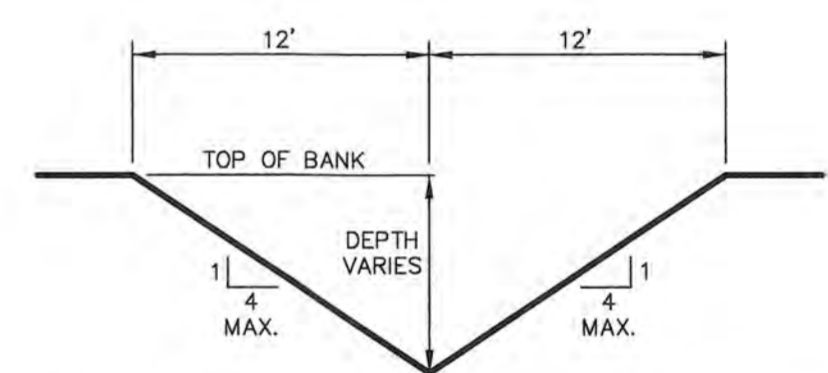
SHEET 7 OF 20



ALL PADS ARE 100'x100' UNLESS SHOWN OTHERWISE.

SEE DETENTION POND PLANS SHEET 11 AND 12 FOR ADDITIONAL CONTOUR INFORMATION.

CONTRACTOR TO CONTACT NTMWD LINE LOCATE AT 469-626-4569 72 HOURS PRIOR TO WORKING IN NTMWD EASEMENT IN ORDER TO SCHEDULE A REPRESENTATIVE TO BE ON-SITE.



ROADSIDE DITCH TYPICAL SECTION  
N.T.S.  
REFER TO DITCH PLAN FOR DETAILED CROSS-SECTIONS

REFER TO SHEETS 13 & 14 FOR DITCH DESIGN. REFER TO SHEETS 11 & 12 FOR DETENTION POND DESIGN

Grading Legend

EXISTING	PROPOSED	
—	—	PROPERTY LINE
—	—	INDEX CONTOUR
—	—	INTERVAL CONTOUR
—	—	SPOT ELEVATION
—	—	FLOW DIRECTION AND SLOPE
—	—	AS-BUILT TOPO SHOT (9/12/2019)

NO GRADING OR CONSTRUCTION ACTIVITIES WITHIN HATCHED AREA WITHOUT PRIOR APPROVAL.

**CAUTION! EXISTING UTILITIES**

CONTRACTOR SHOULD CALL 1-800-DIG-TESS PRIOR TO BEGINNING ANY CONSTRUCTION ACTIVITIES FOR EXISTING UTILITY LOCATIONS. EXISTING UTILITIES AND UNDERGROUND FACILITIES INDICATED ON THESE PLANS HAVE BEEN LOCATED FROM REFERENCE INFORMATION. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY BOTH HORIZONTALLY AND VERTICALLY THE LOCATION OF ALL EXISTING UTILITIES AND UNDERGROUND FACILITIES PRIOR TO CONSTRUCTION AND TO TAKE NECESSARY PRECAUTIONS IN ORDER TO PROTECT ALL FACILITIES ENCOUNTERED. THE CONTRACTOR SHALL PRESERVE AND PROTECT ALL EXISTING UTILITIES FROM DAMAGE DURING CONSTRUCTION.

BENCHMARK:  
BM SQUARE CUT ON NORTHWEST CORNER OF WYE INLET LOCATED AT SOUTHWEST CORNER OF STINSON ROAD AND HIGHLAND DRIVE. ELEV: 599.40

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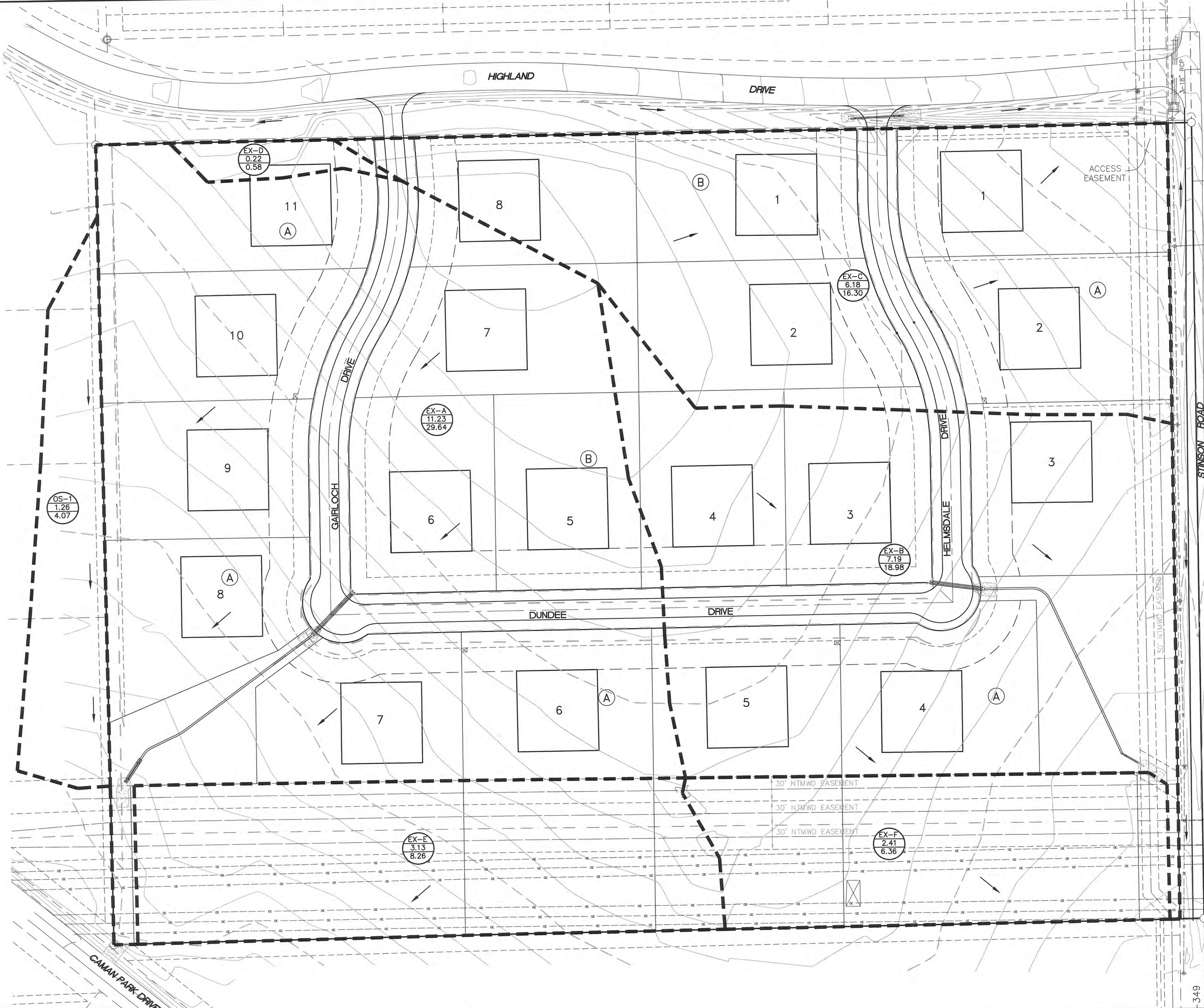
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Ryan C. King, PE  
DATE: 12/9/2019

**GRADING PLAN**

**THE ESTATES AT STINSON HIGHLANDS**  
CITY OF LUCAS, COLLIN COUNTY, TEXAS

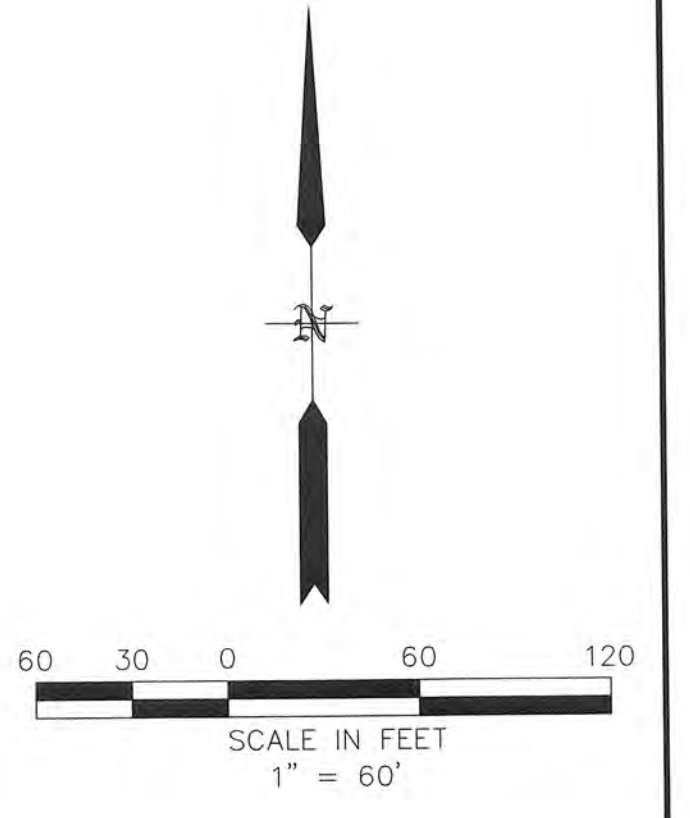
SHEET 8 OF 20





**LEGEND**

- B  
1.73  
9.11 Watershed ID  
Acreage  
 $Q_{100}$
- Drainage Area Divide
- Direction Of Flow
- ==== STORM DRAIN
- - - - EXISTING 5' CONTOUR INTERVAL
- ..... EXISTING 1' CONTOUR INTERVAL



**DRAINAGE CRITERIA**

$C_{existing} = 0.30$   
 $I_{100} = 8.8$   
 $T_c = 15 \text{ min}$

Existing Drainage Area Calculations							
Drainage Area	Area (AC)	$T_c$ (Min)	C	K	$I_{100}$ (in/hr)	$Q_{100}$ (cfs)	Description
EX-A	11.23	15.00	0.30	1.00	8.80	29.64	To Caman Park Drive
EX-B	7.19	15.00	0.30	1.00	8.80	18.98	To Stinson Road South
EX-C	6.18	15.00	0.30	1.00	8.80	16.30	To Stinson Road North
EX-D	0.22	15.00	0.30	1.00	8.80	0.58	To Highlands Drive, then to Caman Park Dr.
EX-E	3.13	15.00	0.30	1.00	8.80	8.26	To Ex. HOA Lot, then to Caman Park Dr.
EX-F	2.41	15.00	0.30	1.00	8.80	6.36	To Ex. HOA Lot, then to Stinson Rd. South
OS-1	1.26	15.00	0.37	1.00	8.80	4.10	Offsite To Caman Park Drive

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BENCHMARK:  
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 ELEV: 589.40

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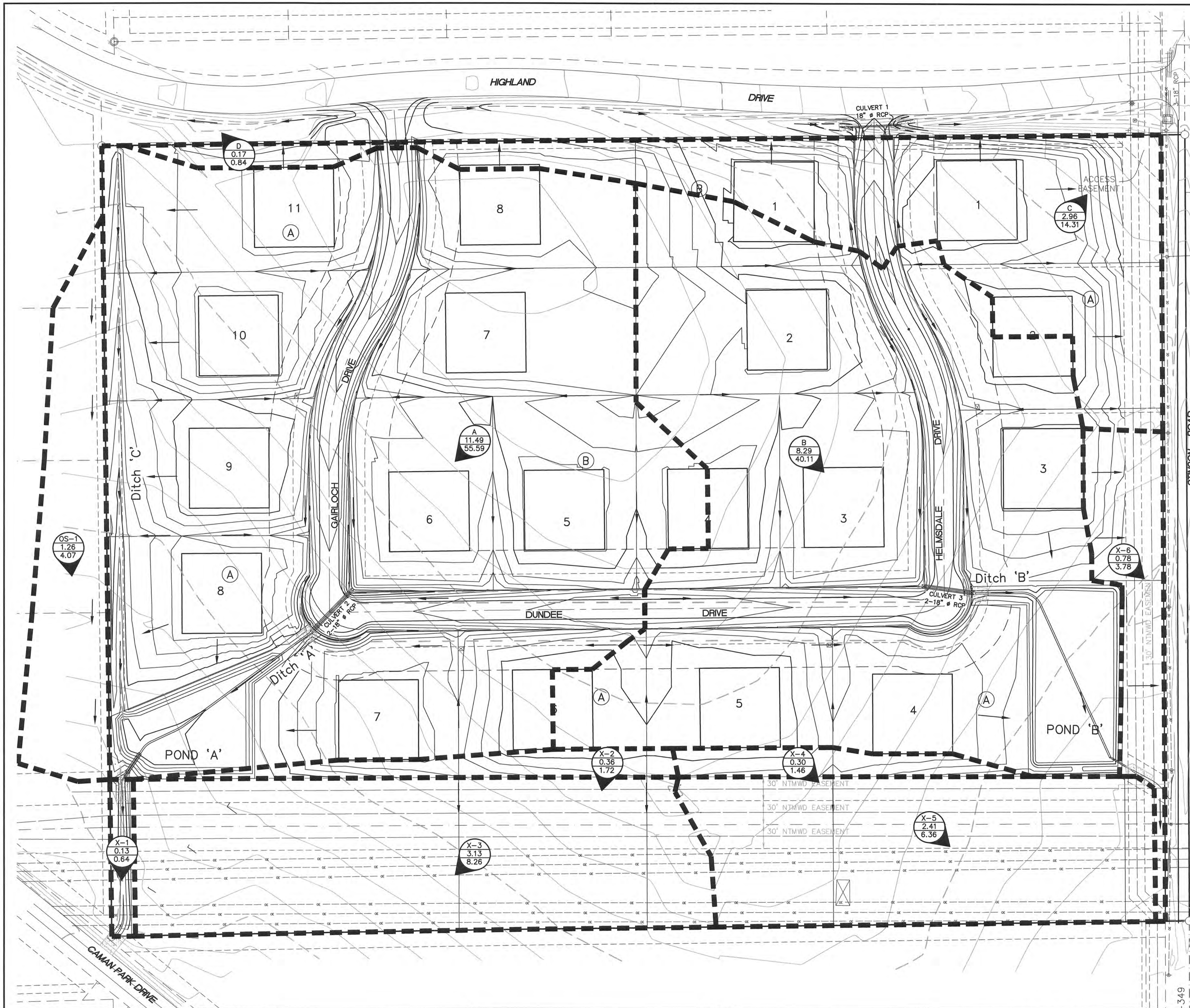
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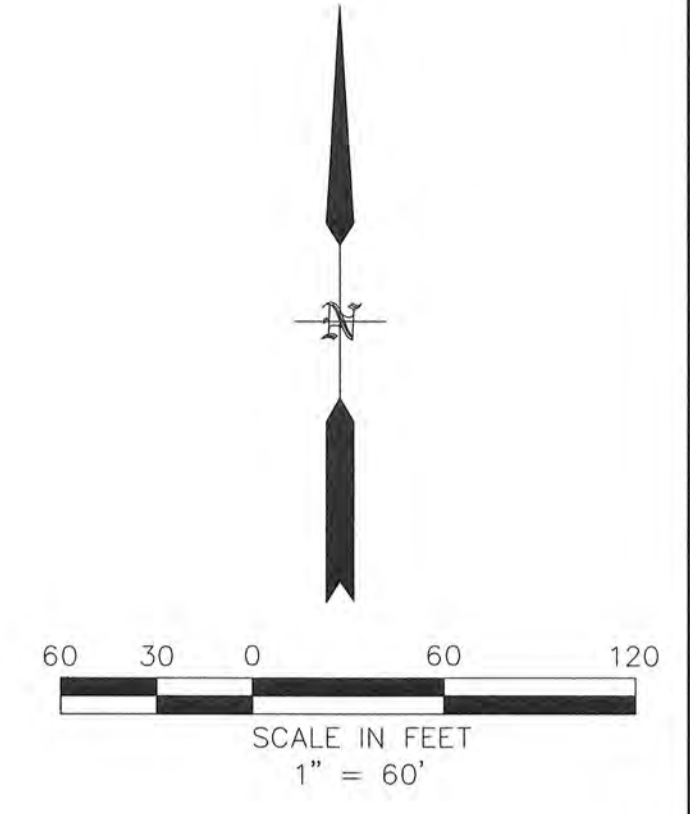
**EXISTING DRAINAGE AREA MAP**

**THE ESTATES AT STINSON HIGHLANDS**  
 CITY OF LUCAS, COLLIN COUNTY, TEXAS



**LEGEND**

- Watershed ID  
Acreage  
Q<sub>100</sub>
- Drainage Area Divide
- Direction Of Flow
- STORM DRAIN
- EXISTING 5' CONTOUR INTERVAL
- EXISTING 1' CONTOUR INTERVAL



**DRAINAGE CRITERIA**

C<sub>proposed</sub> = 0.55  
 I<sub>100</sub> = 8.8  
 T<sub>c</sub> = 15 min

**DRIVEWAY CULVERTS**

LOT	PIPE/SLOPE	Q(cfs)/V(fps)/Cap.(cfs)
1/A	18"/1.10%	0.7/3.40/11.0
2/A	18"/0.80%	1.5/3.66/9.4
3/A	18"/0.80%	4.6/5.02/9.4
4/A	18"/0.80%	8.2/5.95/9.4
5/A	18"/0.80%	3.9/4.99/9.4
6/A	18"/2.00%	0.7/4.29/14.9
7/A	18"/1.00%	5.1/5.85/10.5
8/A	18"/1.20%	10.8/7.36/11.5
9/A	18"/1.20%	7.7/6.94/11.5
10/A	18"/1.20%	4.3/5.97/11.5
11/A	18"/1.20%	0.7/3.57/11.5
1/B	18"/0.65%	3.0/4.33/8.5
2/B	18"/0.50%	2.0/3.47/7.4
3/B	18"/0.80%	5.5/4.54/9.4
4/B	18"/0.80%	0.6/2.47/9.4
5/B	18"/1.40%	3.8/6.15/12.4
6/B	18"/1.40%	8.7/7.55/12.4
7/B	18"/1.20%	5.5/6.44/11.5
8/B	18"/1.20%	0.5/3.06/11.5

**Proposed Drainage Area Calculations**

Drainage Area	Area (AC)	T <sub>c</sub> (min)	C	K	I <sub>100</sub> (in/hr)	Q <sub>100</sub> (cfs)	Description
A	11.49	15.00	0.55	1.00	8.80	55.59	To Pond A, then Caman Park Dr.
B	8.29	15.00	0.55	1.00	8.80	40.11	To Pond B, then Stinson Rd. South
C	2.96	15.00	0.55	1.00	8.80	14.31	To Stinson Road North
D	0.17	15.00	0.55	1.00	8.80	0.84	To Highlands Drive, then to Caman Park Dr. (Bypass Pond A)
X-1	0.13	15.00	0.55	1.00	8.80	0.64	To Caman Park Dr. (Bypass Pond A)
X-2	0.36	15.00	0.55	1.00	8.80	1.72	To Ex. HOA Lot, then to Caman Park Dr. (Bypass Pond A)
X-3	3.13	15.00	0.30	1.00	8.80	8.26	To Ex. HOA Lot, then to Caman Park Dr. (Remains Undeveloped)
X-4	0.30	15.00	0.55	1.00	8.80	1.46	To Ex. HOA Lot, then to Stinson Rd. South (Bypass Pond B)
X-5	2.41	15.00	0.30	1.00	8.80	6.36	To Ex. HOA Lot, then to Stinson Rd. South (Remains Undeveloped)
X-6	0.78	15.00	0.55	1.00	8.80	3.78	To Stinson Road South (Bypass Pond B)
OS-1	1.26	15.00	0.37	1.00	8.80	4.10	Offsite To Caman Park Drive

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BENCHMARK:  
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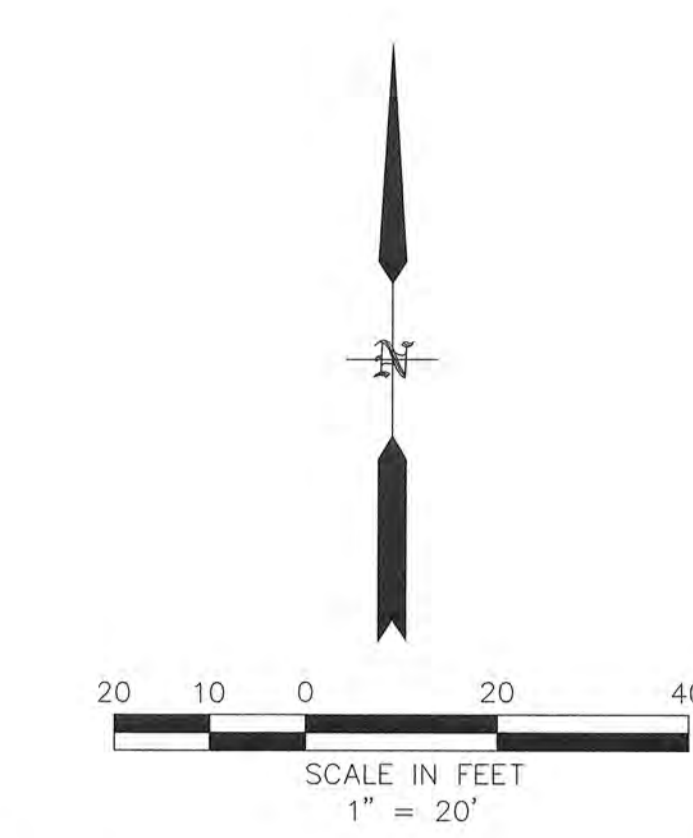
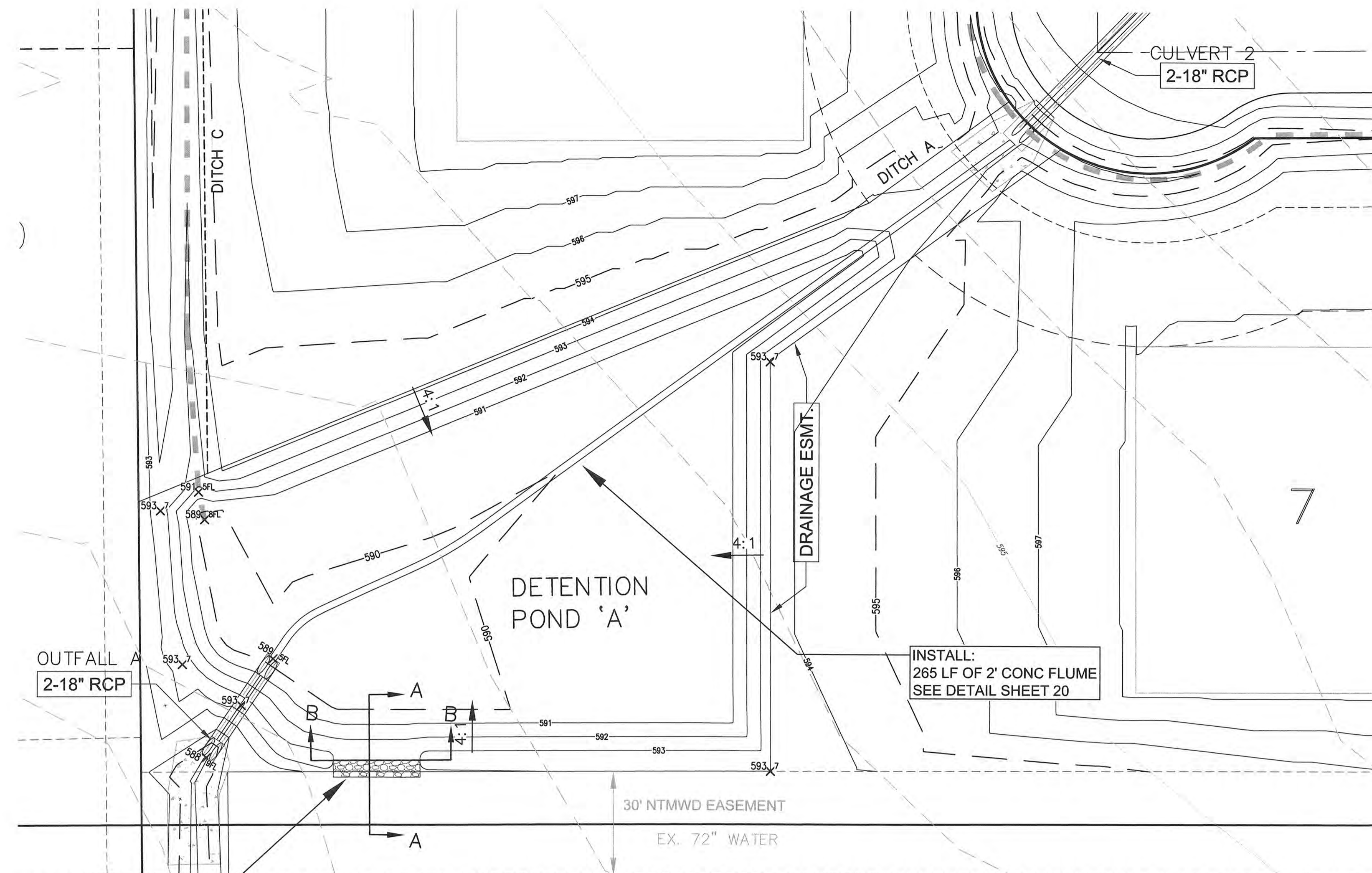
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 ENGINEERING CONCEPTS & DESIGNS, L.P.  
 Ryan C. King, PE  
 12/9/2018 DATE

**PROPOSED DRAINAGE AREA MAP**  
**THE ESTATES AT STINSON HIGHLANDS**  
 CITY OF LUCAS, COLLIN COUNTY, TEXAS

SHEET 10 OF 20



**LEGEND**

- - - 545 PROPOSED MAJOR CONTOUR
- - - 560 PROPOSED MINOR CONTOUR
- — — EXISTING MAJOR CONTOUR
- — — EXISTING MINOR CONTOUR

- NOTES:
1. ALL DETENTION SYSTEMS TO BE COMPLETED PER PLAN AND FUNCTIONING PRIOR TO ANY PAVING CONSTRUCTION. THE BOTTOM AND SIDES TO HAVE EITHER ANCHORED CURLEX OR SOD. MUST BE SEEDED WITH ANNUAL GRASS SEED.
  2. NO CITY ACCEPTANCE UNTIL 75%-80% OF ALL DISTURBED AREA TO HAVE 1" MINIMUM STAND OF ANNUAL GRASS (NO WINTER RYE OR SIMILAR).

**POND A DRAINAGE AREAS**

DA	Pre-Developed Area (AC)	Developed Area (AC)	Bypass Area (AC)	Flow Through Area (AC)
EX-A	11.23			
EX-D	0.22			
A		11.49		
D		0.17	0.17	
X-1		0.13	0.13	
X-2		0.36	0.36	
OS-1				
<b>TOTAL</b>	<b>11.45</b>	<b>12.15</b>	<b>0.66</b>	<b>0.00</b>

**POND A RELEASE CALCULATIONS**

	On-Site Area (AC)	Tc (min)	K-Value	C-Factor	Intensity I (in/hr)	Flow Q (cfs)
PRE-DEVELOPED CONDITIONS (Onsite - Total)	11.45	15	1.00	0.30	8.80	30.22
DEVELOPED CONDITIONS (Onsite - Total)	12.15	15	1.00	0.55	8.80	58.80
BYPASS CONDITIONS (Onsite - Not to Pond)	0.66	15	1.00	0.55	8.80	3.20
FLOW THROUGH CONDITIONS (Offsite - To Pond)	0.00	15	1.00	0.37	8.80	0.00

Existing Site Release Flow  $Q_e =$  Pre-Developed Q + Flow Through Q  
 $Q_e = 30.22$  cfs

Pond Release Flow  $Q_p =$  Pre-Developed Q + Flow Through Q - Bypass Q  
 $Q_p = 27.02$  cfs

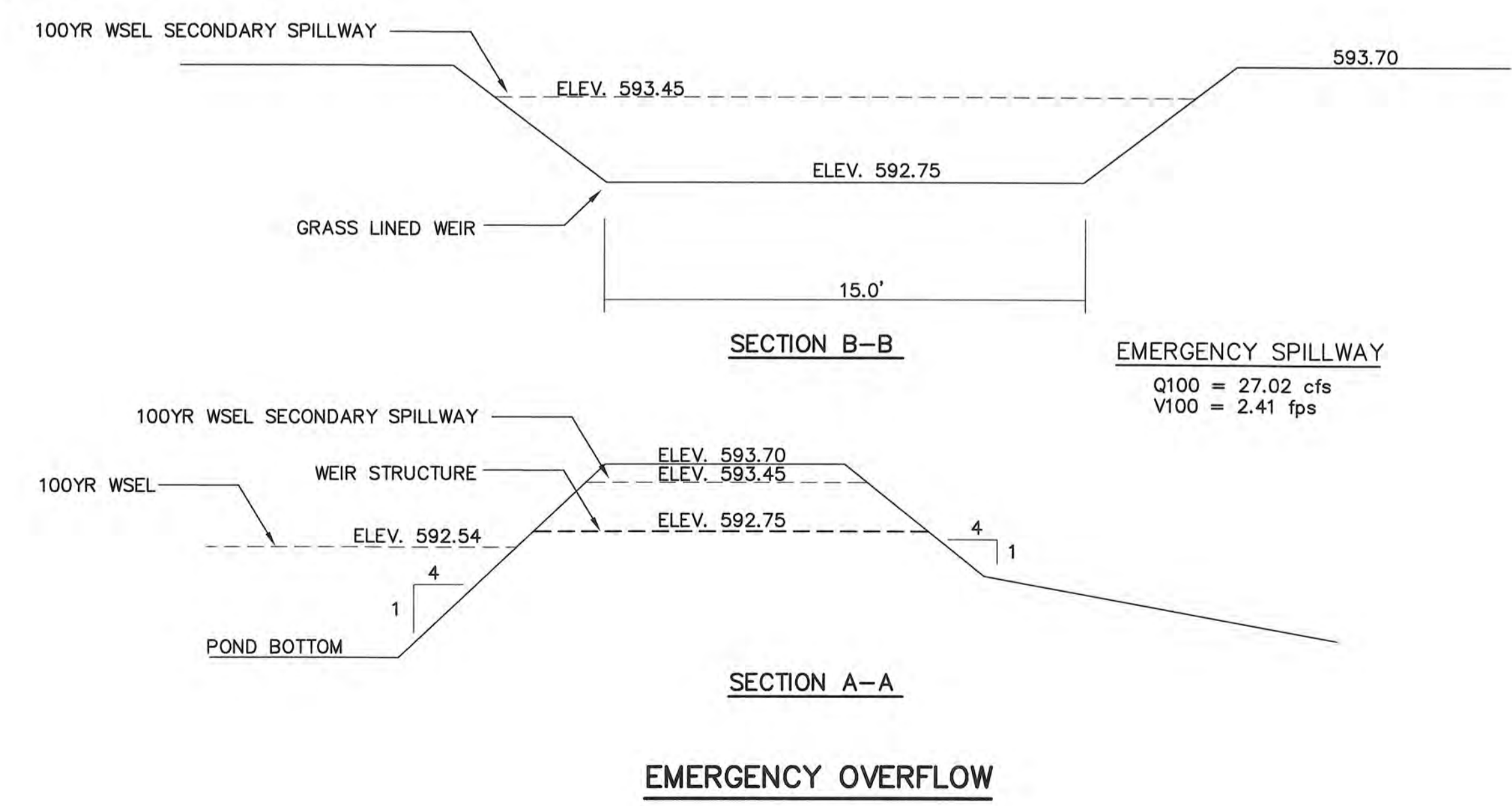
Site Release Flow  $Q_s =$  Pond Release  $Q_p$  + Bypass Q  
 $Q_s = 30.22$  cfs

**STAGE STORAGE - POND A**

Elevation (FT)	Pond Surface (SF)	Volume (CF)	Cum. Volume (CF)
589.50	0	0.0	0.0
590.00	4086	1021.5	1021.5
591.00	13337	8711.5	9733.0
592.00	15554	14445.5	24178.5
592.54	16824	8741.9	32920.4
593.00	17905	16729.5	40908.0

**DETENTION CALCS - POND A (100 YR)**

Time (min)	C*K	Intensity, I (in/hr)	Runoff, Q (cfs)	Volume In (CF)	Volume Out (CF)	Storage Req. (CF)
10	0.55	9.50	60.01	36008.6	20262.0	15746.6
15	0.55	8.80	55.59	50033.0	24314.4	25718.6
20	0.55	7.70	48.64	58371.9	28366.8	30005.1
30	0.55	6.10	38.54	69364.0	36471.6	32892.4
40	0.55	5.10	32.22	77323.8	44576.4	32747.4
50	0.55	4.40	27.80	83388.4	52681.2	30707.2
60	0.55	3.80	24.01	86420.7	60786.0	25634.7
70	0.55	3.40	21.48	90211.0	68890.8	21320.2
80	0.55	3.10	19.58	94001.4	76995.6	17005.8
90	0.55	2.90	18.32	98928.9	85100.4	13828.5
100	0.55	2.70	17.06	102340.3	93205.2	9135.1
110	0.55	2.50	15.79	104235.5	101310.0	2925.5
120	0.55	2.30	14.53	104614.5	109414.8	-4800.3
150	0.55	1.80	11.37	102340.3	133729.2	-31388.9



INSTALL:  
20 SY OF 6" LOOSE RIPRAP

INSTALL:  
265 LF OF 2' CONC FLUME  
SEE DETAIL SHEET 20

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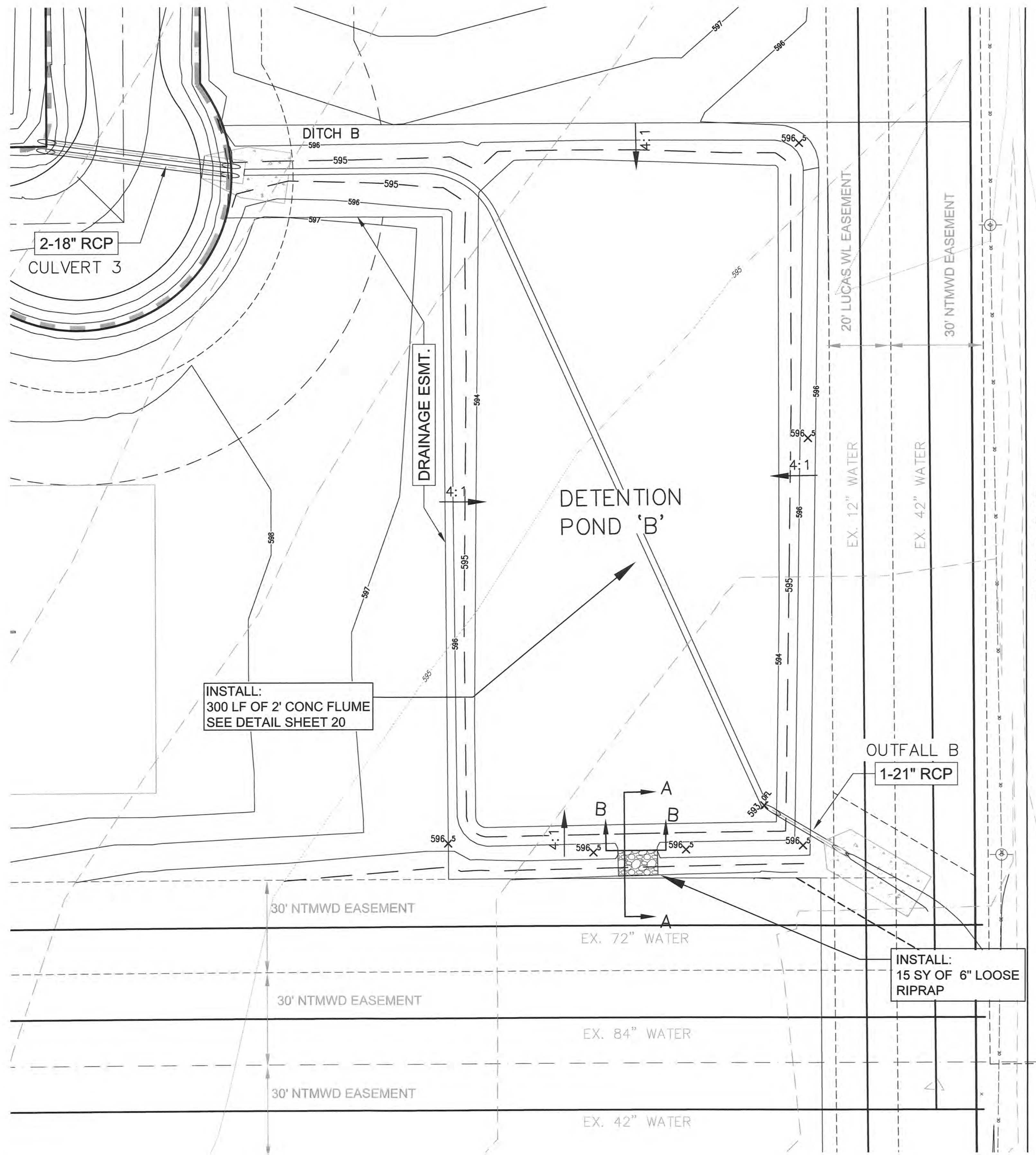
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12/9/2019  
DATE

**DETENTION POND A**

**THE ESTATES AT STINSON HIGHLANDS**  
CITY OF LUCAS, COLLIN COUNTY, TEXAS



**POND B RELEASE CALCULATIONS**

	On-Site Area (AC)	Tc (min)	K-Value	C-Factor	Intensity I (in/hr)	Flow Q (cfs)
PRE-DEVELOPED CONDITIONS (Onsite - Total)	7.19	15	1.00	0.30	8.80	18.98
DEVELOPED CONDITIONS (Onsite - Total)	9.37	15	1.00	0.55	8.80	45.35
BYPASS CONDITIONS (Onsite - Not to Pond)	1.08	15	1.00	0.55	8.80	5.24
FLOW THROUGH CONDITIONS (Offsite - To Pond)	0.00	15	1.00	0.55	8.80	0.00

Existing Site Release Flow  $Q_e =$  Pre-Developed Q + Flow Through Q  
 $Q_e = 18.98$  cfs

Pond Release Flow  $Q_p =$  Pre-Developed Q + Flow Through Q - Bypass Q  
 $Q_p = 13.74$  cfs

Site Release Flow  $Q_s =$  Pond Release  $Q_p$  + Bypass Q  
 $Q_s = 18.98$  cfs

**DETENTION CALCS - POND B (100 YR)**

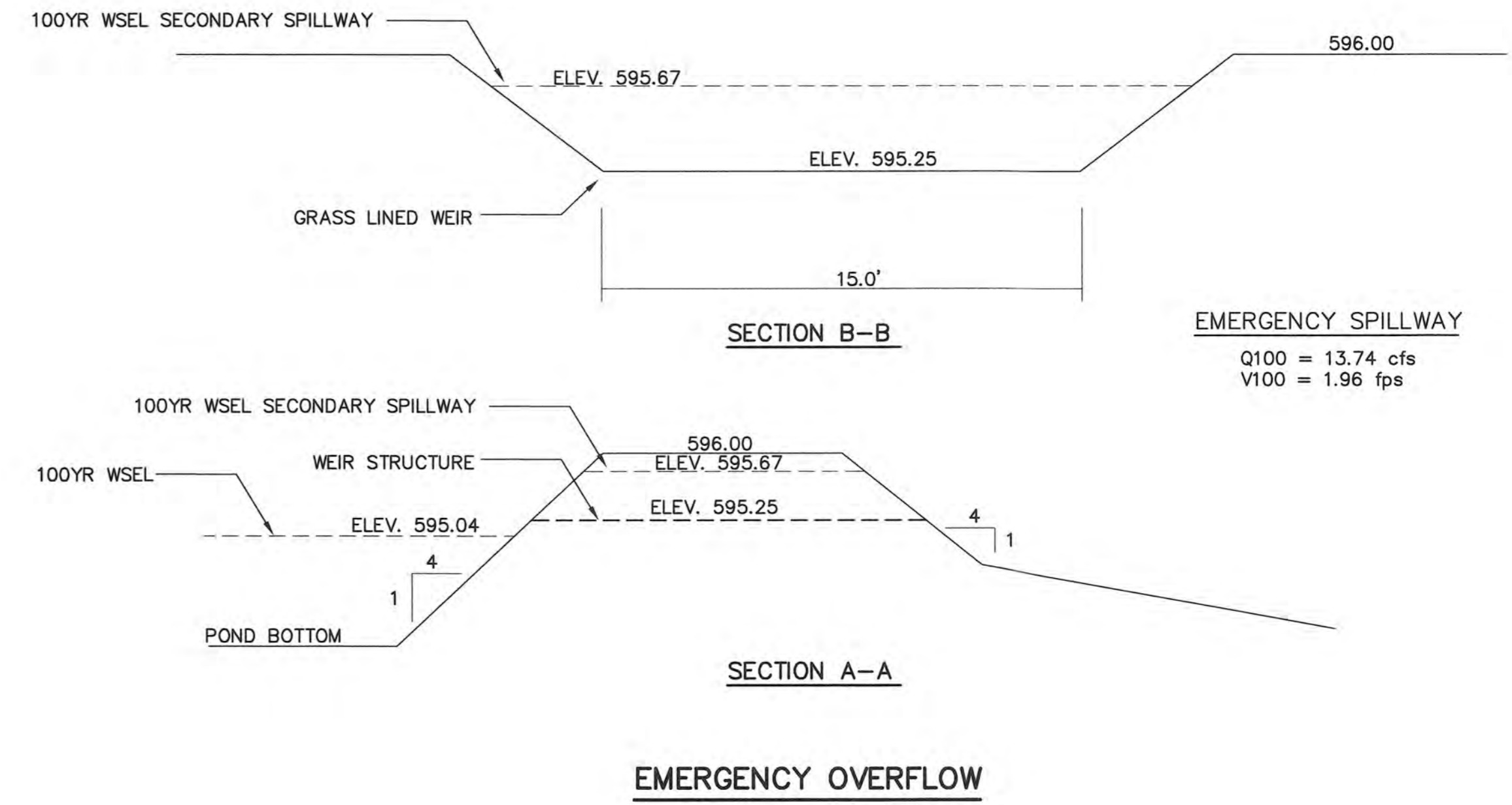
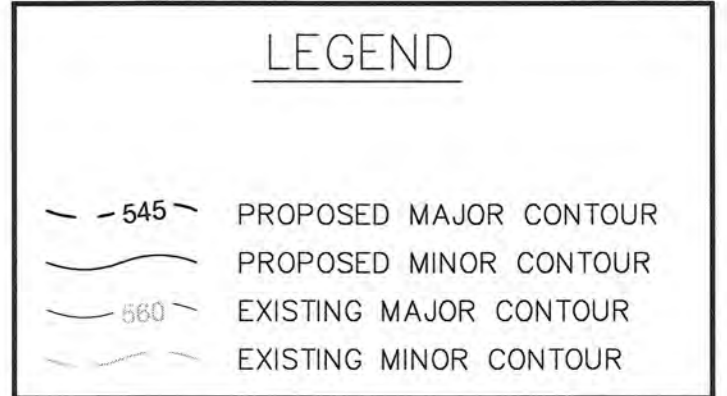
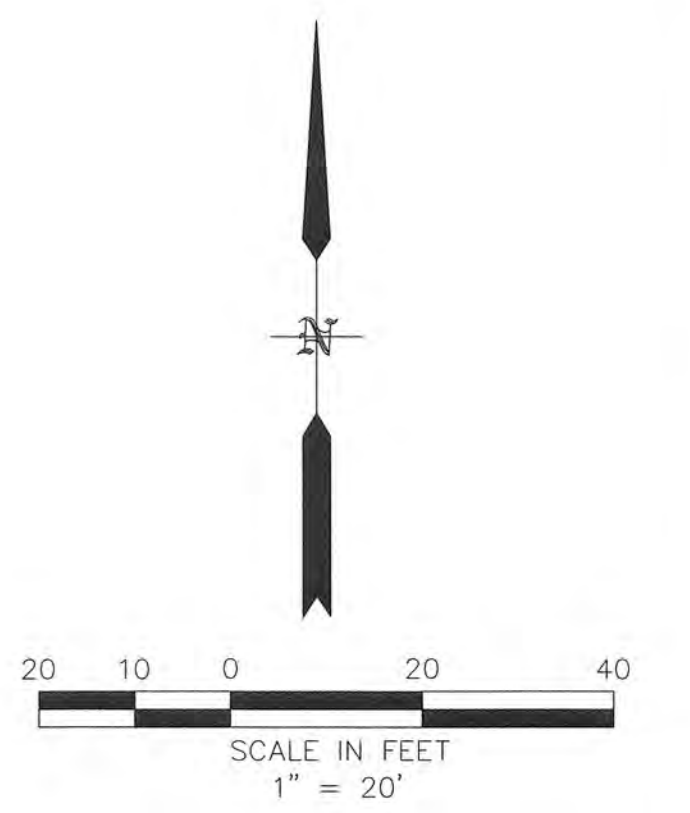
Time (min)	C* <sub>K</sub>	Intensity I (in/hr)	Runoff, Q (cfs)	Volume In (CF)	Volume Out (CF)	Storage Req. (CF)
10	0.55	9.50	43.30	25982.9	10308.5	15674.3
15	0.55	8.80	40.11	36102.5	12370.2	23732.3
20	0.55	7.70	35.10	42119.6	14432.0	27687.7
30	0.55	6.10	27.81	50051.2	18555.4	31495.9
40	0.55	5.10	23.25	55794.8	22678.8	33116.0
50	0.55	4.40	20.06	60170.9	26802.2	33368.7
60	0.55	3.80	17.32	62358.9	30925.6	31433.3
70	0.55	3.40	15.50	65094.0	35049.0	30044.9
80	0.55	3.10	14.13	67829.0	39172.5	28656.5
90	0.55	2.90	13.22	71384.5	43295.9	28088.7
100	0.55	2.70	12.31	73846.1	47419.3	26426.8
110	0.55	2.50	11.40	75213.6	51542.7	23670.9
120	0.55	2.30	10.48	75487.1	55666.1	19821.0
150	0.55	1.80	8.21	73846.1	68036.4	5809.7

**POND B DRAINAGE AREAS**

DA	Pre-Developed Area (AC)	Developed Area (AC)	Bypass Area (AC)	Flow Through Area (AC)
EX-B	7.19			
B		8.29		
X-4		0.30	0.30	
X-6		0.78	0.78	
TOTAL	7.19	9.37	1.08	0.00

**STAGE STORAGE - POND B**

Elevation (FT)	Pond Surface (SF)	Volume (CF)	Cum. Volume (CF)
593.00	0	0.0	0.0
594.00	20873	10436.5	10436.5
595.00	23187	22030.0	32466.5
595.04	23281	929.4	33395.9
596.00	25544	24365.5	56832.0



- NOTES:
- ALL DETENTION SYSTEMS TO BE COMPLETED PER PLAN AND FUNCTIONING PRIOR TO ANY PAVING CONSTRUCTION. THE BOTTOM AND SIDES TO HAVE EITHER ANCHORED CURLEX OR SOD. MUST BE SEED WITH ANNUAL GRASS SEED.
  - NO CITY ACCEPTANCE UNTIL 75%-80% OF ALL DISTURBED AREA TO HAVE 1" MINIMUM STAND OF ANNUAL GRASS (NO WINTER RYE OR SIMILAR).

**CAUTION! EXISTING UTILITIES**

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BENCHMARK:  
 BM SQUARE CUT ON NORTHWEST CORNER OF WYE INLET LOCATED AT SOUTHWEST CORNER OF STINSON ROAD AND HIGHLAND DRIVE.  
 ELEV: 589.40

**ENGINEERINGCONCEPTS & DESIGN, L.P.**

ENGINEERING / PROJECT MANAGEMENT / CONSTRUCTION SERVICES - FIRM REG. #F-00145  
 201 WINDCO CIR, STE 200, WYLIE, TX 75098  
 972-941-8400 FAX: 972-941-8401 WWW.ECDLP.COM

REVISIONS:


DRAWN: RCK DATE:  

CHECKED: RKH DATE: 12/11/2018

PROJECT NO.: 06113

DWG FILE NAME: 06113 DET.DWG

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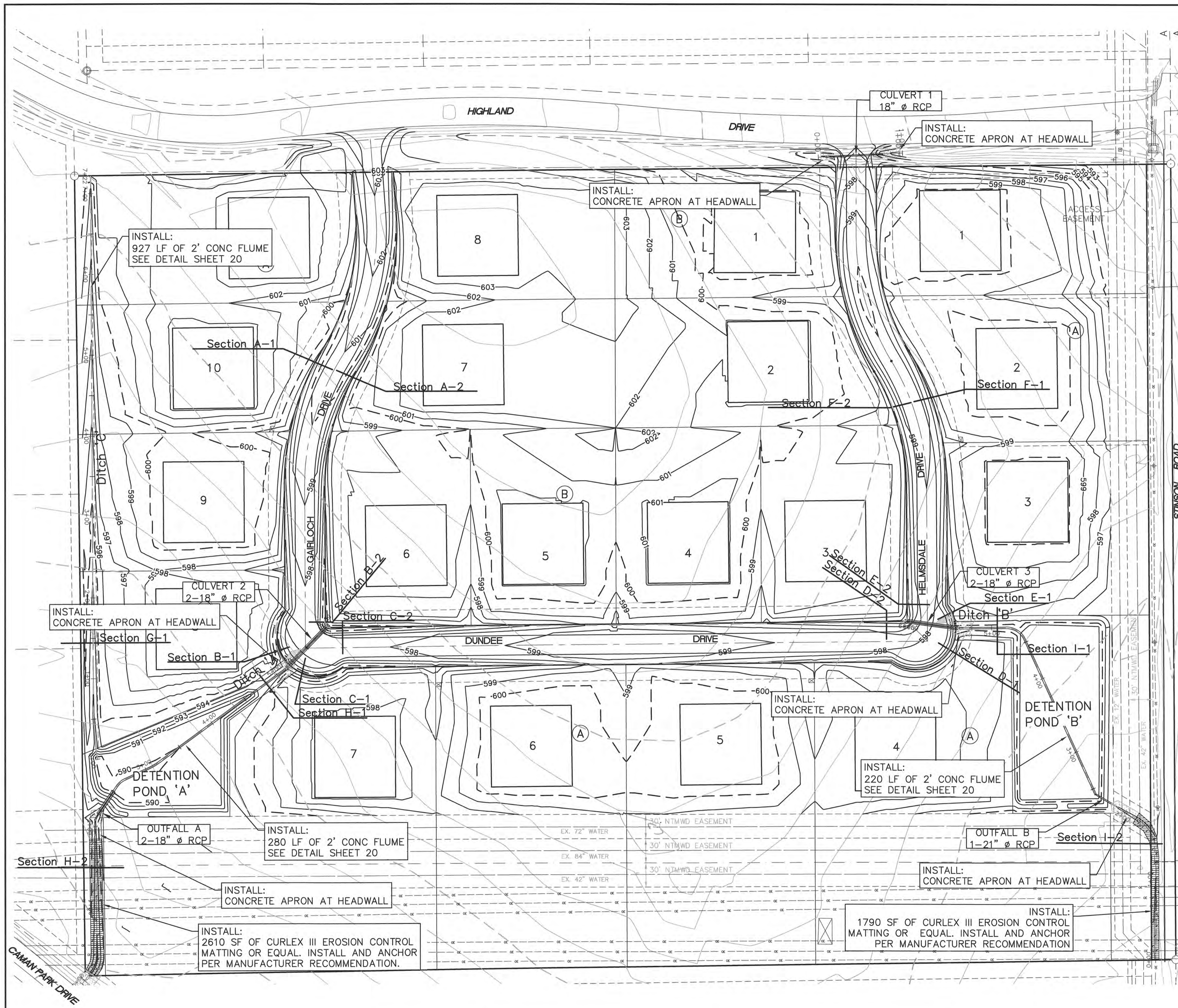
ENGINEERING CONCEPTS & DESIGNS, L.P.  
 Ryan C. King  
 RYAN C. KING, PE  
 12/9/2018  
 DATE

**DETENTION POND B**

THE ESTATES AT STINSON HIGHLANDS  
 CITY OF LUCAS, COLLIN COUNTY, TEXAS

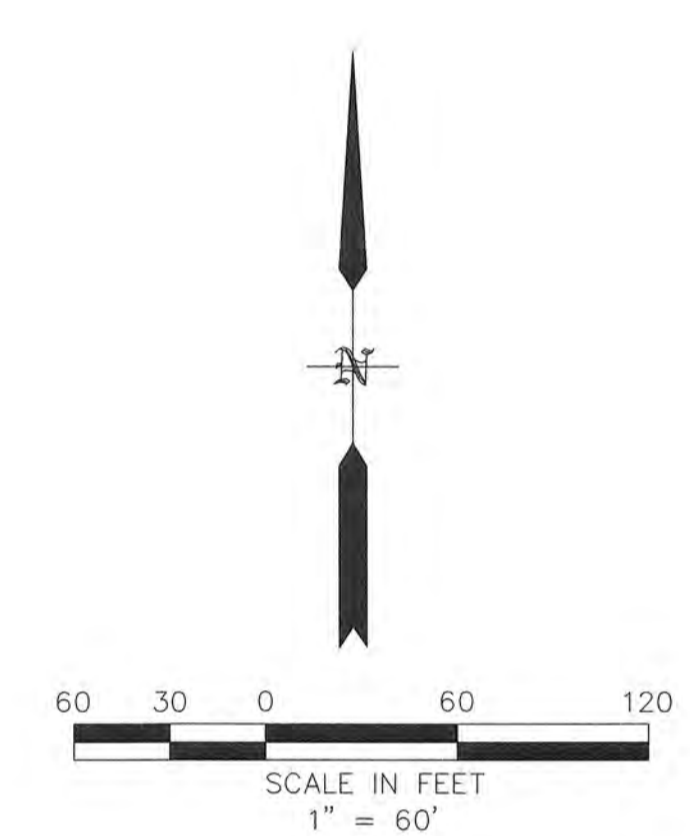
SHEET  
 12  
 OF  
 20

See Detention Pond Plans (Sheet 11 & 12) for additional Detention Pond information.



$Q=4.38 \text{ cfs}$ $D=0.61 \text{ ft}$ $S=0.012 \text{ ft/ft}$ $n=0.030$ $V=2.35 \text{ fps}$	$Q=5.46 \text{ cfs}$ $D=0.66 \text{ ft}$ $S=0.012 \text{ ft/ft}$ $n=0.030$ $V=2.51 \text{ fps}$
Section A-1 DITCH SECTION	Section A-2 DITCH SECTION
$Q=10.98 \text{ cfs}$ $D=0.86 \text{ ft}$ $S=0.012 \text{ ft/ft}$ $n=0.030$ $V=2.97 \text{ fps}$	$Q=12.92 \text{ cfs}$ $D=0.99 \text{ ft}$ $S=0.012 \text{ ft/ft}$ $n=0.030$ $V=3.30 \text{ fps}$
Section B-1 DITCH SECTION	Section B-2 DITCH SECTION
$Q=6.22 \text{ cfs}$ $D=0.78 \text{ ft}$ $S=0.010 \text{ ft/ft}$ $n=0.030$ $V=2.56 \text{ fps}$	$Q=9.42 \text{ cfs}$ $D=0.86 \text{ ft}$ $S=0.014 \text{ ft/ft}$ $n=0.030$ $V=3.18 \text{ fps}$
Section C-1 DITCH SECTION	Section C-2 DITCH SECTION
$Q=8.71 \text{ cfs}$ $D=0.92 \text{ ft}$ $S=0.008 \text{ ft/ft}$ $n=0.030$ $V=2.57 \text{ fps}$	$Q=6.03 \text{ cfs}$ $D=0.80 \text{ ft}$ $S=0.008 \text{ ft/ft}$ $n=0.030$ $V=2.36 \text{ fps}$
Section D-1 DITCH SECTION	Section D-2 DITCH SECTION
$Q=8.92 \text{ cfs}$ $D=0.93 \text{ ft}$ $S=0.008 \text{ ft/ft}$ $n=0.030$ $V=2.58 \text{ fps}$	$Q=12.59 \text{ cfs}$ $D=1.16 \text{ ft}$ $S=0.005 \text{ ft/ft}$ $n=0.030$ $V=2.34 \text{ fps}$
Section E-1 DITCH SECTION	Section E-2 DITCH SECTION
$Q=4.07 \text{ cfs}$ $D=0.70 \text{ ft}$ $S=0.008 \text{ ft/ft}$ $n=0.030$ $V=2.08 \text{ fps}$	$Q=5.47 \text{ cfs}$ $D=0.85 \text{ ft}$ $S=0.005 \text{ ft/ft}$ $n=0.030$ $V=1.89 \text{ fps}$
Section F-1 DITCH SECTION	Section F-2 DITCH SECTION

**DRAINAGE CRITERIA**  
 $C_{\text{proposed}} = 0.55$   
 $C_{\text{existing}} = 0.30$   
 $I_{100} = 8.8$   
 $T_c = 15 \text{ min}$



**LEGEND**

- Direction Of Flow (arrow symbol)
- STORM DRAIN (solid line with arrow)
- EXISTING 5' CONTOUR INTERVAL (dashed line)
- EXISTING 1' CONTOUR INTERVAL (dotted line)

CONTRACTOR TO CONTACT NTMWD LINE LOCATE AT 469-626-4569 72 HOURS PRIOR TO WORKING IN NTMWD EASEMENT IN ORDER TO SCHEDULE A REPRESENTATIVE TO BE ON-SITE.

**CAUTION! EXISTING UTILITIES**  
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**BENCHMARK:**  
 BM SQUARE CUT ON NORTHWEST CORNER OF WYE INLET LOCATED AT SOUTHWEST CORNER OF STINSON ROAD AND HIGHLAND DRIVE.  
 ELEV: 589.40

**ENGINEERINGCONCEPTS & DESIGN, L.P.**  
 ENGINEERING / PROJECT MANAGEMENT / CONSTRUCTION SERVICES - FIRM REG. #F-001145  
 201 WINDCO CIR, STE 200, WYLIE, TX 75098  
 972-941-8400 FAX: 972-941-8401 WWW.ECDLP.COM

**REVISIONS:**

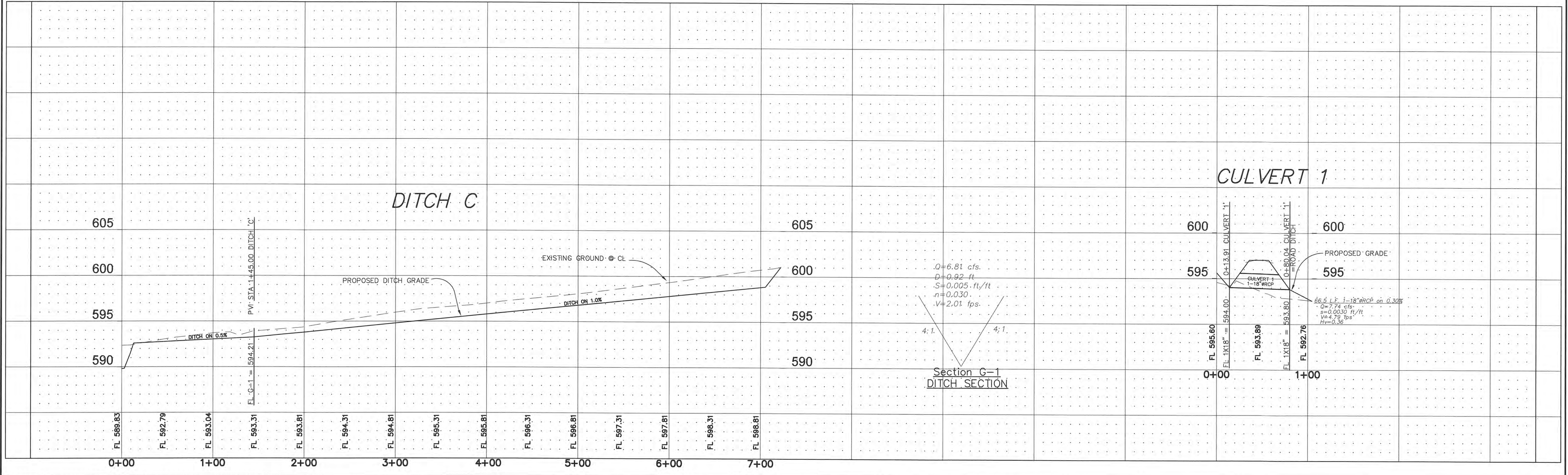
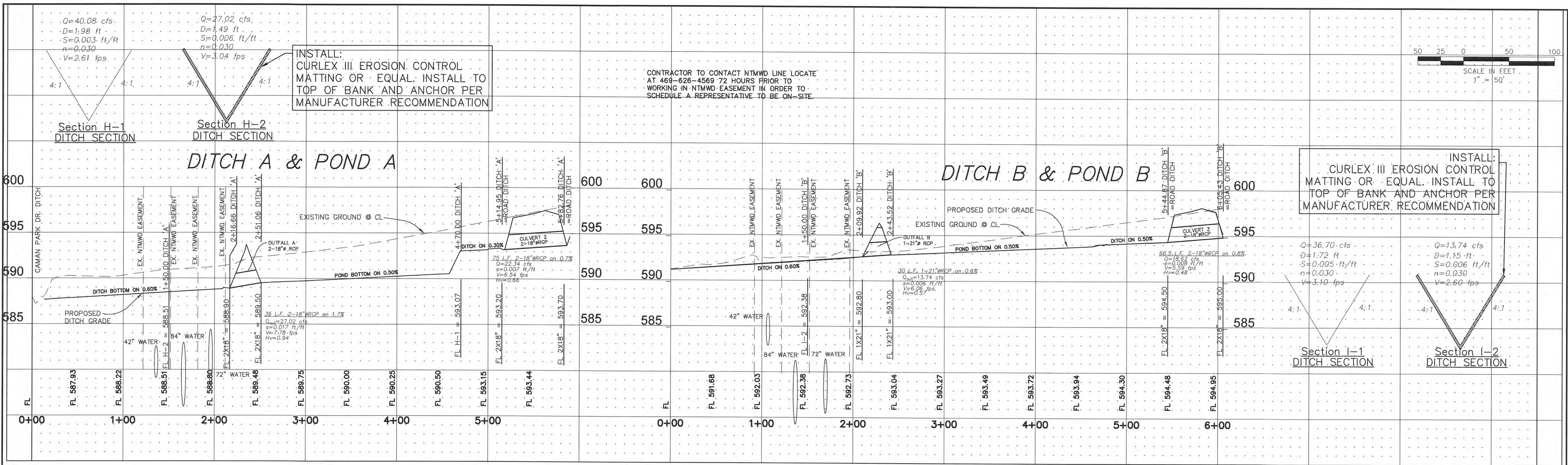
DRAWN: RCK	DATE:
CHECKED: RKH	DATE: 12/11/2018
PROJECT NO: 06113	
DWG FILE NAME: 06113 ST.DWG	

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ENGINEERING CONCEPTS & DESIGN, L.P.  
 Ryan C. King, PE  
 DATE: 12/14/2018

**STORM PLAN**  
**THE ESTATES AT STINSON HIGHLANDS**  
 CITY OF LUCAS, COLLIN COUNTY, TEXAS

SHEET 13 OF 20



**CAUTION! EXISTING UTILITIES**

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PROJECT NO.: 06113	
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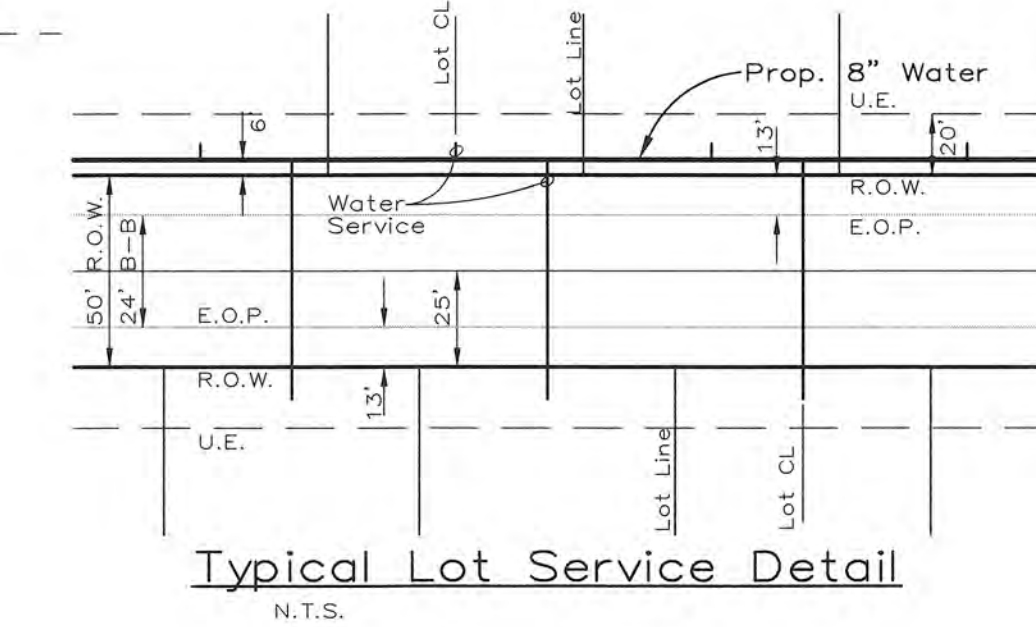
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ENGINEERING CONCEPTS & DESIGN, L.P.  
 Ryan C. King, PE  
 12/29/2019 DATE

**LEGEND**

- PROPERTY LINE
- PROPOSED STORM SEWER INLET
- EX. WATER
- EXISTING WATER LINE
- PROPOSED WATER LINE AND VALVE
- PROPOSED FIRE HYDRANT
- EXIST. or EX.
- PROPOSED WATER LATERAL AND METER

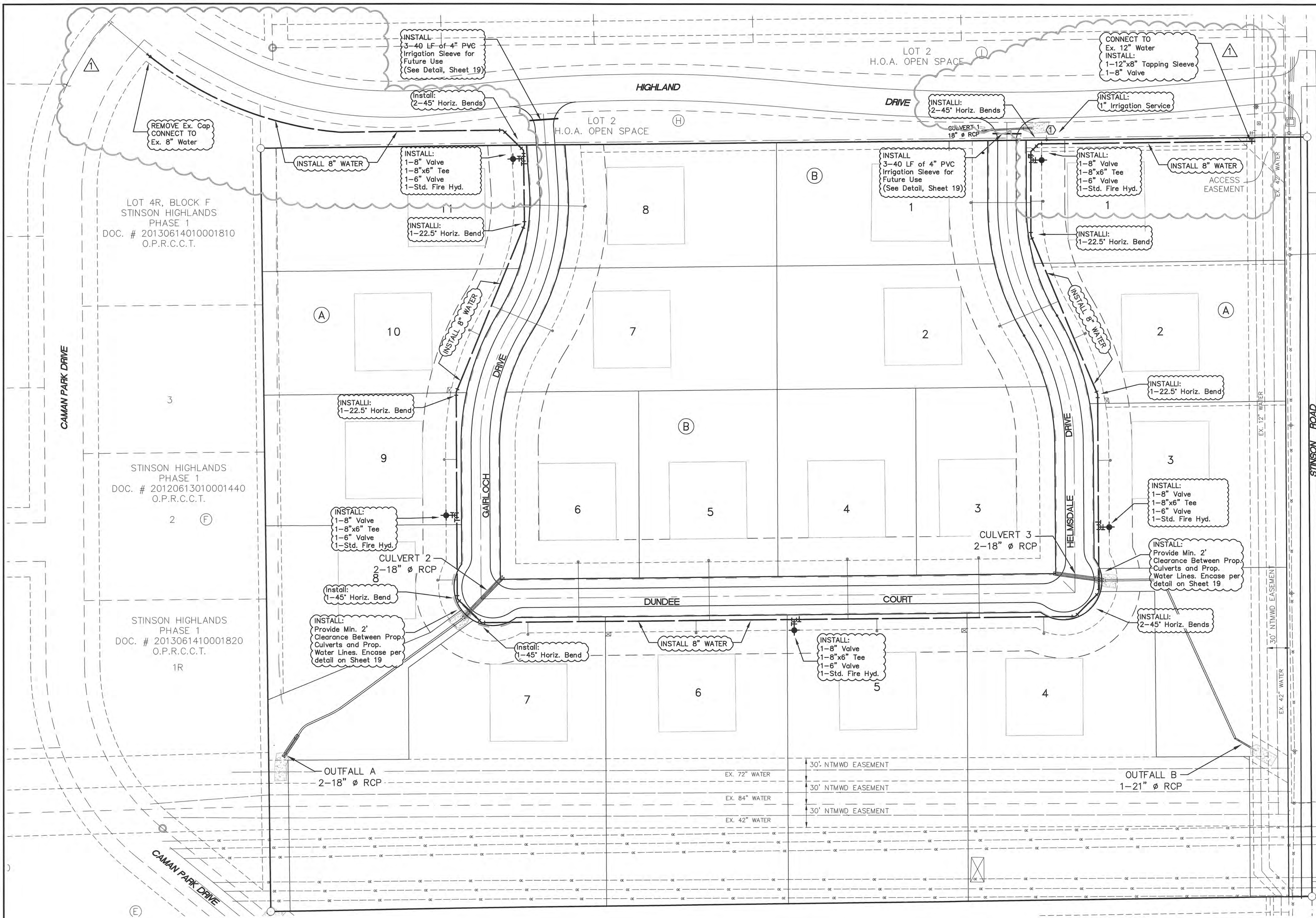
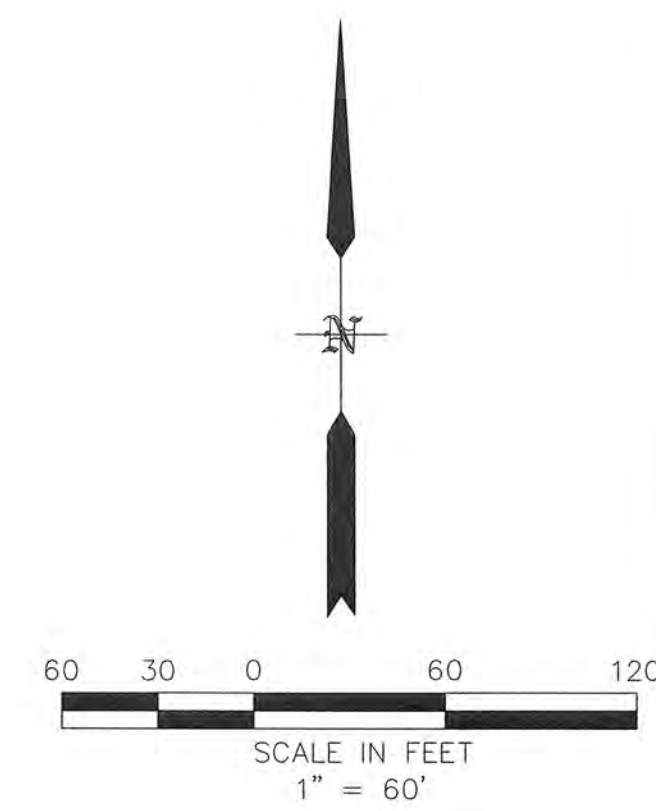


Meter Schedule			
I.D.#/No.	Type	Meter Size	
19	Domestic	1"	Proposed
① 1	Irrigation	1"	Proposed

- GENERAL NOTES**
- ALL WATER SERVICES SHALL EXTEND TO A POINT ABOVE/BEYOND THE TOP OF BANK ON THE HOUSE SIDE OF THE ROADSIDE DITCH.

ONLY DRAWINGS STAMPED "RELEASED FOR CONSTRUCTION" BY THE CITY OF LUCAS TO BE USED FOR CONSTRUCTION.

CONTRACTOR TO CONTACT NTMWD LINE LOCATE AT 469-626-4569 72 HOURS PRIOR TO WORKING IN NTMWD EASEMENT IN ORDER TO SCHEDULE A REPRESENTATIVE TO BE ON-SITE.



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972-941-8400 FAX: 972-941-8401 WWW.ECDLP.COM

REVISIONS:

① 3/13/2019	WATER LINE LOCATION ALONG HIGHLAND DR.
-------------	--

DRAWN: RCK DATE: 12/11/2018  
CHECKED: RKH DATE: 12/11/2018  
PROJECT NO.: 06113  
DWG FILE NAME: 06113 UT.DWG

**RECORD DRAWINGS**

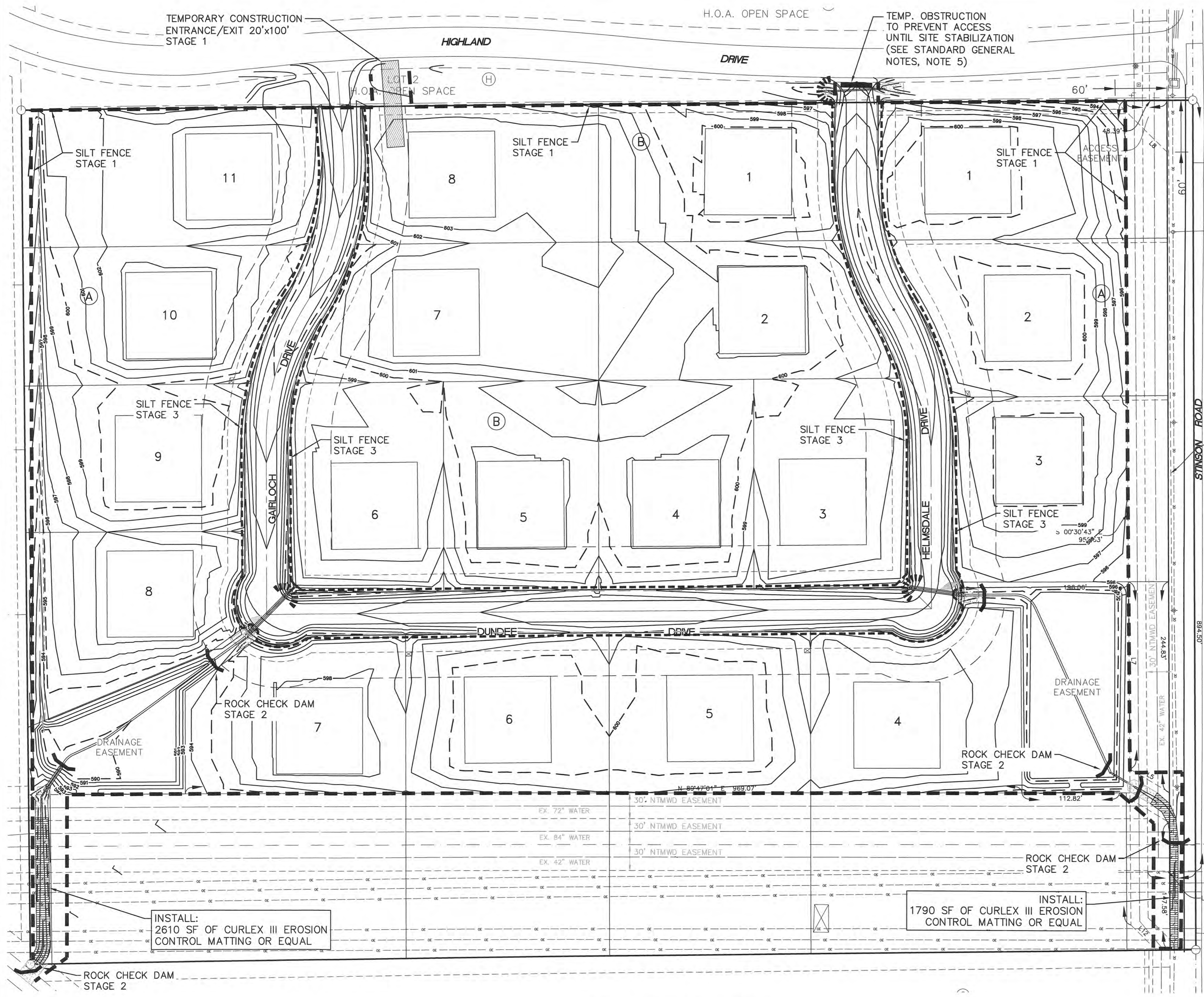
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ENGINEERING CONCEPTS & DESIGNS, L.P.  
Ryan C. King, PE  
12/1/2019 DATE

**WATER PLAN**

**THE ESTATES AT STINSON HIGHLANDS**  
CITY OF LUCAS, COLLIN COUNTY, TEXAS

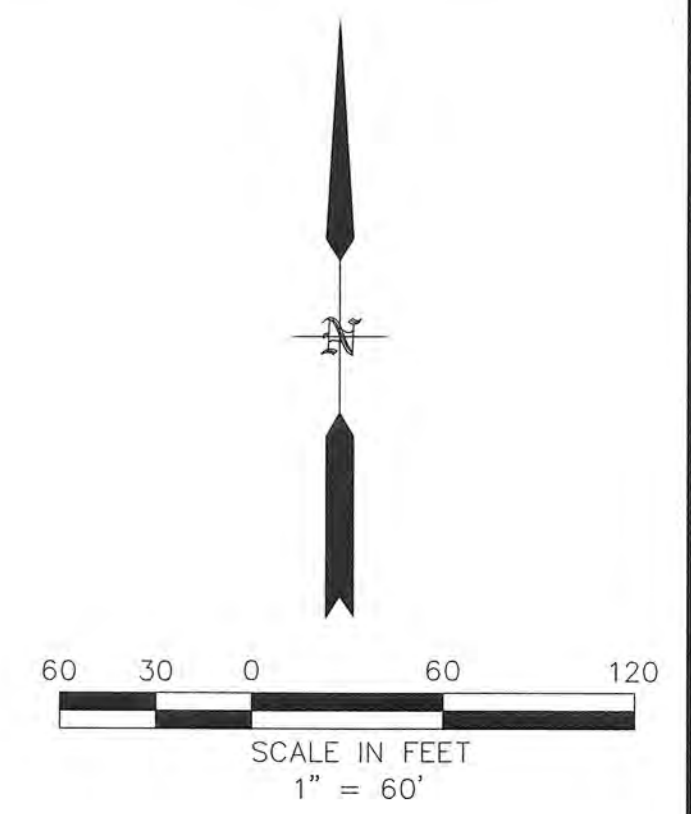
SHEET 15 OF 20



- SEQUENCE OF CONSTRUCTION
1. EXCAVATION OF STREETS & LOTS
  2. INSTALLATION OF UTILITIES
  3. STREET PAVING

CONSTRUCTION NOTES:

1. Silt fences shall be installed as shown in detail.
  2. Contractor will install additional erosion control where erosion protection is needed as per the owners engineers, or the City inspector.
  3. The existing vegetation along existing roads and rights-of way shall be replaced to its original condition or better.
  4. All drainage swales shall be fully grassed and stabilized prior to the City acceptance of project.
  5. All construction erosion control shall meet TCEQ directives.
  6. Erosion construction shall be completed in the following STAGES: STAGE 1 (Prior To Start Of Rough Grading)
- STAGE 1 (Prior To Start Of Rough Grading)
1. Silt fence to be installed as shown on plan or as required.
  2. Silt fence shall be placed around ends of storm culverts, prevent erosion material from entering storm sewer system.
  3. Rock check dams shall be placed within swales as shown on the plans. Rock check dams to be removed at project's completion.
- STAGE 2 (After utility construction & prior to paving const.)
1. Silt fence shall be placed in row along pavement as shown where required by slope conditions.
  2. All parkways and disturbed area in street R.O.W. to be seeded, blanketed, or sodded as directed by the City Engineer.
  3. Vegetation to be established in all offsite disturbed areas.
  4. 100% stabilization is required on all disturbed areas.



STANDARD GENERAL NOTES

1. EROSION CONTROL DEVICES AS SHOWN ON THE EROSION CONTROL PLAN FOR THE PROJECT SHALL BE INSTALLED PRIOR TO THE START OF LAND DISTURBING ACTIVITIES ON THE PROJECT.
2. ALL EROSION CONTROL DEVICES ARE TO BE INSTALLED IN ACCORDANCE WITH THE APPROVED PLANS AND SPECIFICATIONS FOR THE PROJECT. CHANGES ARE TO BE APPROVED BEFORE CONSTRUCTION BY THE DESIGN ENGINEER AND THE CITY.
3. IF THE EROSION CONTROL PLAN AS APPROVED CANNOT CONTROL EROSION AND OFF-SITE SEDIMENTATION FROM THE PROJECT, THE EROSION CONTROL PLAN WILL BE REQUIRED TO BE REVISED AND/OR ADDITIONAL EROSION DEVICES WILL BE REQUIRED ON THE SITE.
4. IF OFF-SITE SOIL BORROW OR SPOIL SITES ARE USED IN CONJUNCTION WITH THIS PROJECT, THIS INFORMATION SHALL BE DISCLOSED AND SHOWN ON THE EROSION CONTROL PLAN. OFF-SITE BORROW AND SPOIL AREAS ARE CONSIDERED A PART OF THE PROJECT SITE AND THEREFORE SHALL COMPLY WITH TCEQ EROSION CONTROL REQUIREMENTS. THESE AREAS SHALL BE STABILIZED WITH PERMANENT GROUND COVER PRIOR TO FINAL APPROVAL OF THE PROJECT.
5. PROVIDE A TEMPORARY OBSTRUCTION TO PREVENT CONSTRUCTION TRAFFIC FROM AVOIDING THE CONSTRUCTION ENTRANCE. REMOVE ONCE CONSTRUCTION OPERATIONS NO LONGER REQUIRE THE CONSTRUCTION ENTRANCE TO CONTROL EROSION. OBSTRUCTION MAY BE A BARRICADE, BARRELS, STONE BERM OR OTHER DEVICE THAT IS TEMPORARY BUT IMPEDES ACCESS.

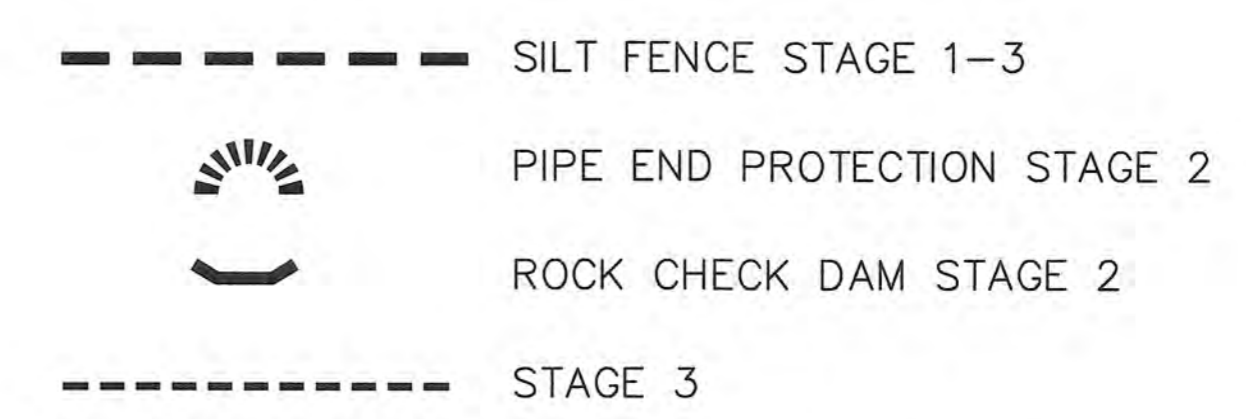
EROSION AND SEDIMENT CONTROLS

Maintenance / Inspection Procedures

1. The contractor shall provide and maintain a rain gauge utilizing Min. 0.1 inch increments at the project site.
2. Control measures will be inspected at least once a week or within 24 hours of any storm event of 0.5 inch or greater. If a repair is necessary, it will be done at the earliest practicable date.
3. An inspection and maintenance report will be made for each inspection and kept at the project site. The inspection should use the operator inspection form in the NCTCOG BMP Manual or other form approved by the City.
4. The contractor shall keep records of the construction activity on the site.

ALLOWABLE NON-STORM WATER DISCHARGES

1. Discharges from fire fighting activities.
2. Fire hydrant flushings.
3. Water used to wash vehicles or control dust.
4. Potable water sources (including waterline flushings).
5. Uncontaminated ground water (including dewatering groundwater infiltration).
6. Foundation of footing drains where flows are not contaminated with process materials such as solvents.
7. Springs, Riparian Habitats, wetlands and uncontaminated groundwater.
8. Irrigation water.
9. Exterior building wash down without detergents.
10. Pavement wash waters where spills or leaks of toxic or hazardous materials have not occurred (unless all spill material has been removed) and where detergents are not used.
11. Air conditioning condensate.



TOTAL SITE AREA = 30.6 ACRES  
 TOTAL DISTURBED AREA = 23.7 ACRES

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REVISIONS:	
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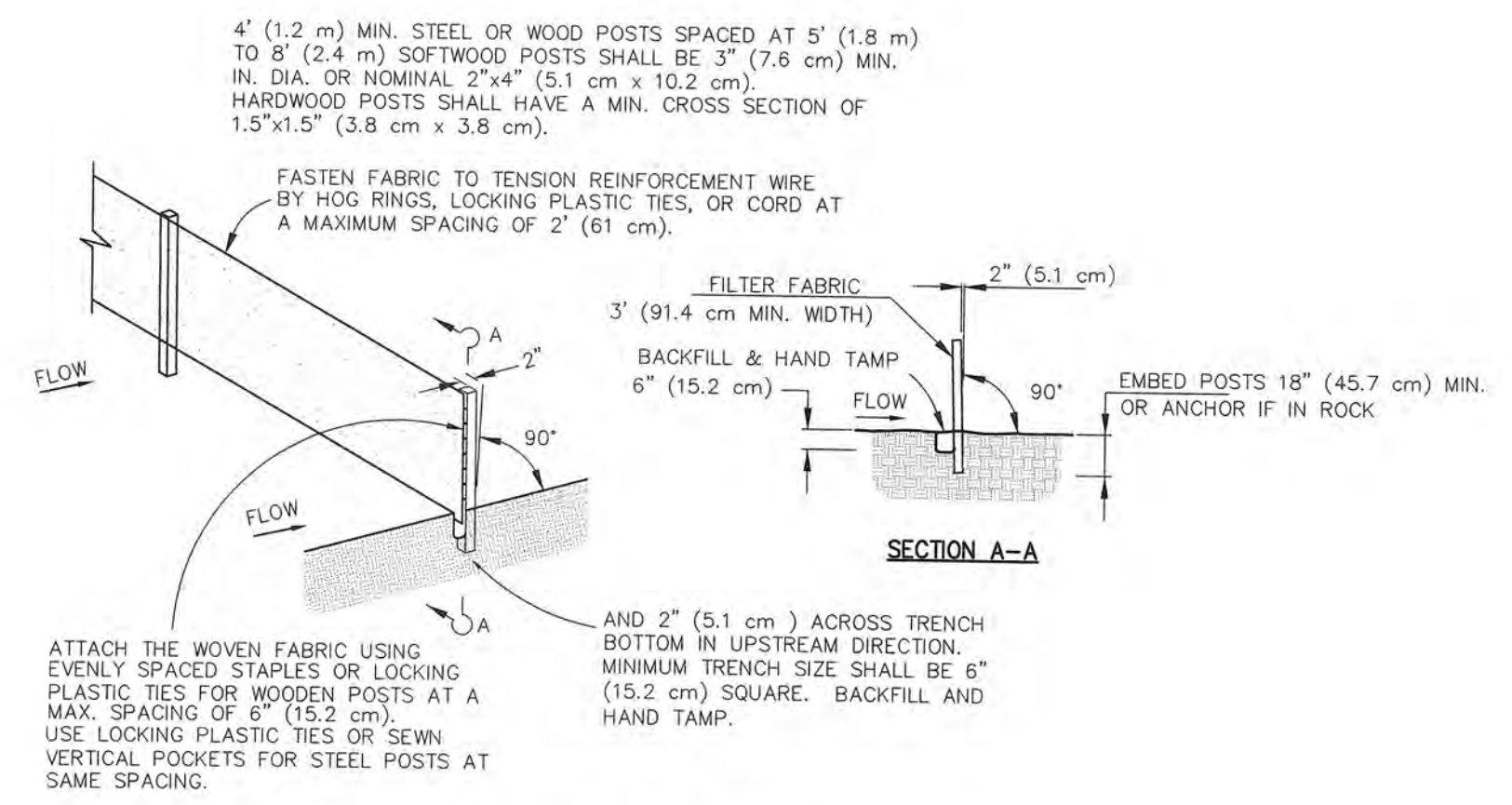
ENGINEERING CONCEPTS & DESIGNS, L.P.  
 Ryan C. King, PE  
 12/9/2018 DATE

**EROSION CONTROL PLAN**

**THE ESTATES AT STINSON HIGHLANDS**  
 CITY OF LUCAS, COLLIN COUNTY, TEXAS

SHEET  
 16  
 OF  
 20

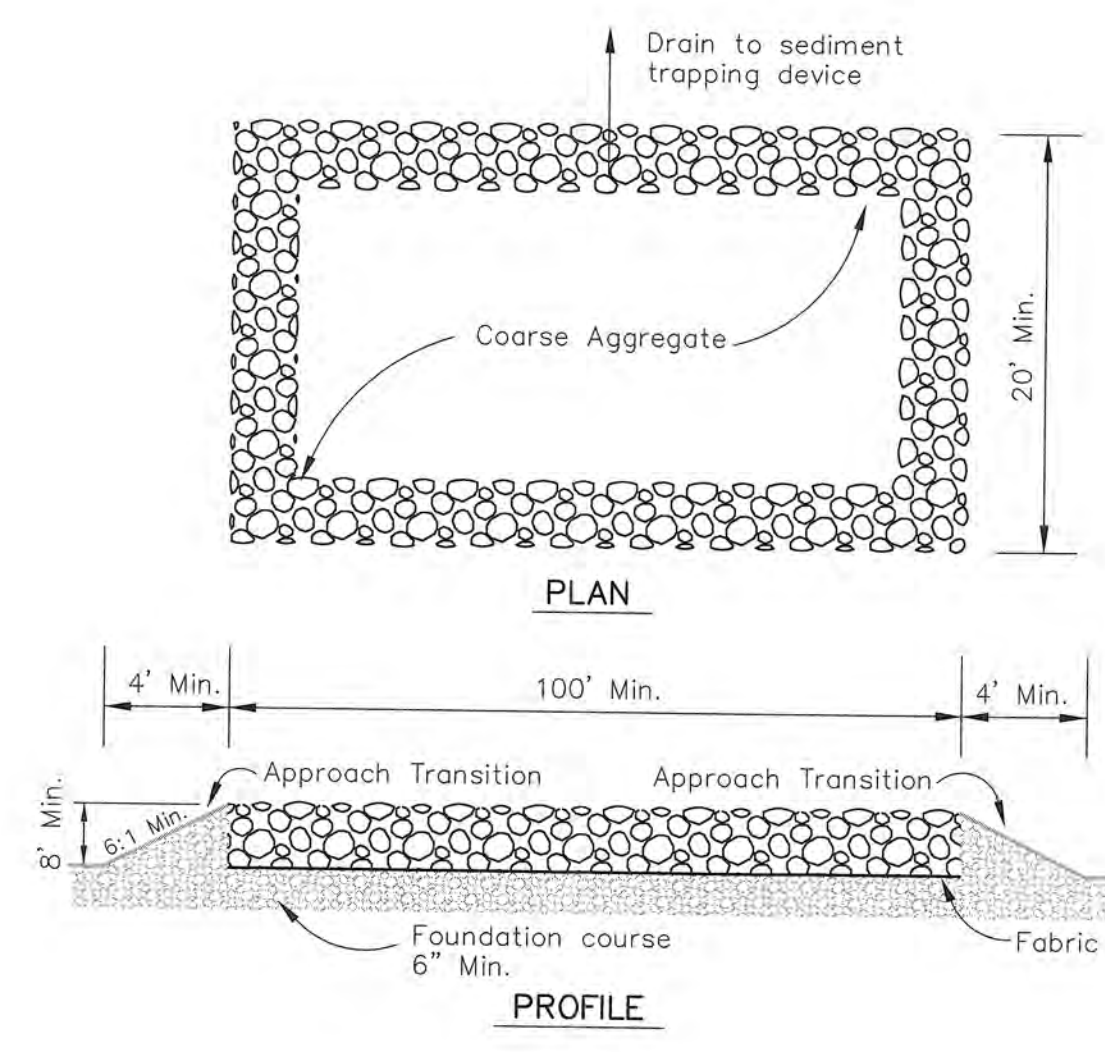




**SILT FENCE**  
Not To Scale

**CONSTRUCTION NOTES - SILT FENCE**

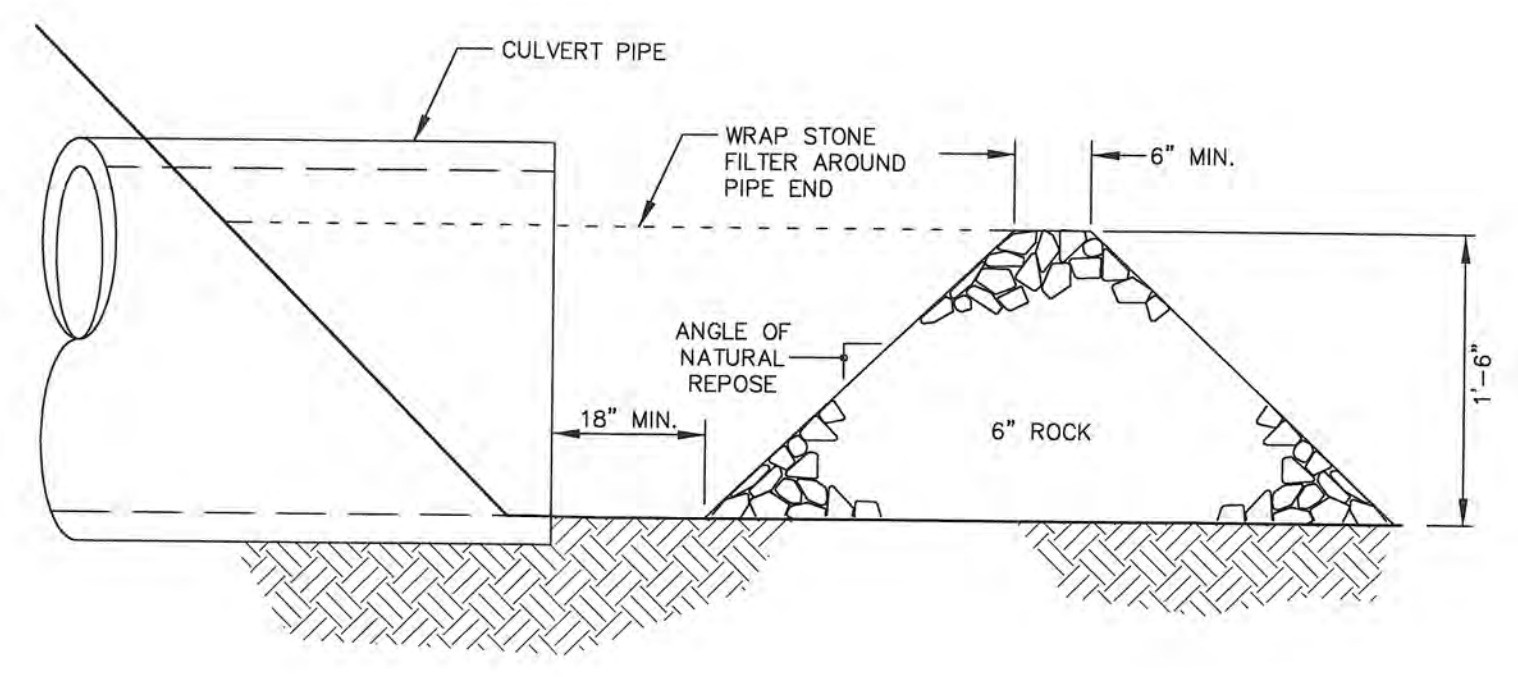
1. Posts which support the silt fence shall be installed on a slight angle toward the anticipated runoff source. The post must be embedded a minimum of 18 inches.
2. The toe of the silt fence shall be trenched in with a spade or mechanical trencher, so that the downslope face of the trench is flat and perpendicular to the line of flow. Where fence cannot be trenched in (e.g. pavement), weight fabric flap with washed gravel on the uphill side to prevent flow under fence.
3. The trench must be a minimum of 6 inches deep and 6 inches wide to allow for the silt fence fabric to be laid in the ground and backfilled with compacted material.
4. Silt fence shall be securely fastened to each support post or to woven wire, which is in turn attached to the support post. There shall be a 6 inch double overlap, securely fastened where ends of fabric meet.
5. Inspection shall be made weekly or after each rainfall. Repair or replacement shall be made promptly as needed.
6. Silt fence shall be removed when the site is completely stabilized so as not to block or impede storm flow or drainage.
7. Accumulated silt shall be removed when it reached a depth of 8 inches. The silt shall be disposed of at an approved site and in such a manner as to not contribute to additional siltation.



**GENERAL NOTES: (Construction Exit-Type 1)**

1. THE LENGTH OF THE TYPE 1 CONSTRUCTION EXIT SHALL NOT BE LESS THAN 50'.
2. THE COARSE AGGREGATE SHOULD BE OPEN GRADED WITH A SIZE OF 6" TO 8".
3. THE APPROACH TRANSITIONS SHOULD BE NO STEEPER THAN 6:1 AND CONSTRUCTED AS DIRECTED BY THE ENGINEER.
4. THE CONSTRUCTION EXIT FOUNDATION COURSE SHALL BE FLEXIBLE BASE, BITUMINOUS CONCRETE, PORTLAND CEMENT CONCRETE OR OTHER MATERIAL AS APPROVED BY THE ENGINEER.
5. THE CONSTRUCTION EXIT SHALL BE GRADED TO ALLOW DRAINAGE TO A SEDIMENT TRAPPING DEVICE.

**CONSTRUCTION EXIT (TYPE-1)**  
Not To Scale

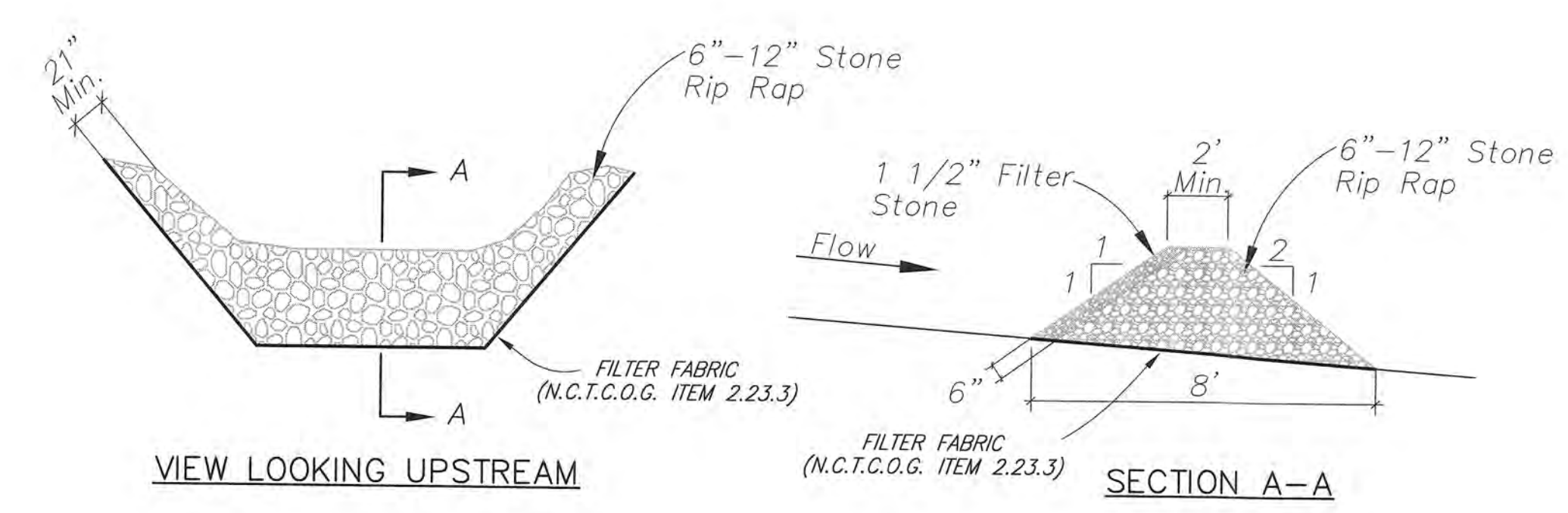


**STONE BERM PIPE END PROTECTION**  
Not To Scale

SILT TRAPS MUST DISCHARGE INTO AN ADEQUATE STORM WATER SYSTEM, NATURAL DRAINAGEWAY, OR STABLE EROSION AREA. MAXIMUM TRIBUTARY AREA = 5 ACRES.

**SEDIMENTATION STRUCTURE MAINTENANCE**

1. THE POND AND STONE FILTER INSTALLATION SHALL BE INSPECTED AFTER EVERY RUNOFF EVENT AND ON A WEEKLY BASIS. ANY NECESSARY REPAIRS MUST BE MADE IMMEDIATELY.
2. TRAPPED SEDIMENT MUST BE REMOVED FROM THE POND AND REDISTRIBUTED ON THE SITE WHEN DEPOSIT REACHES THE CLEAN-OUT ELEVATION SHOWN ON THE PLANS. THIS ELEVATION MUST BE PHYSICALLY MARKED IN THE POND.
3. ROCK FILTERS MUST BE REMOVED WHEN CLOGGED WITH SEDIMENT. STONE MUST BE WASHED COMPLETELY FREE OF ALL FOREIGN MATERIALS OR NEW ROCK USED TO REBUILD THE FILTER. PLACING NEW STONE ON TOP OF A DIRTY FILTER IS NOT ACCEPTABLE.



**ROCK CHECK DAM**  
Not To Scale

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BENCHMARK:  
BM SQUARE CUT ON NORTHWEST CORNER OF WYE INLET LOCATED AT SOUTHWEST CORNER OF STINSON ROAD AND HIGHLAND DRIVE.  
ELEV: 589.40

**ENGINEERING CONCEPTS & DESIGN, L.P.**

ENGINEERING / PROJECT MANAGEMENT / CONSTRUCTION SERVICES - FIRM REG. #F-001145  
201 WINDCO CIR, STE 200, WYLIE, TX 75098  
972-941-8400 FAX: 972-941-8401 WWW.ECDLP.COM

REVISIONS:	
DRAWN: RCK	DATE:
CHECKED: RKH	DATE: 12/11/2018
PROJECT NO: 06113	
DWG FILE NAME: 06113 DT.DWG	

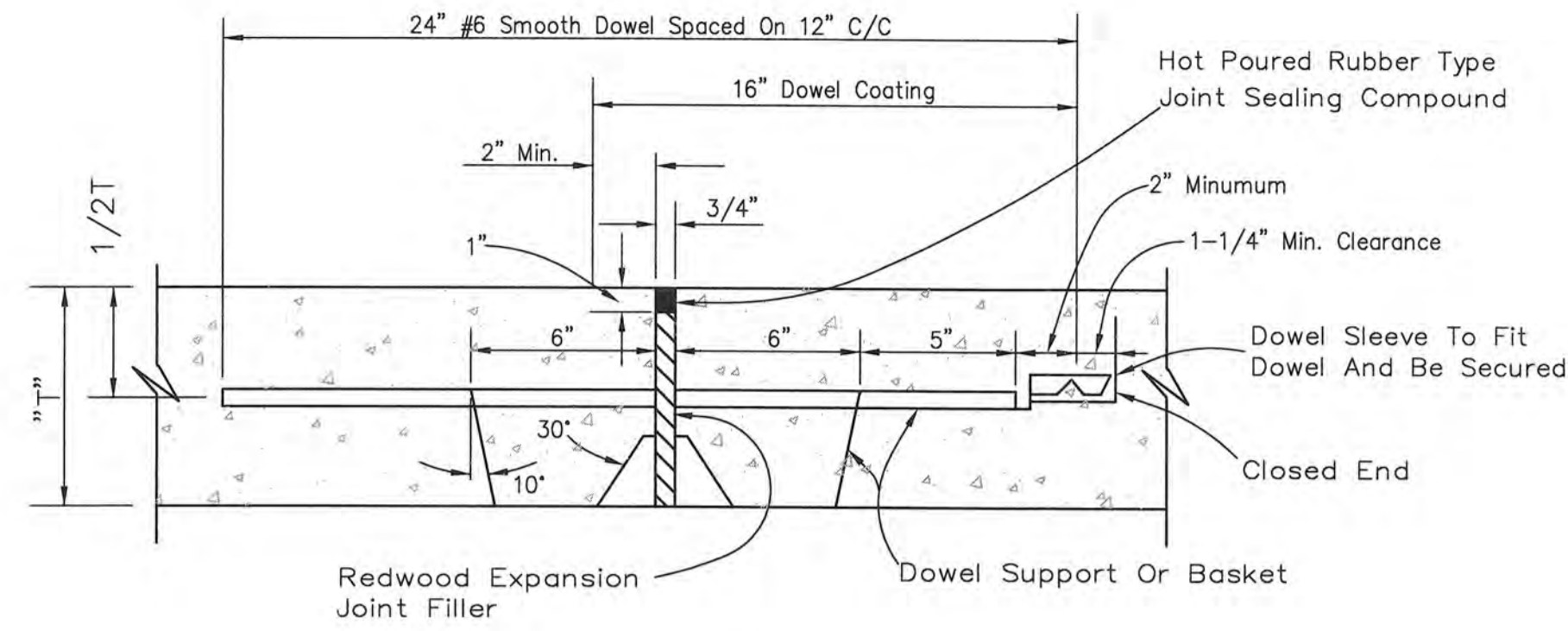
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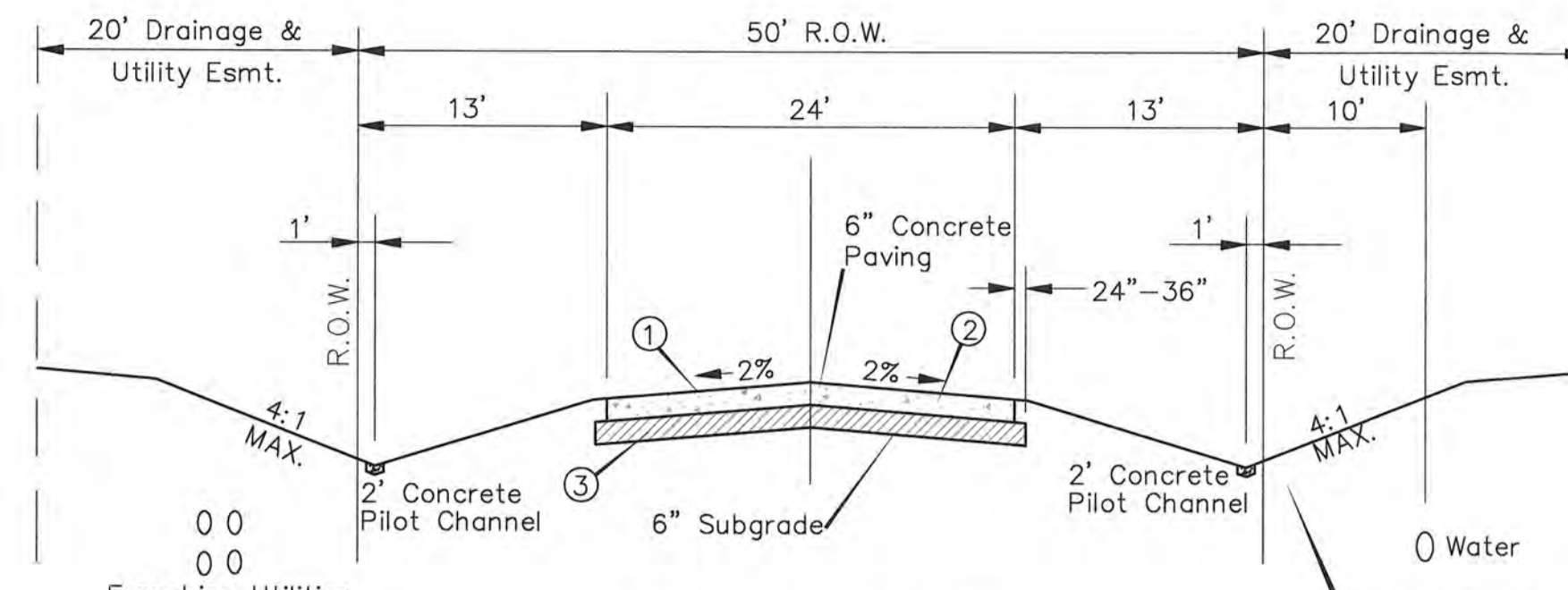
ENGINEERING CONCEPTS & DESIGNS, L.P.  
Ryan C. King, PE  
12/9/2019  
DATE

**EROSION CONTROL DETAILS**

**THE ESTATES AT STINSON HIGHLANDS**  
CITY OF LUCAS, COLLIN COUNTY, TEXAS



**TYPICAL EXPANSION JOINT**  
Maximum Spacing = 60' O.C.E.W.  
Not To Scale



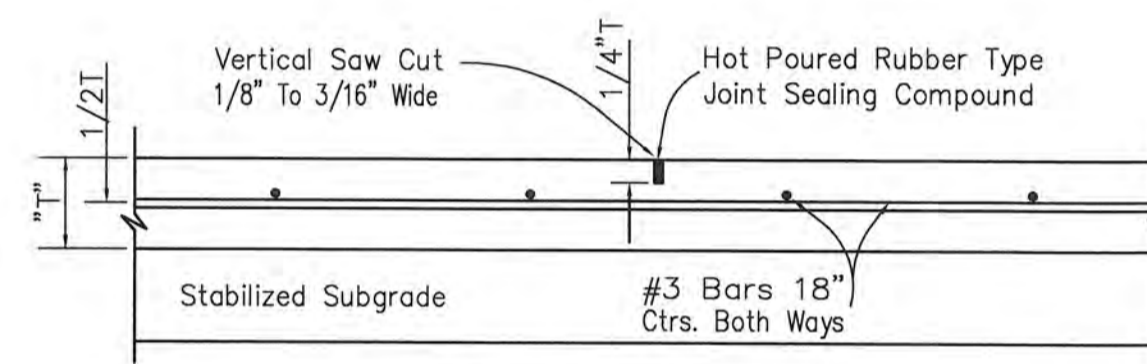
**TYPICAL PAVING DETAIL**  
Not To Scale

1. 3600psi Concrete @ 28 days.
2. No. 4 Bars on 18" Centers - Both Ways.
3. 8% Lime Stabilized Subgrade Compacted 98% Modified Proctor Density. (36 lbs/SY)
4. Chairs For Steel Bars Shall Be Of Sufficient Number To Maintain The Position Of The Steel.
5. Saws Construction Or Construction Joints As Specified By City of Lucas.
6. Provide Approved Asphalt Crack Sealer.
7. All Utilities Located On Any Street Right-of-Way Shall Be At A Minimum Depth of 36" Below The Flow Line Of The Drainage Ditch.

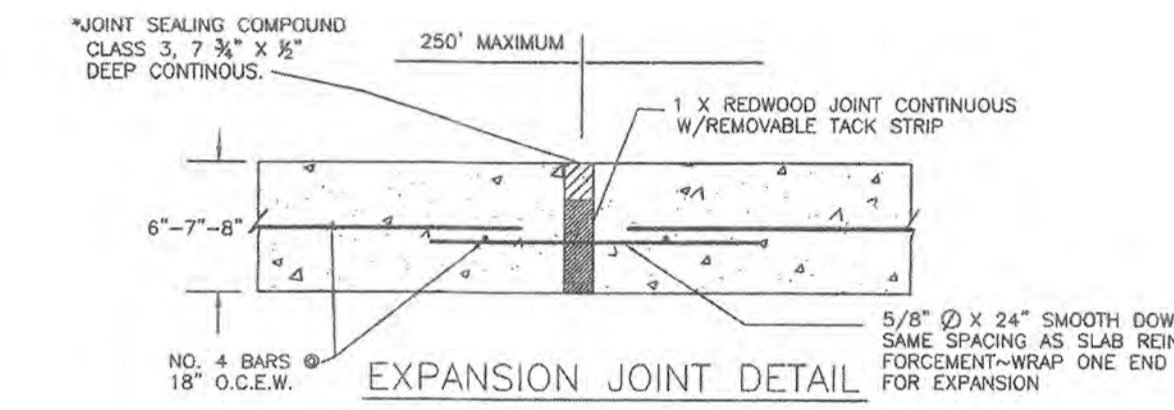
PROVIDE EROSION PROTECTION per CITY OF LUCAS SPECS.

\*Paving and Subgrade Design based on the November 19, 2018 "Addendum to Geotechnical Exploration - New Streets" by Alpha Testing (Alpha Report No. G173385-A)

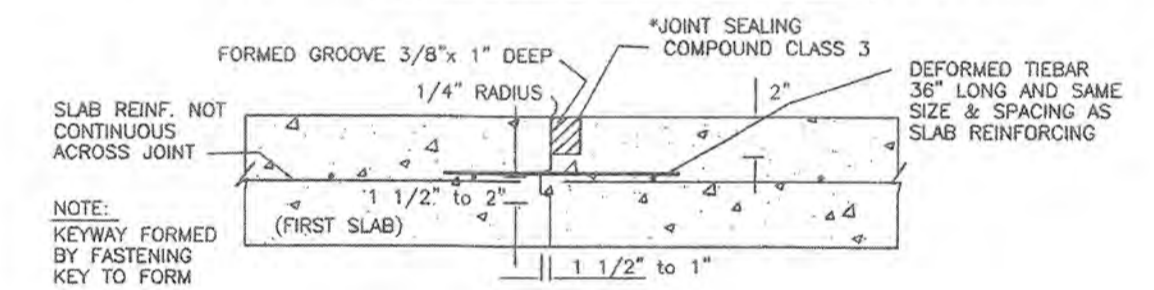
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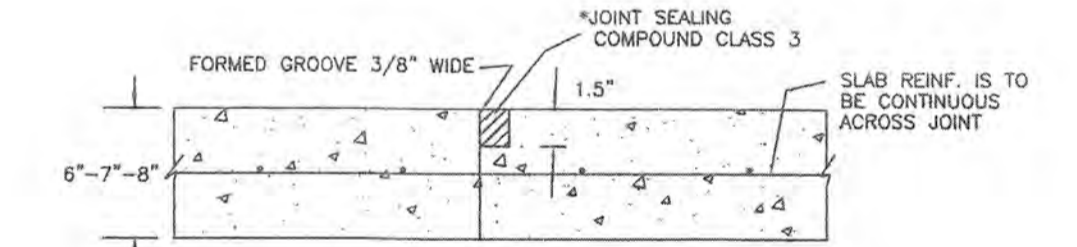
**SAWED DUMMY JOINT**  
Not To Scale



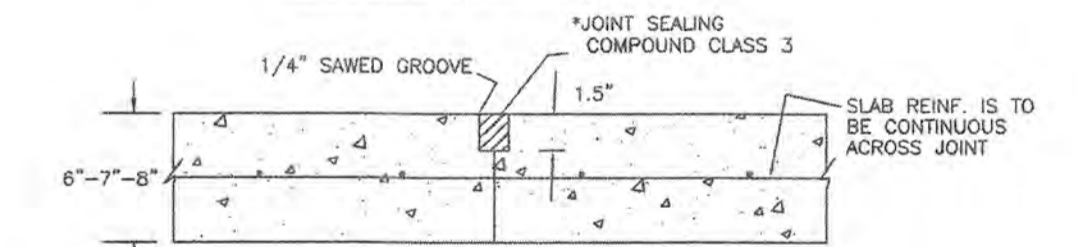
**EXPANSION JOINT DETAIL**



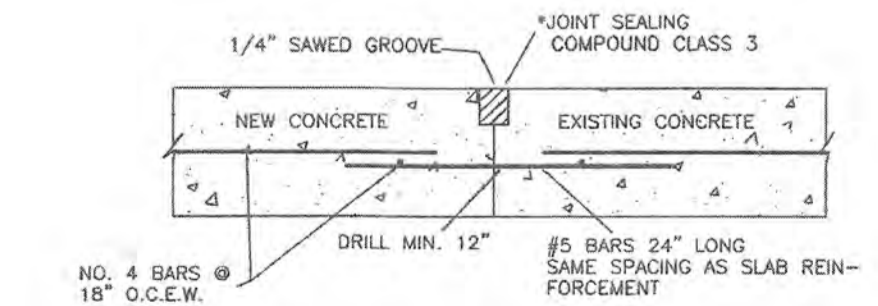
**LONGITUDINAL JOINT**



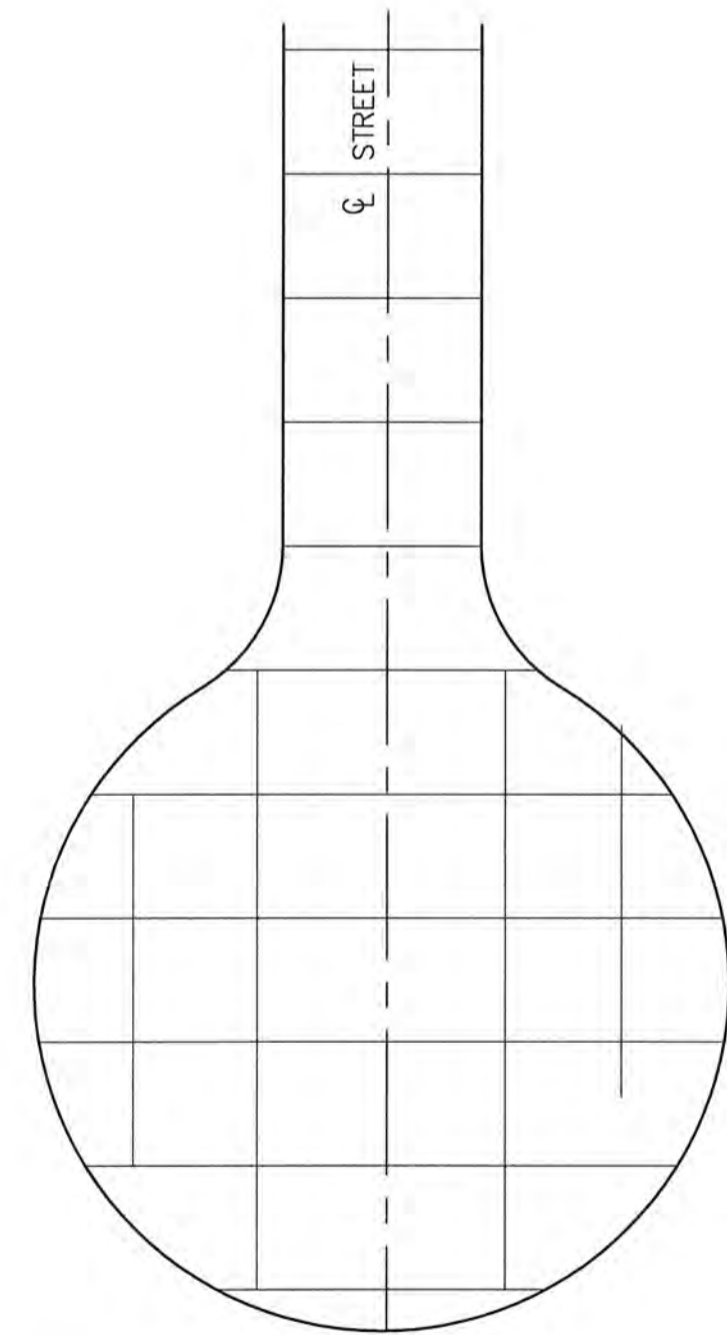
**TRANSVERSE JOINT**



**SAWED DUMMY JOINT**

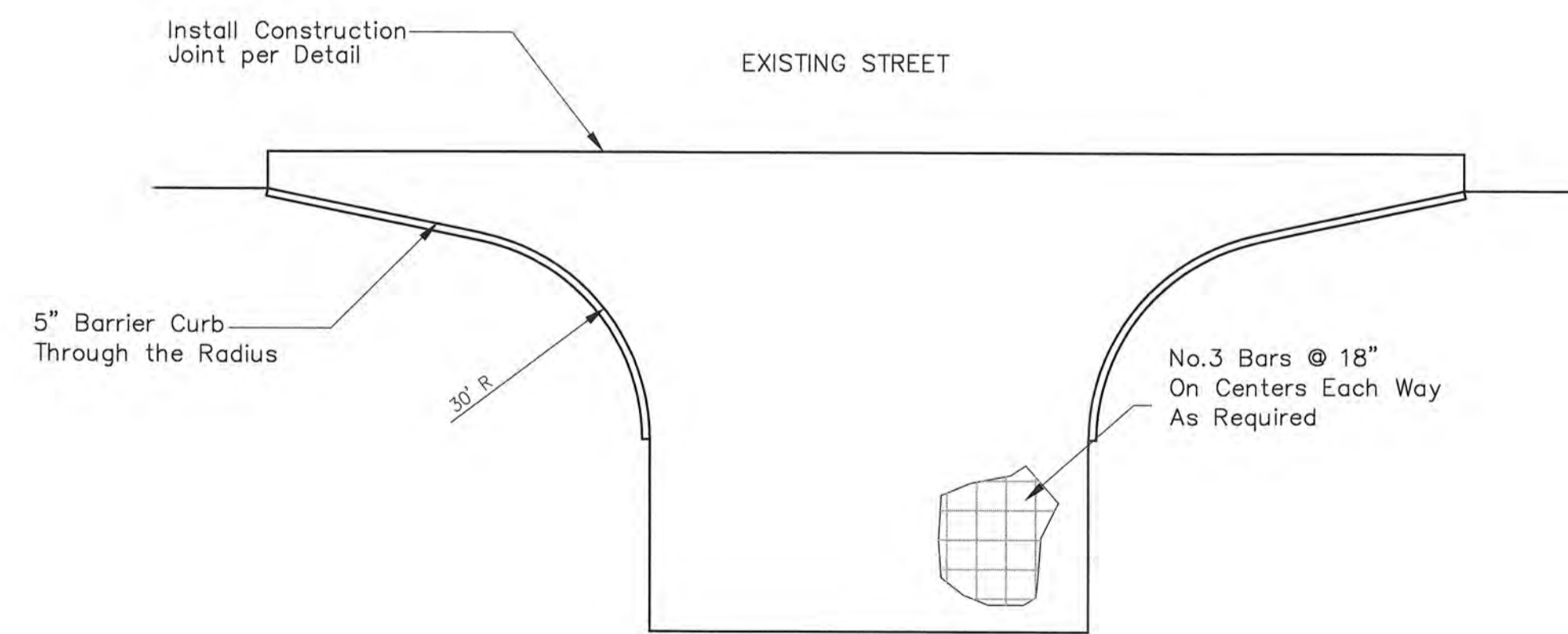


**MISC. CONSTRUCTION JOINT DETAIL**



**TYPICAL CUL-DE-SAC (50'R)**  
Typical Spacing = 15' O.C.E.W.  
Not To Scale

NOTE: CROSSING SAWCUTS SHALL BE A MINIMUM OF 5' FROM EDGE OF PAVEMENT



**TYPICAL DRIVE OR STREET CONNECTION**  
NOT TO SCALE

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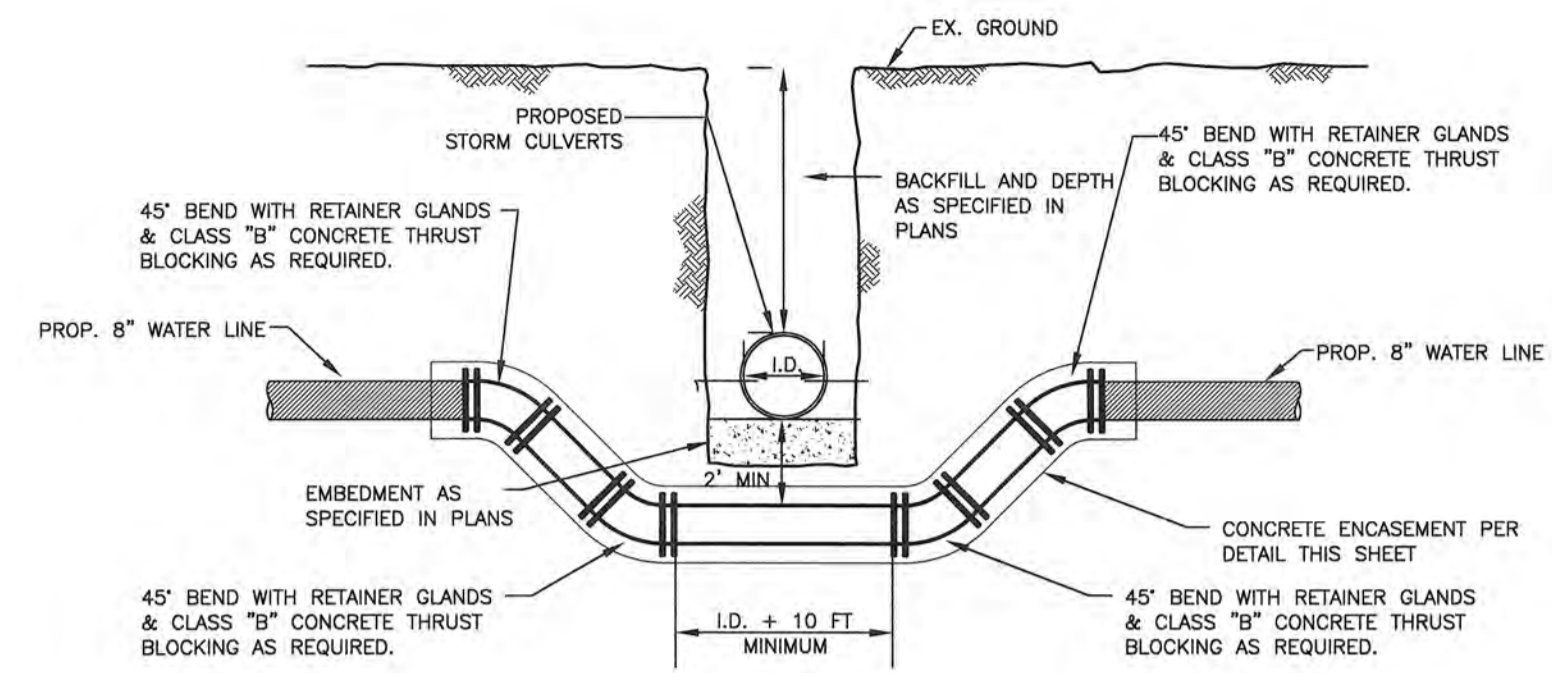
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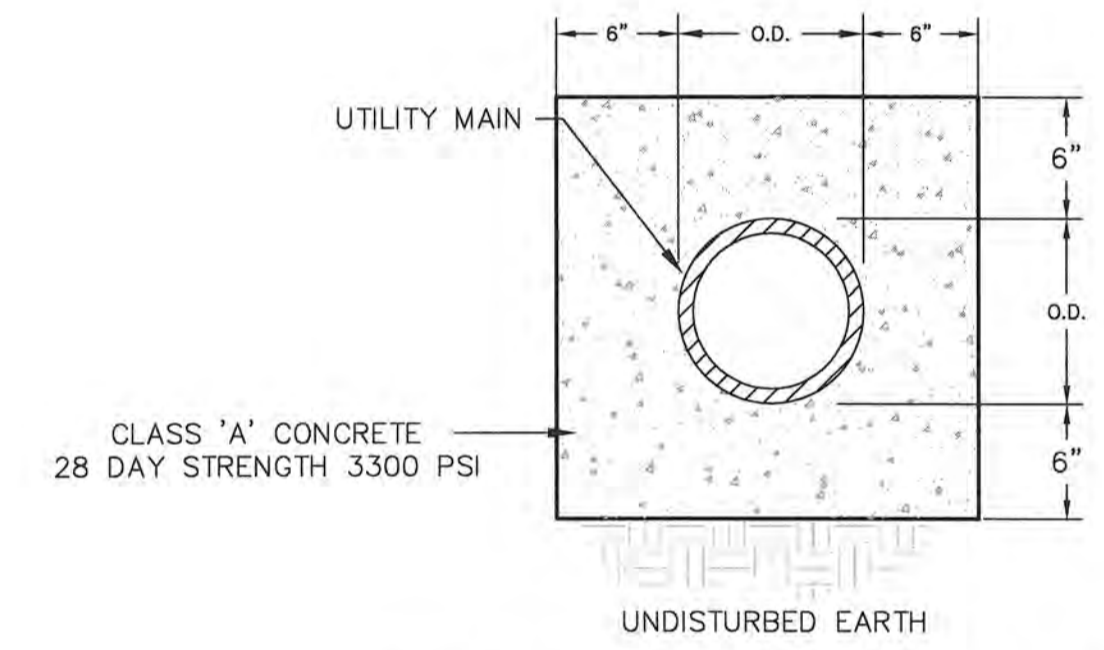
ENGINEERING CONCEPTS & DESIGN, L.P.  
Ryan C. King  
RYAN C. KING, PE  
12/14/2018  
DATE

**PAVING DETAILS**

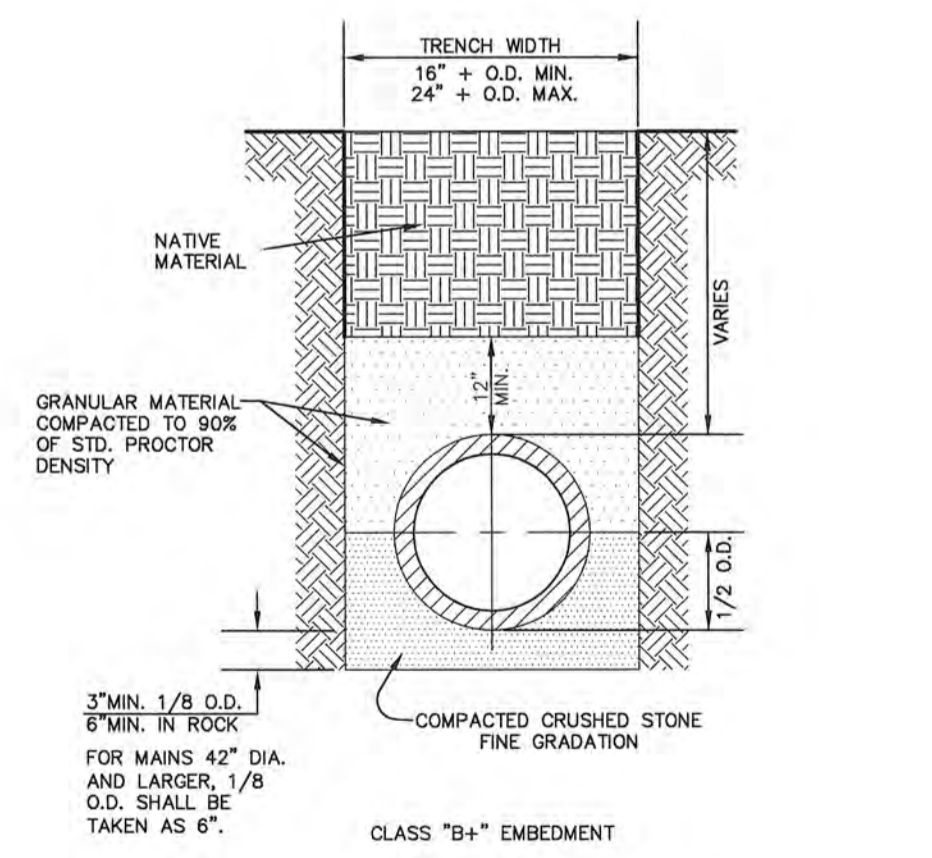
**THE ESTATES AT STINSON HIGHLANDS**  
CITY OF LUCAS, COLLIN COUNTY, TEXAS



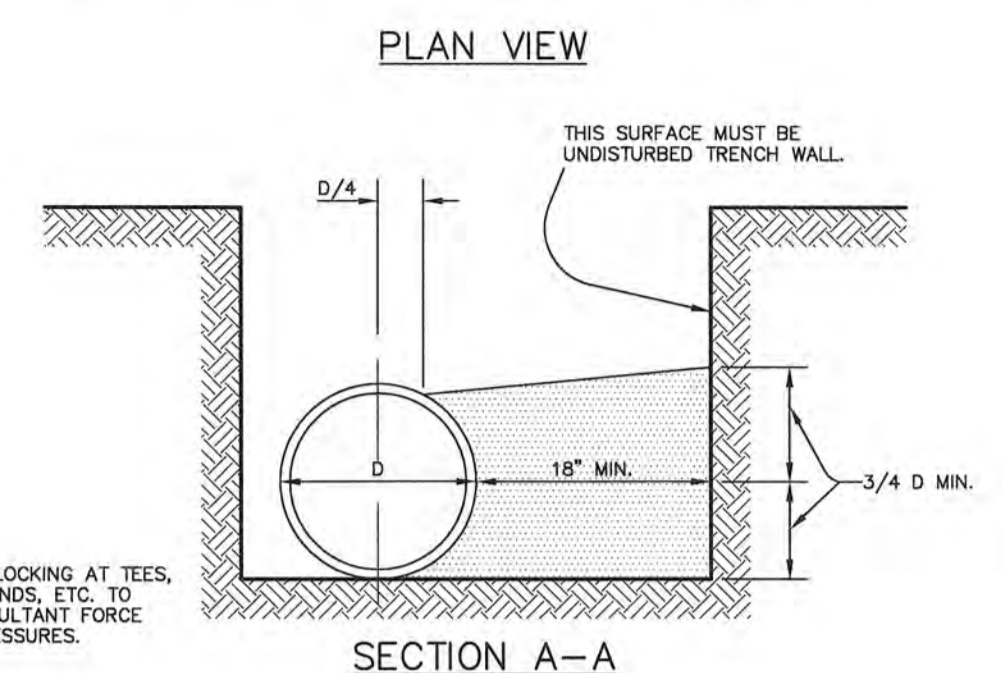
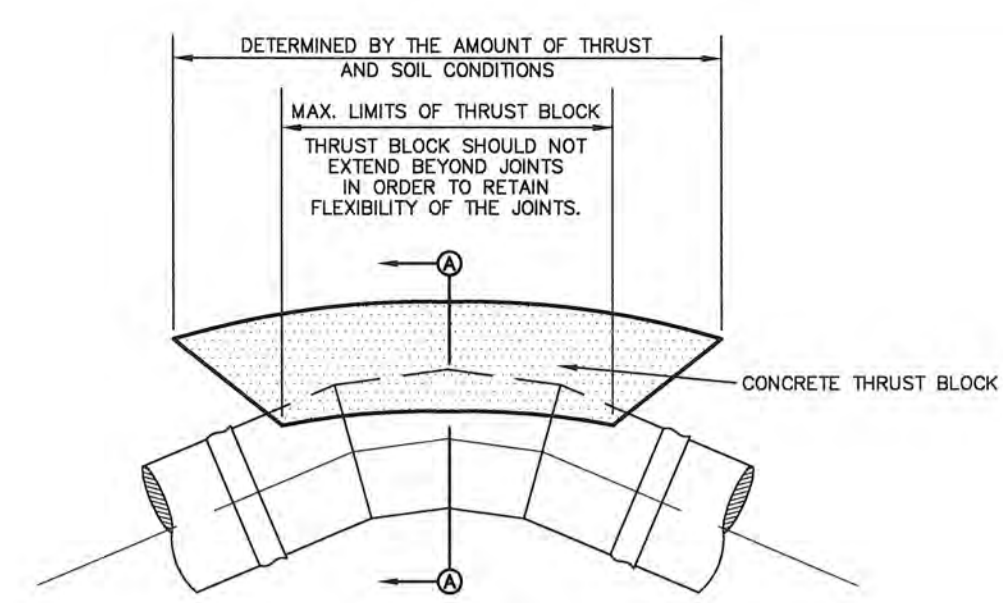
**WATER MAIN LOWERING**  
N.T.S.



NOTE: ALL DIMENSIONS ARE THE MINIMUM REQUIRED.  
**STANDARD CONCRETE ENCASEMENT DETAIL**  
N.T.S.



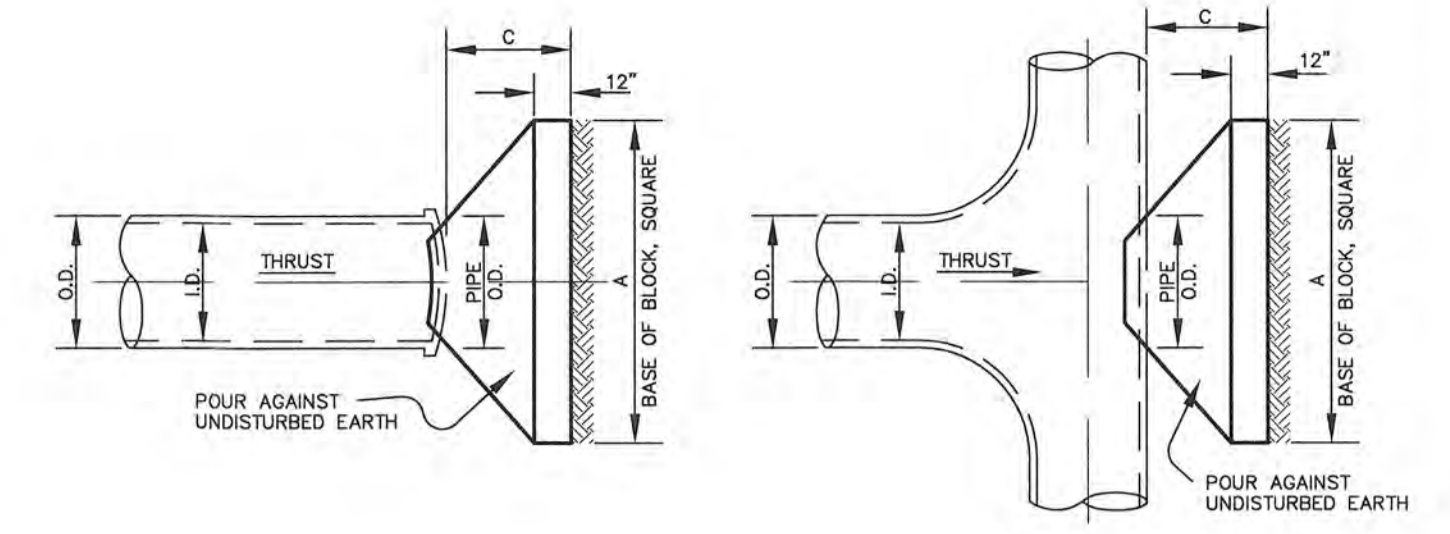
**TYPICAL BACKFILL (CLASS B+) WATER MAIN DUCTILE IRON OR PCCP**  
N.T.S.



**THRUST BLOCK DETAIL**  
N.T.S.

I.D. IN INCHES	THRUST IN TONS FOR VERTICAL BENDS							
	11.25'	15'	22.50'	30'	45'	60'	75'	90'
12								
14								
16	2.94	3.90	5.78	7.54	10.66	13.06	14.56	15.08
18	3.72	4.94	7.30	9.54	13.50	16.52	18.42	19.08
20	4.60	6.10	9.02	11.78	16.66	20.40	22.76	23.56
24	6.62	8.78	12.98	16.96	23.98	29.38	32.76	33.92
30	10.34	13.72	20.28	26.52	37.50	45.92	51.22	53.02

NOTE:  
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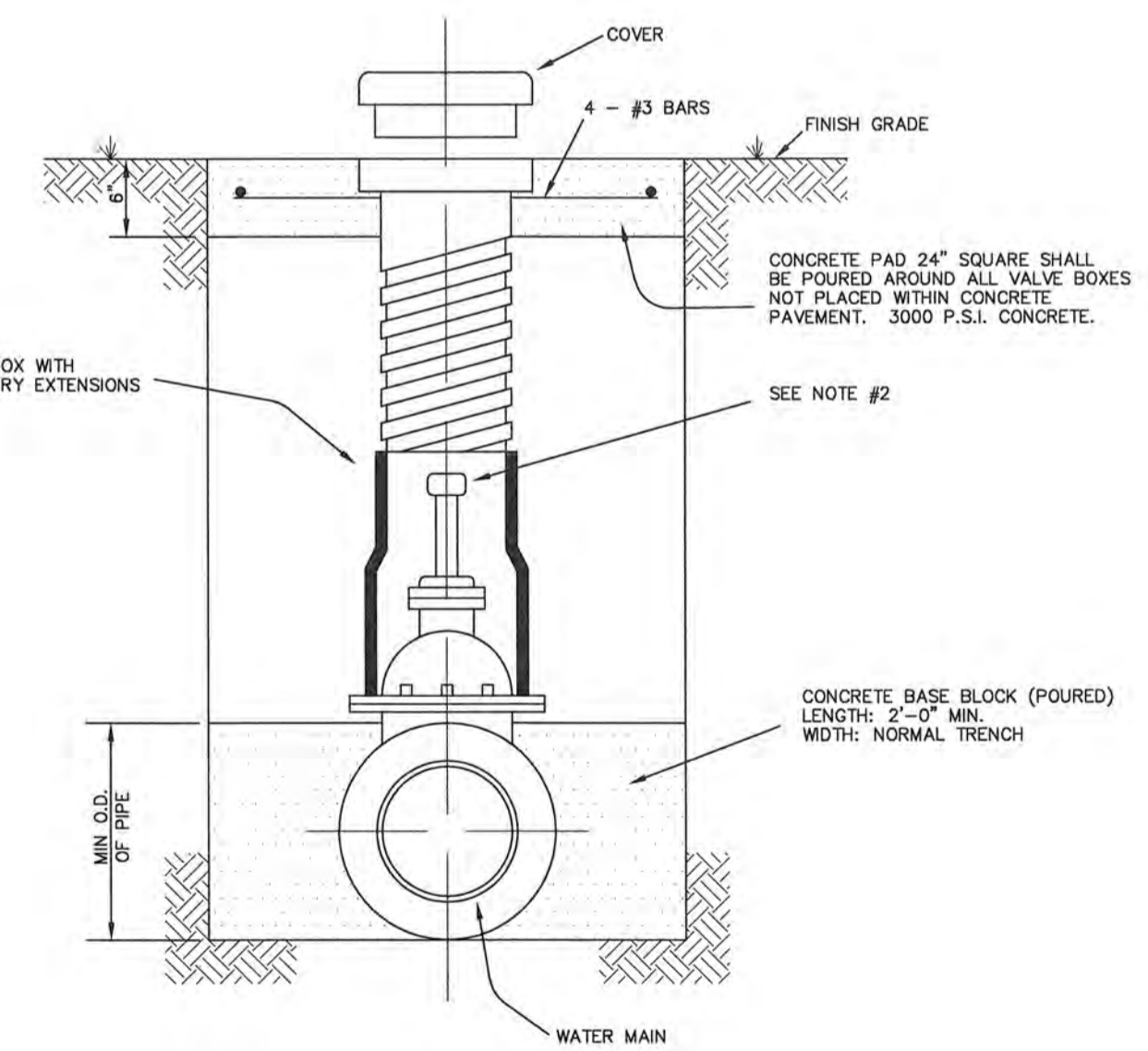


**THRUST IN TONS FOR VERTICAL BENDS**

I.D. IN INCHES	THRUST IN TONS FOR VERTICAL BENDS							
	11.25'	15'	22.50'	30'	45'	60'	75'	90'
12								
14								
16	2.94	3.90	5.78	7.54	10.66	13.06	14.56	15.08
18	3.72	4.94	7.30	9.54	13.50	16.52	18.42	19.08
20	4.60	6.10	9.02	11.78	16.66	20.40	22.76	23.56
24	6.62	8.78	12.98	16.96	23.98	29.38	32.76	33.92
30	10.34	13.72	20.28	26.52	37.50	45.92	51.22	53.02

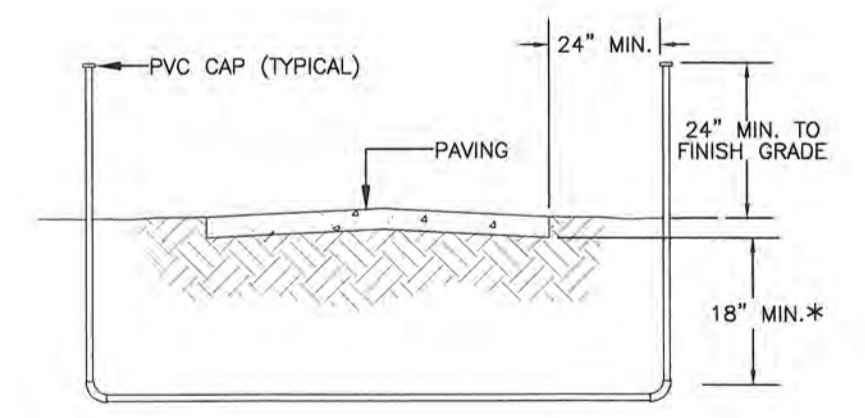
I.D. IN INCHES	TEES & PLUGS		
	A	C	THRUST
12	FT.	FT.	TONS
14			
16	3.87	1.57	15.08
18	4.37	1.77	19.09
20	4.86	1.97	23.56
24	5.82	2.36	33.93
30	7.28	2.95	53.01

- GENERAL NOTES:
1. ALL CALCULATIONS ARE BASED ON TOTAL INTERNAL PRESSURE OF 160 P.S.I.
  2. ALLOWABLE SOIL BEARING PRESSURES MUST BE AT LEAST ONE TON PER SQUARE FOOT FOR THE THRUST BLOCKS SHOWN. IN SOILS OF LESSER CAPACITY, INCREASE SIZE AND BEARING AREA PROPORTIONATELY. VOLUMES OF VERTICAL BEND THRUST BLOCKS ARE NET VOLUMES OF CONCRETE TO BE FURNISHED AND THE CORRESPONDING WEIGHT OF THE CONCRETE (AT 4000#/C.Y.) EQUALS THE VERTICAL COMPONENT OF THRUST ON THE VERTICAL BEND. ALL BEARING SURFACES OF THRUST BLOCKS SHALL BE POURED AGAINST UNDISTURBED EARTH.
  3. CONCRETE FOR BLOCKING SHALL BE 2,000 P.S.I. CONCRETE.
  4. DIMENSIONS MAY BE VARIED AS REQUIRED BY FIELD CONDITIONS WHERE AND AS DIRECTED BY THE ENGINEER, BUT SHALL NOT BE LESS THAN THE DIMENSIONS SHOWN HERE.
  5. ALL ANCHOR FITTINGS TO BE CONCRETE, THRUST BLOCKED. ALL DUCTILE OR CAST IRON FITTINGS AND OR PIPE TO BE POLYWRAPPED.
  6. ALL FIRE HYDRANTS TO MUELLER OR EQUIVALENT.



- NOTE:
1. 4"-12" R.S. GATE VALVES SHALL BE IN ACCORDANCE WITH AWWA STANDARD C-509
  2. ALL VALVES SHALL BE FITTED WITH AN EXTENSION OF SUFFICIENT LENGTH TO INSURE THAT THE TOP IS WITHIN 12" OF THE VALVE BOX LID.
  3. DUCTILE IRON OR C-900 PVC PIPE SHALL BE USED FOR VALVE STACKS WITH TWO PIECE ADJUSTABLE (SHORTY) VALVE BOXES.
  4. SCORE PAVEMENT AT VALVE AND WATER SERVICE LOCATIONS.

**TYPICAL VALVE SETTING AND BOX**  
N.T.S.



- NOTES:
1. ALL SLEEVES TO BE 4" PVC SCH. 40 PIPE UNLESS OTHERWISE NOTED OR SPECIFIED.
  2. ALL JOINTS TO BE SOLVENT WELDED AND WATERTIGHT.
  3. MECHANICALLY TAMP TO 95% PROCTOR.

**SLEEVE DETAIL**  
N.T.S.

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**WATER DETAILS**  
**THE ESTATES AT STINSON HIGHLANDS**  
CITY OF LUCAS, COLLIN COUNTY, TEXAS

