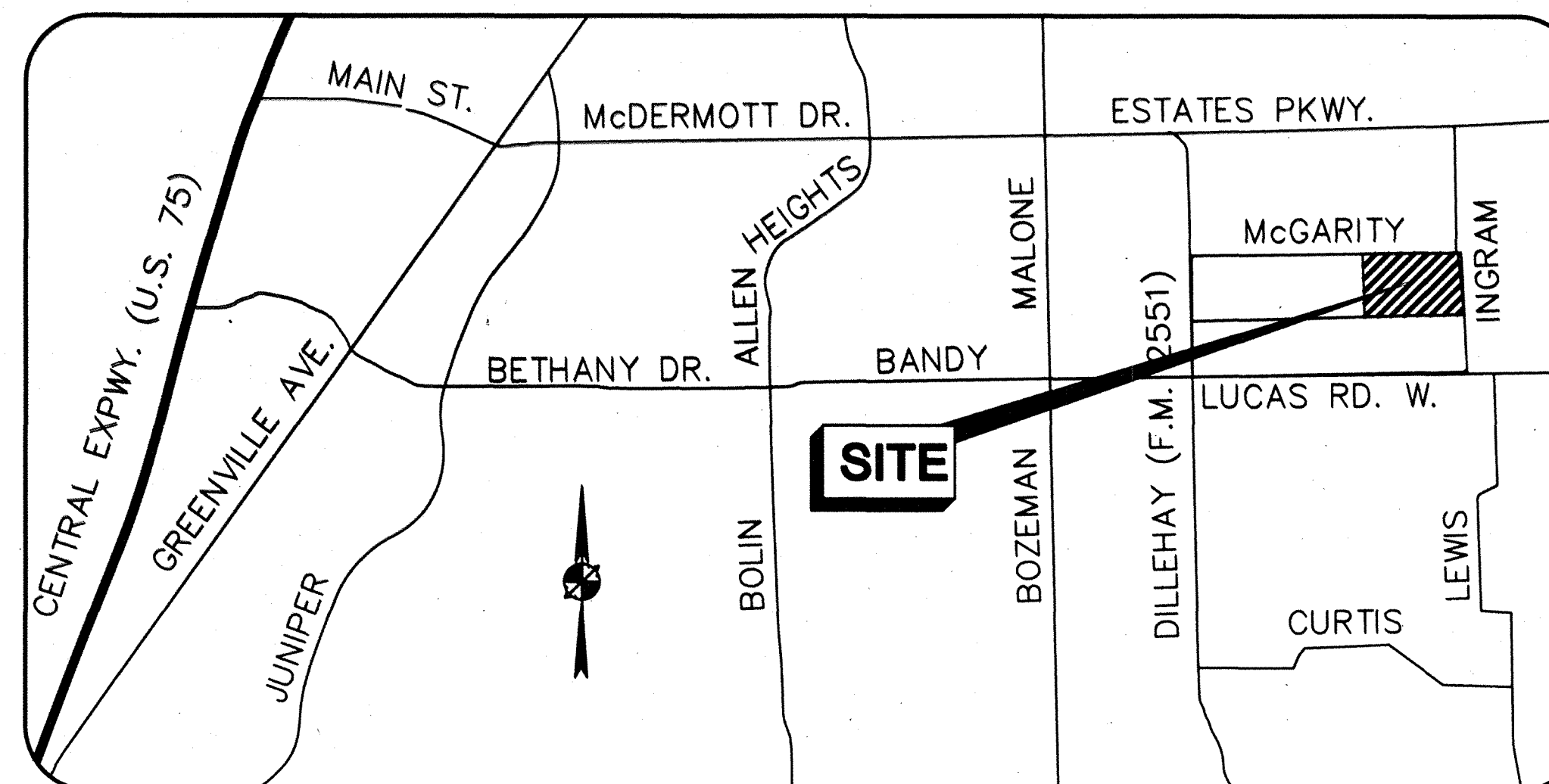


DEVELOPMENT PLANS FOR TRAVIS RANCH ESTATES CITY OF LUCAS, COLLIN COUNTY, TEXAS

DEVELOPER: TRAVIS RANCH LIMITED PARTNERSHIP
1701 N. COLLINS BOULEVARD
SUITE 1100
RICHARDSON, TEXAS 75080
(972) 644-2400

ENGINEER: BURY + PITTMAN-DFW, INC.
5310 HARVEST HILL ROAD
SUITE 100
DALLAS, TEXAS 75230
(972) 991-0011



VICINITY MAP
N.T.S.

SHEET INDEX

SHEET NO.	DESCRIPTION
1	COVER SHEET
2	FINAL PLAT
3	FINAL PLAT
4	TRAVIS RANCH ROAD-PAVING PLAN AND PROFILE
5	TRAVIS RANCH ROAD-PAVING PLAN AND PROFILE
6	BOWIE COURT-PAVING PLAN AND PROFILE
7	DRAINAGE AREA MAP
8	STORMWATER POLLUTION PREVENTION PLAN
9	WATER PLAN
10-12	STANDARD DETAILS

BENCHMARK:

1. FEMA BENCHMARK #RM 136, RR SPIKE IN POWER POLE
ON WEST SIDE OF FM 2551, $\pm$ 2,800' SOUTH OF FM 262
ELEV. = 637.32'
2. TOP OF 1/2" IR WEST SIDE OF CR #262 $\pm$ 1025' NORTH
OF NORTH EDGE OF PAVEMENT CR. #263 (W. LUCAS ROAD),
 $\pm$ 7' EAST OF BARBED WIRE FENCE
ELEV. = 637.08'
3. TOP OF 1/2" IR EAST SIDE OF CR #262 $\pm$ 2650 FEET NORTH
OF NORTH EDGE OF PAVEMENT CR. #263 (W. LUCAS ROAD),
 $\pm$ 28 FEET EAST AND 37 FEET NORTH OF A FENCE CORNER.
ELEV. = 639.20'

SUBMITTED BY:

Michael L. Clark 1/8/99
MICHAEL L. CLARK, P.E. NO. 64013 DATE
BURY + PITTMAN-DFW, INC.
5310 HARVEST HILL ROAD
SUITE 100
DALLAS, TEXAS 75230
(972) 991-0011



RECORD DRAWINGS

THE INTENT OF THE OWNER AND ENGINEER WAS TO CONSTRUCT THE FACILITIES ACCORDING TO THESE PLANS AS APPROVED BY THE CITY OF LUCAS. THE LINES AND GRADES WERE SET ON THE GROUND FOR CONSTRUCTION ACCORDING TO SAID PLANS. THE CITY OF LUCAS INSPECTED THE CONSTRUCTION. THE OWNER OR ENGINEER DID NOT VERIFY LINES OR GRADES AFTER CONSTRUCTION. WE ARE NOT AWARE OF ANY CHANGES OR REVISIONS TO THESE PLANS DURING CONSTRUCTION EXCEPT AS NOTED.

Bury + Pittman
Consulting Engineers and Surveyors
Dallas, Texas Tel 972/991-0011 Fax 972/991-0278
© Copyright 1997 Bury & Pittman D.F.W., Inc.

J. SNIDER SURVEY
ABSTRACT No. 824

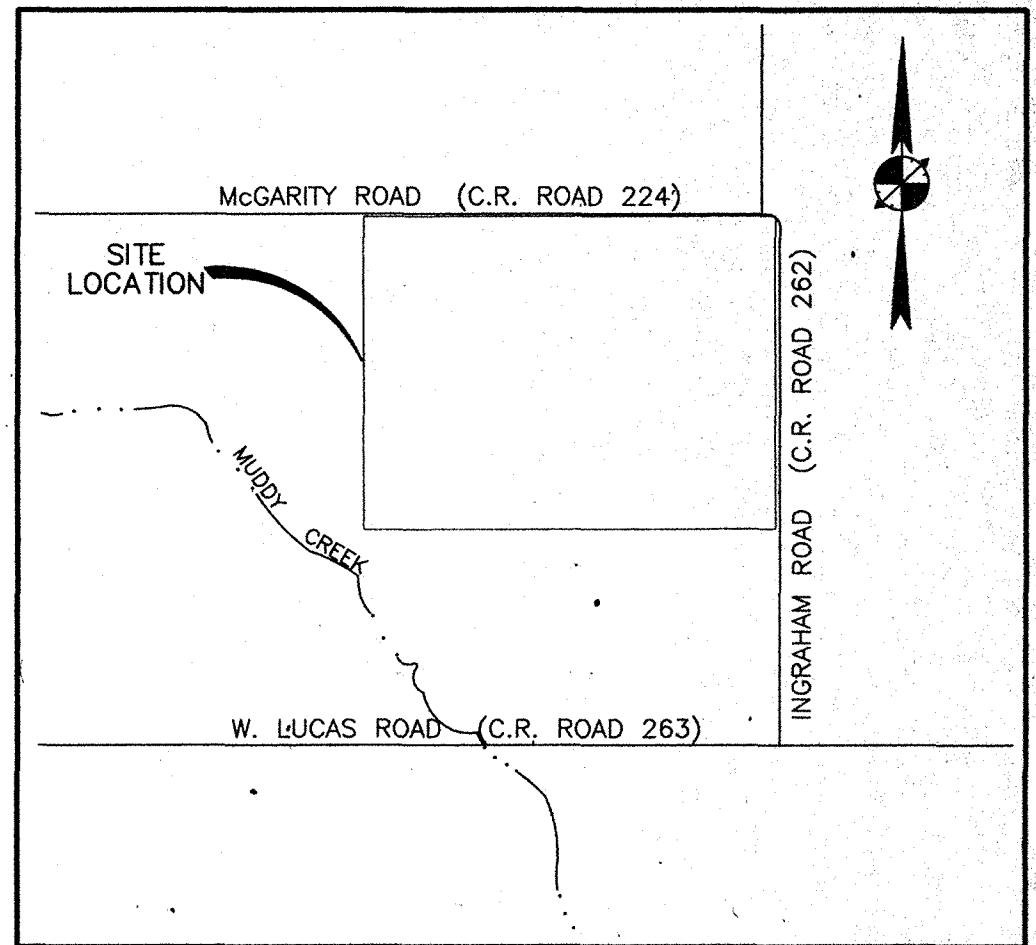
CALLLED 40 AC.
THE SPARKS TRUST
Vol. 1696, Pg. 50
D.R.C.C.T.

CALLLED 26.6654 AC.
JULIETTE FOWLER HOMES
"TRACT FOUR"
Vol. 816, Pg. 165
D.R.C.C.T.

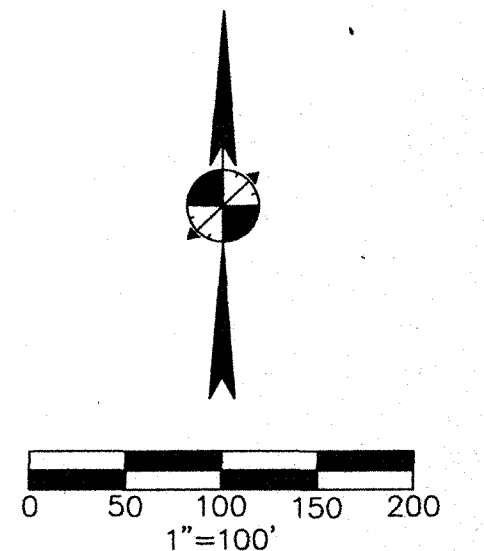
30' STRIP TO COLLIN COUNTY
Vol. 2343, Pg. 221
D.R.C.C.T.

W.G. MCKINNEY SURVEY
ABSTRACT No. 583

CALLLED 40 AC.
WILLIAM CHARLES ABERNATHY
"FIRST TRACT"
Vol. 1031, Pg. 824
D.R.C.C.T.



VICINITY MAP
1"=1000'



Filed for Record in:
COLLIN COUNTY, TX
HONORABLE HELEN STARNES
On 1999/01/27
At 4:10PM
Number: 99-0010567
Type: PL 26.00

PRELIMINARY / FINAL PLAT
TRAVIS RANCH ESTATES

AN ADDITION
TO THE CITY OF LUCAS
18 RESIDENTIAL LOTS

77.195 ACRES
OUT OF THE

W.G. MCKINNEY SURVEY, ABSTRACT NO. 583
COLLIN COUNTY, TEXAS

SURVEYOR:
BURY + PITTMAN-DFW, INC.
5310 HARVEST HILL ROAD, SUITE 100
DALLAS, TEXAS 75230
972-991-0011

OWNER:
TRAVIS RANCH LIMITED PARTNERSHIP
1701 N. COLLINS BOULEVARD, SUITE 1100
RICHARDSON, TEXAS 75080
972-644-2400

DECEMBER 9, 1998

SHEET 1 OF 2

Drawn by: TC/JCF Project No.: 30090-01-20 File: f:\3090-01\sur\09001pl.dwg

CALLLED 10.000 AC.
JOE S. CHAMPION
AND WIFE
CAROL S. CHAMPION
Vol. 1622, Pg. 512
D.R.C.C.T.

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STATE OF TEXAS
COUNTY OF COLLIN

OWNER'S CERTIFICATE

WHEREAS Travis Ranch Limited Partnership are the sole owner's of a 77.195 acre tract of land situated in the W.G. McKinney Survey, Abstract No. 583, Collin County, Texas and being a portion of that called 48.916 acre tract of land described to Travis Ranch Limited Partnership by deed recorded in Collin County Clerk's File No. 97-0104100, Deed Records of Collin County, Texas, (DRCCT) and all of that called 48.579 acre tract of land described to Travis Ranch Limited Partnership by deed recorded in Collin County Clerk's File No. 97-0104099, DRCCT, said 77.195 acre tract of land being more particularly described as follows:

BEGINNING at a 1/2-inch iron rod found for the northeast corner of said 48.579 acre tract of land and being in the west line of a 30-foot strip of land (County Road No. 262 (Ingram Road)) described to the County of Collin by deed recorded in Volume 2343, Page 221, DRCCT;

THENCE South 00°37'31" East along the common line of said 30-foot strip and said 48.579 acre tract of land, a distance of 1067.69 feet to a 1/2-inch iron rod found for corner;

THENCE South 00°48'05" East continuing along said common line, a distance of 514.73 feet to a 1/2-inch iron rod found for the southeast corner of said 48.579 acre tract of and being in the north line of that called 29.0000 acre tract of land described to William A. Carrell and Mary Claudette Carrell by deed recorded in Collin County Clerk's File No. 96-0093046, DRCCT;

THENCE South 89°59'14" West along the common line of said 48.579 acre tract of land and said 29.0000 acre tract of land, at a distance of 1229.11 feet passing a 5/8-inch iron rod found for the northwest corner of said 29.0000 acre tract of land same being a reentrant corner of the aforementioned 48.916 acre tract of land, at a distance of 1343.93 feet passing a 5/8-inch iron rod found for the southwest corner of said 48.579 acre tract of land same being a reentrant corner of said 48.916 acre tract of land, continuing in all for a total distance of 2129.46 feet to a concrete monument set for corner in the west line of said 48.916 acre tract of land and being in the east line of that called 2.494 acre tract of land described to Scott Lee Bedell by deed recorded in Volume 1749, Page 743, DRCCT;

THENCE North 00°09'00" West along the west line of said 48.916 acre tract of land and said east line at a distance of 323.02 feet passing the northeast corner of said 2.494 acre tract of land same being the southeast corner of that called 10.000 acre tract of land described to Joe S. Champion and wife, Carol S. Champion by deed recorded in Volume 1622, Page 512, DRCCT, continuing along the common line of said 48.916 acre tract of land and said 10.000 acre tract of land in all for a total distance of 1587.93 feet to a 10-inch Hackberry tree found for the northwest corner of said 48.916 acre tract of land and being in the south line of a 30-foot strip of land (County Road No. 224, (McGarity Road), unimproved), described to the County of Collin by deed recorded in Volume 2343, Page 221, DRCCT;

THENCE South 89°50'23" East along the south line of said 30-foot strip of land same being the north line of said 48.916 acre tract of land, a distance of 785.53 feet to a 1/2-inch iron rod found for the northeast corner of said 48.916 acre tract of land same being the northwest corner of the aforementioned 48.579 acre tract of land;

THENCE South 89°52'23" East continuing along the south line of said 30-foot strip same being the north line of said 48.579 acre tract of land, a distance of 1329.23 feet to the POINT OF BEGINNING;

CONTAINING a computed area of 3,362,615 square feet or 77.195 acres of land.

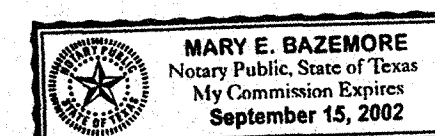
DO HEREBY dedicate same to be known as TRAVIS RANCH ESTATES an addition to the City of Lucas, Collin County, Texas and dedicate to the public the streets, alleys, easements, parks and other open spaces as shown hereon.

EXECUTED this 5th day of JANUARY 1999
By: [Signature]

STATE OF TEXAS
COUNTY OF COLLIN

BEFORE ME, the undersigned authority, on this day personally appeared William A. Gilligan, 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, and in the capacity therein stated.

Given under my hand and seal of office this 5th day of January, 1999.
Mary E. Bazemore
Notary Public, State of Texas

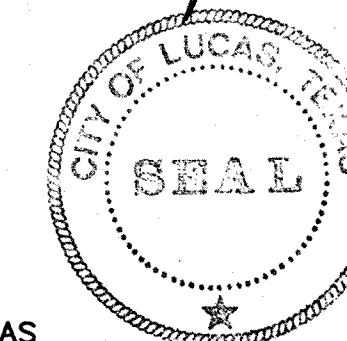


Recommended for Approval
[Signature] 1/9/99
Chairman, Planning and Zoning Commission
City of Lucas, Texas Date:

Approved For Construction
[Signature] 1/21/99
Mayor, City of Lucas, Texas Date:

The undersigned, the City Secretary of the City of Lucas, Texas, hereby certifies that the foregoing final plat of the TRAVIS RANCH ESTATES Subdivision or Addition to the City of Lucas was submitted to the City Council on the 21st day of JANUARY, 1999, and the Council, by formal action, then and there accepted the dedication of streets, alleys, parks, easements, public places and water and sewer lines, as shown and set forth in and upon said plat, and said Council further authorized the Mayor to note the acceptance thereof for construction by signing his/her name as hereinabove subscribed.

Witness my hand this 21st day of JANUARY A.D., 1999
[Signature]
City Secretary
City of Lucas, Texas

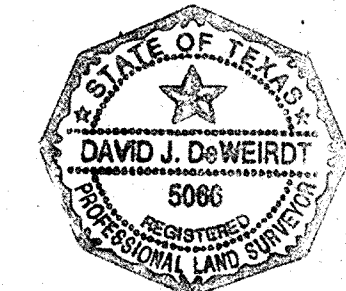


STATE OF TEXAS

KNOW ALL MEN BY THESE PRESENTS

That I, David J. De Weirtd, a registered professional land surveyor in the State of Texas, do hereby certify that I have prepared this plat from an actual on the ground survey of the land, and the monuments shown thereon were found and/or placed under my personal supervision in accordance with the platting rules and regulations of the City of Lucas, Texas.

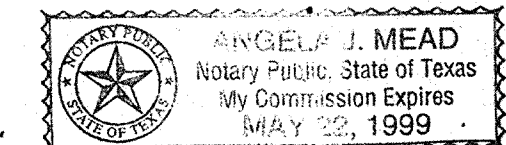
[Signature] 12.9.98
David J. De Weirtd
Registered Professional Land Surveyor no. 5066



STATE OF TEXAS
COUNTY OF COLLIN

Before me, the undersigned authority, on this day personally appeared David J. De Weirtd, know to me to be the person whose name is subscribed to the above and foregoing instrument, and acknowledged to me that he executed the same for the purposes and consideration expressed and in the capacity therein stated.

Given under my hand and seal of office this 9th day of December, 1998.
[Signature]
Notary Public, State of Texas



PRELIMINARY / FINAL PLAT
TRAVIS RANCH ESTATES

AN ADDITION

TO THE CITY OF LUCAS

18 RESIDENTIAL LOTS

77.195 ACRES

OUT OF THE

W.G. MCKINNEY SURVEY, ABSTRACT NO. 583
COLLIN COUNTY, TEXAS

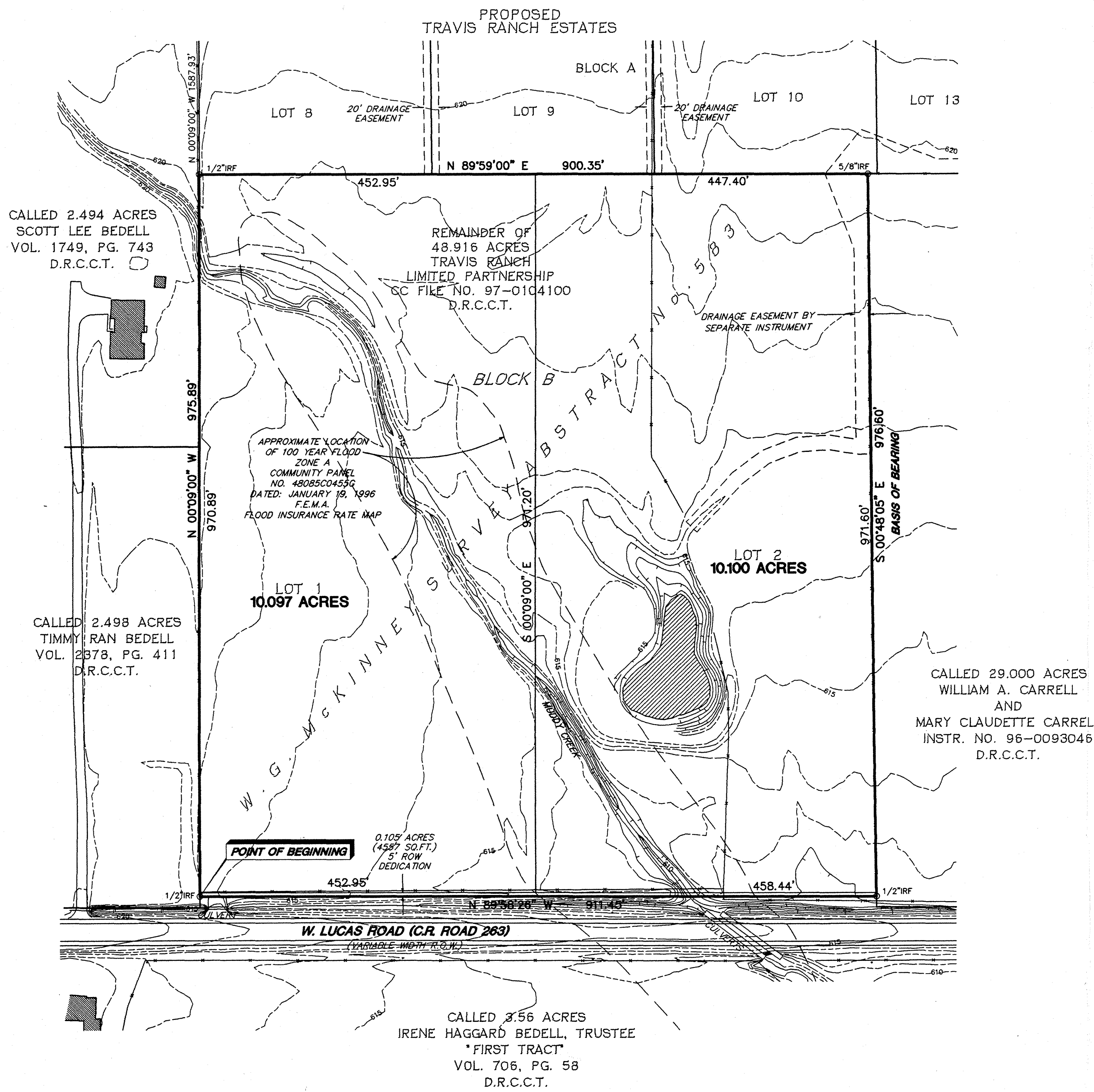
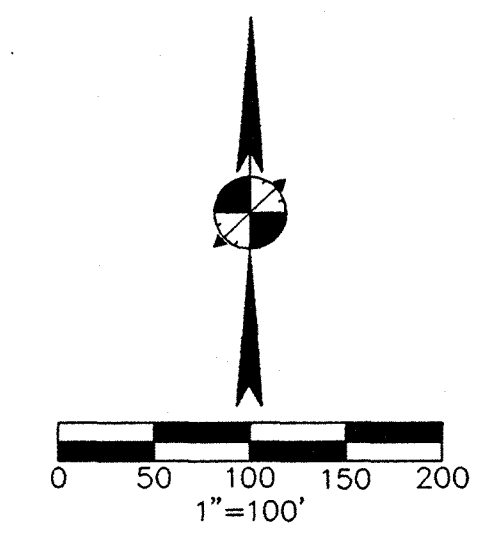
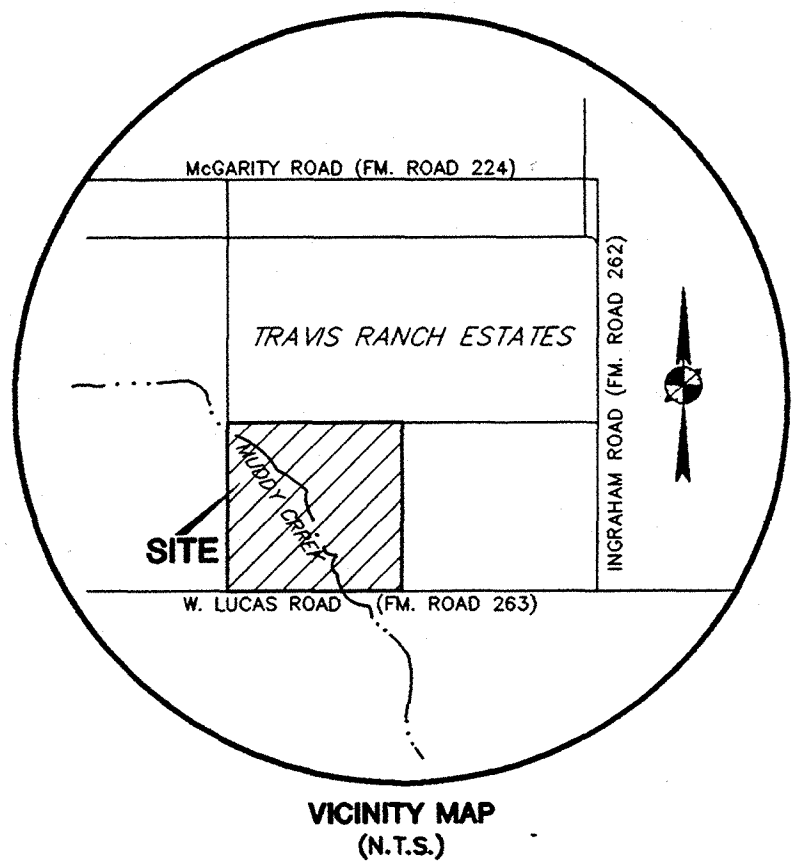
SURVEYOR:
BURY + PITTMAN-DFW, INC.
5310 HARVEST HILL ROAD, SUITE 100
DALLAS, TEXAS 75230
972-991-0011

OWNER:
TRAVIS RANCH LIMITED PARTNERSHIP
1701 N. COLLINS BOULEVARD, SUITE 1100
RICHARDSON, TEXAS 75080
972-644-2400

DECEMBER 9, 1998

SHEET 2 OF 2

For Public Display



STATE OF TEXAS
COUNTY OF COLLIN

OWNER'S CERTIFICATE

WHEREAS Travis Ranch Limited Partnership is the sole owner of a 20.301 acre tract of land situated in the W.G. McKinney Survey, Abstract No. 583, Collin County, Texas and being a portion of that called 48.916 acre tract of land described in deed to Travis Ranch Limited Partnership recorded in Collin County Clerk's File No. 97-0104100, Deed Records of Collin County, Texas, (DRCCCT), said 20.301 acre tract of land being more particularly described as follows:

BEGINNING at a 1/2-inch iron rod found for the southwest corner of said 48.916 acre tract of land being in the north line of a 55-foot wide strip of land (County Road 263 (West Lucas Road)) as described in deed to the County of Collin recorded in Volume 2343, Page 221, DRCCCT, and the east line of that called 2.498 acre tract of land described in deed to Timmy Ran Bedell recorded in Volume 2378, Page 411, DRCCCT;

THENCE North 00°09'00" West along the common line of said 48.916 acre tract of land and said 2.498 acre tract of land at a called distance of 606.70 feet passing the northeast corner of said 2.498 acre tract of land, same being the southwest corner of that called 2.494 acre tract of land described by deed to Scott Lee Bedell recorded in Volume 1749, Page 743, DRCCCT; continuing along the common line of said 48.916 acre tract of land and said 2.494 acre tract of land in all for a total distance of 975.89 feet to a 1/2-inch iron rod found for corner;

THENCE North 89°59'14" East, a distance of 900.35 feet to a 5/8-inch iron rod found for a reentrant corner of said 48.916 acre tract of land same being the northwest corner of that called 29.0000 acre tract of land described to William A. Carrell and Mary Claudette Carrell by deed recorded in Collin County Clerk's File No. 96-0093046, DRCCCT;

THENCE South 00°48'05" East along the common line of said 48.916 acre tract of land and said 29.0000 acre tract of land, a distance of 976.60 feet to a 1/2-inch iron rod found for corner in the north line of the aforementioned 55-foot strip of land described to the County of Collin;

THENCE North 89°58'26" West along said north line, a distance of 911.45 feet to the POINT OF BEGINNING;

CONTAINING a computed area of 884,332 square feet or 20.301 acres of land.

DO HEREBY dedicate same to be known as TRAVIS RANCH ESTATES, PHASE 2, an addition to the City of Lucas, Collin County, Texas and dedicate to the public the streets, alleys, easements, parks and other open spaces as shown hereon.

EXECUTED this _____ day of _____, 1998.

By: _____

STATE OF TEXAS

BEFORE ME, the undersigned, 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/she executed the same for the purpose and considerations therein expressed.

GIVEN UNDER MY HAND AND SEAL OF OFFICE THIS _____ DAY OF _____, 1998.

Notary Public, State of Texas

Recommended For Approval

Chairman, Planning and Zoning Commission _____ DATE _____
City of Lucas, Texas

Approved for Construction

Mayor, City of Lucas, Texas _____ DATE _____

STATE OF TEXAS
COUNTY OF COLLIN

The undersigned, the City Secretary of the City of Lucas, Texas, hereby certified that the foregoing final plat of the TRAVIS RANCH ESTATES, PHASE 2, Subdivision or Addition to the City of Lucas was submitted to the City Council on the _____ day of _____, 1998, and the Council, by formal action, then and there accepted the dedication of streets, alleys, parks, easements, public places and water and sewer lines, as shown and set forth in and upon plat, and said Council further authorized the Mayor to note the acceptance thereof for construction by signing his/her name as hereinabove subscribed.

Witness my hand this _____ day of _____, 1998.

City Secretary
City of Lucas, Texas

SURVEYOR'S CERTIFICATE

THAT I, DAVID J. DE WEIRDT, A REGISTERED PROFESSIONAL LAND SURVEYOR IN THE STATE OF TEXAS, DO HEREBY CERTIFY THAT I PREPARED THIS PLAT FROM AN ACTUAL AND ACCURATE SURVEY OF THE TRACT SHOWN HEREON AND THAT THE CORNER MONUMENTS WERE PROPERLY PLACED UNDER MY DIRECTION AND SUPERVISION IN ACCORDANCE WITH THE PLATTING RULES AND REGULATIONS OF THE CITY OF LUCAS, TEXAS.

DAVID J. DE WEIRDT, R.P.L.S. _____ DATE _____
TEXAS REGISTRATION NO. 5066
BURY & PITTMAN-D.F.W., INC.
5310 HARVEST HILL, SUITE 100
DALLAS, TEXAS 75230

STATE OF TEXAS

BEFORE ME, the undersigned, a Notary Public in and for the State of Texas, on this day personally appeared DAVID J. DE WEIRDT, 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 _____, 1998.

Notary Public, State of Texas

GENERAL NOTES:

1. BEARINGS SHOWN HEREON ARE BASED ON THE WEST LINE OF THE SUBJECT TRACT OF LAND BEING NORTH 00°09'00" WEST THE SAME AS RECORDED IN COLLIN COUNTY CLERK'S FILE NO. 97-0104100, DEED RECORDS OF COLLIN COUNTY, TEXAS.
2. REFERENCE BENCHMARK:
FEMA BM # RM 136, RR SPIKE IN POWER POLE ON WEST SIDE OF FM 2551, ± 2800' SOUTH OF FM 262.
ELEVATION = 637.32'
3. ALL INTERIOR LOT CORNERS ARE 1/2-INCH IRON RODS SET UNLESS OTHERWISE NOTED.

RECEIVED
CITY OF LUCAS

SEP 30 1998

BY

PRELIMINARY / FINAL PLAT
TRAVIS RANCH ESTATES
PHASE 2

AN ADDITION TO THE CITY OF LUCAS
2 RESIDENTIAL LOTS
20.301 ACRES OUT OF THE
W.G. MCKINNEY SURVEY, ABSTRACT NO. 583
COLLIN COUNTY, TEXAS

SEPTEMBER 25, 1998

OWNER: TRAVIS RANCH LIMITED PARTNERSHIP
1701 N. COLLINS BOULEVARD
SUITE 1100
RICHARDSON, TEXAS 75080
(972) 644-2400

SURVEYOR: BURY & PITTMAN-DFW, INC.
5310 HARVEST HILL
SUITE 100
DALLAS, TEXAS 75230
(972) 991-0011

Bury+Pittman, Inc.
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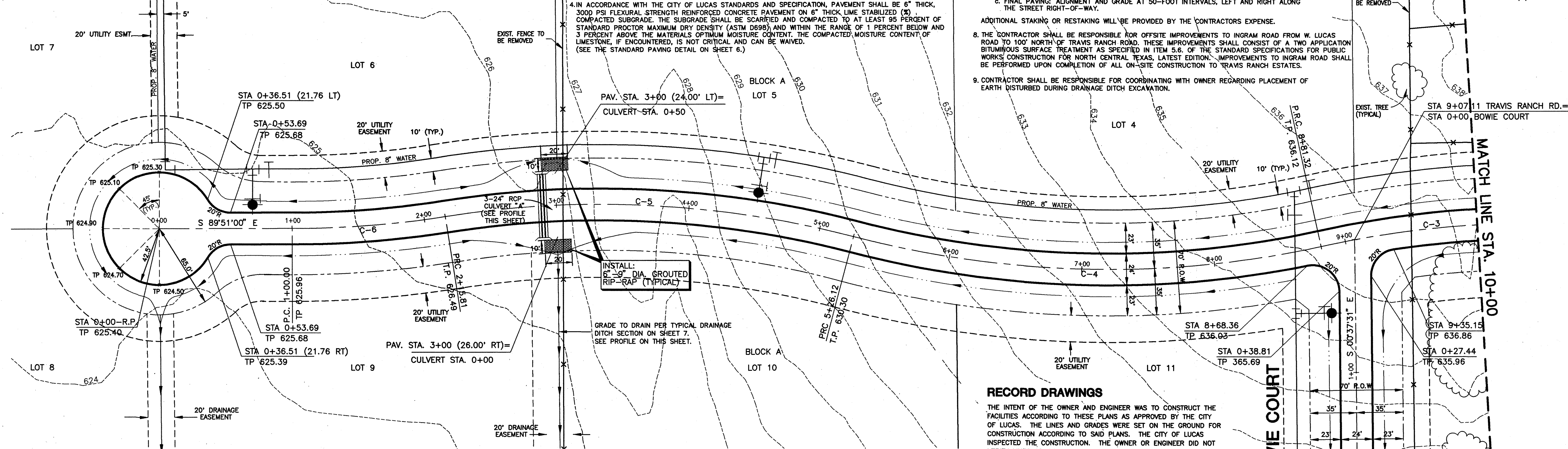
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CENTERLINE CURVE DATA						
CURVE	DELTA	RADIUS	TANGENT	LENGTH	CHORD	BEARING
C-1	10°52'34"	750.00'	71.40'	142.37'	142.15'	S 84°32'57" W
C-2	22°31'27"	950.00'	189.17'	373.46'	371.06'	N 89°37'37" W
C-3	24°03'46"	750.00'	159.85'	314.98'	312.67'	S 89°36'14" W
C-4	27°08'09"	750.00'	181.00'	355.21'	351.90'	N 88°51'34" W
C-5	23°42'20"	750.00'	157.40'	310.31'	308.10'	N 87°08'40" W
C-6	08°50'50"	750.00'	58.02'	115.81'	115.69'	S 85°25'35" W

GENERAL PAVING NOTES:

- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THESE PLANS AND THE CITY OF LUCAS STANDARDS AND SPECIFICATIONS.
- ALL MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE STANDARD SPECIFICATION FOR PUBLIC WORKS CONSTRUCTION FOR NORTH CENTRAL TEXAS, LATEST EDITION, AND ANY SPECIAL PROVISION AS APPROVED BY THE CITY OF LUCAS.
- DURING THE CONSTRUCTION OF THESE IMPROVEMENTS, ANY INTERPRETATION OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION AND ANY MATTER WHICH REQUIRES THE APPROVAL OF THE OWNER MUST BE APPROVED BY THE CITY ENGINEER OR HIS DESIGNEE BEFORE AND CONSTRUCTION INVOLVING THAT DECISION COMMENCES.
ASSUMPTIONS ABOUT WHAT THESE DECISIONS MIGHT BE WHICH ARE MADE DURING THE BIDDING PHASE WILL HAVE NO BEARING ON THE DECISION.
- IN ACCORDANCE WITH THE CITY OF LUCAS STANDARDS AND SPECIFICATION, PAVEMENT SHALL BE 6" THICK, 3000 PSI FLEXURAL STRENGTH REINFORCED CONCRETE PAVEMENT ON 6" THICK LIME STABILIZED (2%) COMPACTED SUBGRADE. THE SUBGRADE SHALL BE SCARIFIED AND COMPACTED TO AT LEAST 95 PERCENT OF STANDARD PROCTOR MAXIMUM DRY DENSITY (ASTM D698) AND WITHIN THE RANGE OF 1 PERCENT BELOW AND 3 PERCENT ABOVE THE MATERIALS OPTIMUM MOISTURE CONTENT. THE COMPACTED MOISTURE CONTENT OF LIMESTONE, IF ENCOUNTERED, IS NOT CRITICAL AND CAN BE WAIVED. (SEE THE STANDARD PAVING DETAIL ON SHEET 6.)

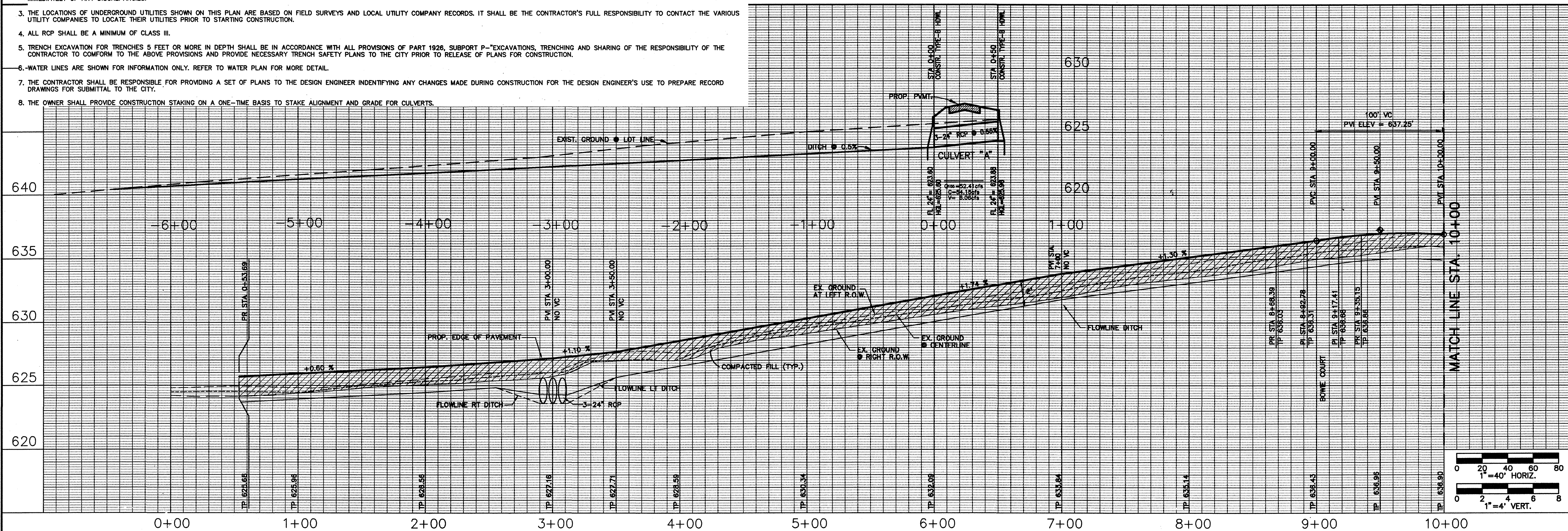
- THE CONTRACTOR SHALL NOT REMOVE ANY TREES WITHOUT PRIOR APPROVAL BY THE OWNER REPRESENTATIVE. ANY TREES REMOVED SHALL BE BURNED ON-SITE AT AN OWNER APPROVED LOCATION OR REMOVED FROM THE SITE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY PERMITS REQUIRED FOR BURNING TREES.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING A SET OF PLANS TO THE DESIGN ENGINEER IDENTIFYING ANY CHANGES MADE DURING CONSTRUCTION FOR THE DESIGN ENGINEER'S USE TO PREPARE RECORD DRAWINGS FOR SUBMITTAL TO THE CITY.
- THE OWNER SHALL PROVIDE CONSTRUCTION STAKING ON A ONE-TIME BASIS AS FOLLOWS:
 - ROUGH OUT GRADING, STREET ALIGNMENT AND GRADE AT 100-FOOT INTERVALS, LEFT AND RIGHT ALONG THE STREET RIGHT-OF-WAY.
 - DITCH GRADING, ALIGNMENT AND GRADE AT 100-FOOT INTERVALS FOR DITCHES OUTSIDE THE STREET RIGHT-OF-WAY.
 - FINAL PAVING, ALIGNMENT AND GRADE AT 50-FOOT INTERVALS, LEFT AND RIGHT ALONG THE STREET RIGHT-OF-WAY.ADDITIONAL STAKING OR RESTAKING WILL BE PROVIDED BY THE CONTRACTORS EXPENSE.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR OFFSITE IMPROVEMENTS TO INGRAM ROAD FROM W. LUCAS ROAD TO 100' NORTH OF TRAVIS RANCH ROAD. THESE IMPROVEMENTS SHALL CONSIST OF A TWO APPLICATION BITUMINOUS SURFACE TREATMENT AS SPECIFIED IN ITEM 5.6. OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION FOR NORTH CENTRAL TEXAS, LATEST EDITION. IMPROVEMENTS TO INGRAM ROAD SHALL BE PERFORMED UPON COMPLETION OF ALL ON-SITE CONSTRUCTION TO TRAVIS RANCH ESTATES.
- CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH OWNER REGARDING PLACEMENT OF EARTH DISTURBED DURING DRAINAGE DITCH EXCAVATION.



GENERAL STORM SEWER NOTES

- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THESE PLANS AND THE CITY OF LUCAS STANDARDS AND SPECIFICATIONS.
- THE CONTRACTOR SHALL VERIFY THE SUITABILITY OF ALL EXISTING AND PROPOSED SITE CONDITIONS INCLUDING GRADES AND DIMENSIONS BEFORE COMMENCEMENT OF CONSTRUCTION. THE DESIGN ENGINEER SHALL BE NOTIFIED IMMEDIATELY OF ANY DISCREPANCIES.
- THE LOCATIONS OF UNDERGROUND UTILITIES SHOWN ON THIS PLAN ARE BASED ON FIELD SURVEYS AND LOCAL UTILITY COMPANY RECORDS. IT SHALL BE THE CONTRACTOR'S FULL RESPONSIBILITY TO CONTACT THE VARIOUS UTILITY COMPANIES TO LOCATE THEIR UTILITIES PRIOR TO STARTING CONSTRUCTION.
- ALL RCP SHALL BE A MINIMUM OF CLASS III.
- TRENCH EXCAVATION FOR TRENCHES 5 FEET OR MORE IN DEPTH SHALL BE IN ACCORDANCE WITH ALL PROVISIONS OF PART 1926, SUBPART P-EXCAVATIONS, TRENCHING AND SHORING OF THE RESPONSIBILITY OF THE CONTRACTOR TO CONFORM TO THE ABOVE PROVISIONS AND PROVIDE NECESSARY TRENCH SAFETY PLANS TO THE CITY PRIOR TO RELEASE OF PLANS FOR CONSTRUCTION.
- WATER LINES ARE SHOWN FOR INFORMATION ONLY. REFER TO WATER PLAN FOR MORE DETAIL.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING A SET OF PLANS TO THE DESIGN ENGINEER IDENTIFYING ANY CHANGES MADE DURING CONSTRUCTION FOR THE DESIGN ENGINEER'S USE TO PREPARE RECORD DRAWINGS FOR SUBMITTAL TO THE CITY.
- THE OWNER SHALL PROVIDE CONSTRUCTION STAKING ON A ONE-TIME BASIS TO STAKE ALIGNMENT AND GRADE FOR CULVERTS.

TRAVIS RANCH ROAD



PAVING PLAN AND PROFILE TRAVIS RANCH ROAD STA 0+00 TO STA 10+00

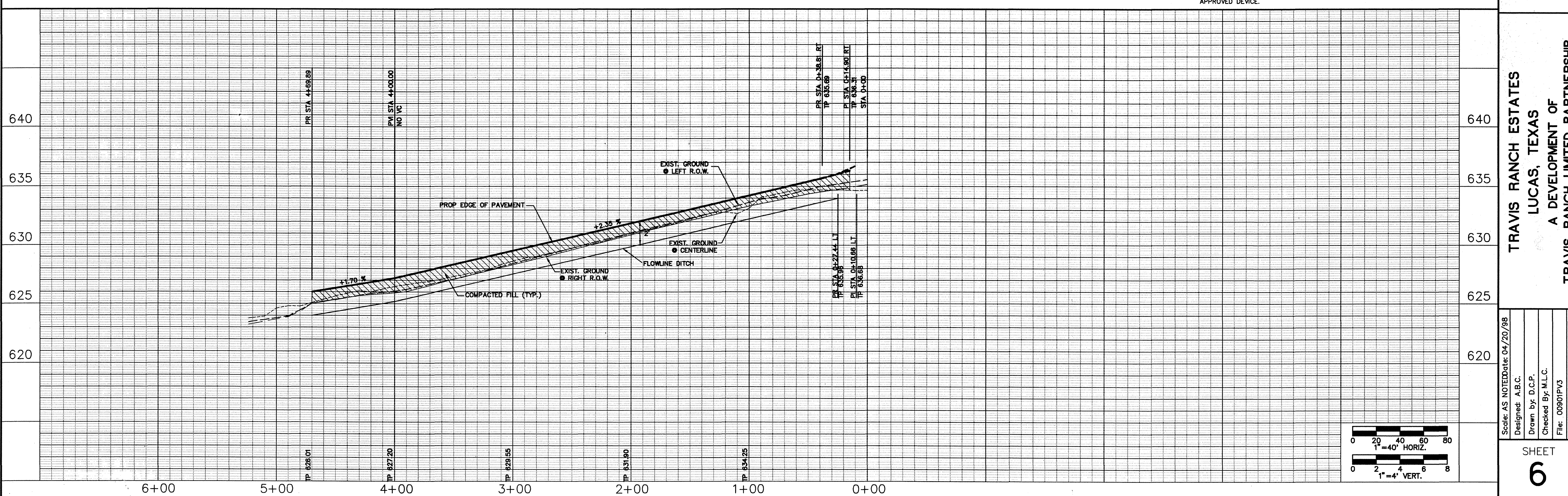
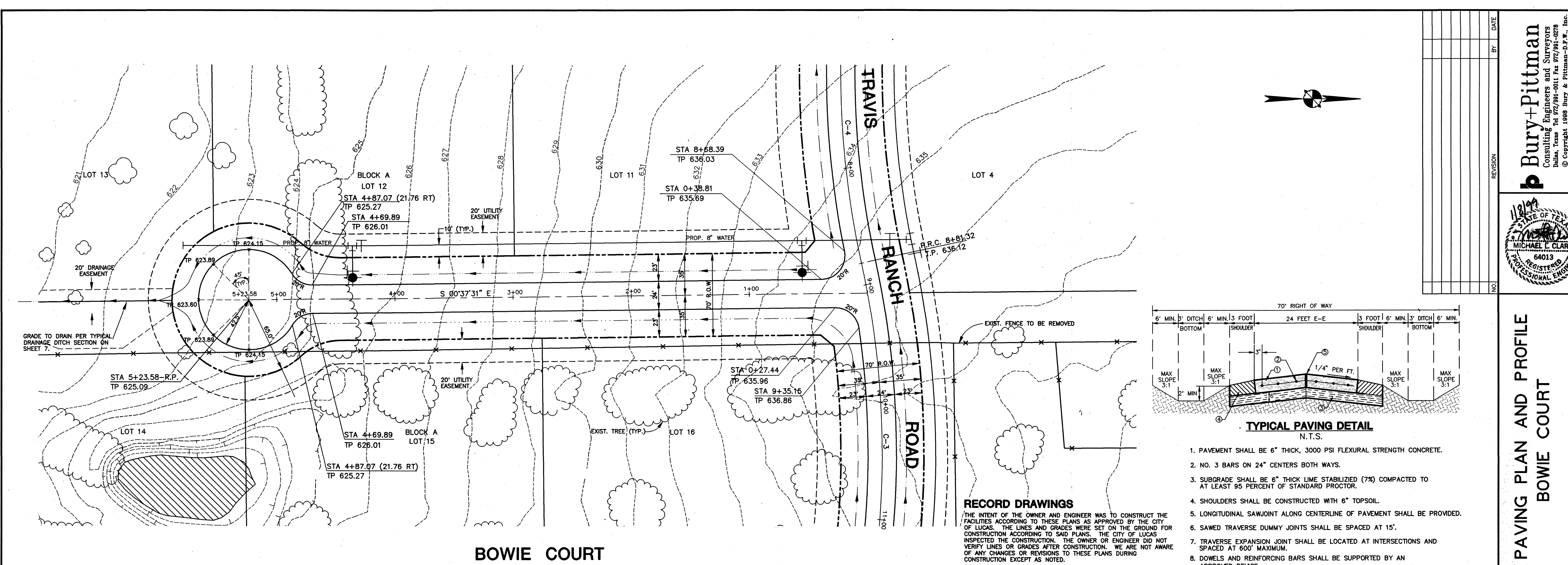
TRAVIS RANCH ESTATES LUCAS, TEXAS A DEVELOPMENT OF TRAVIS RANCH LIMITED PARTNERSHIP

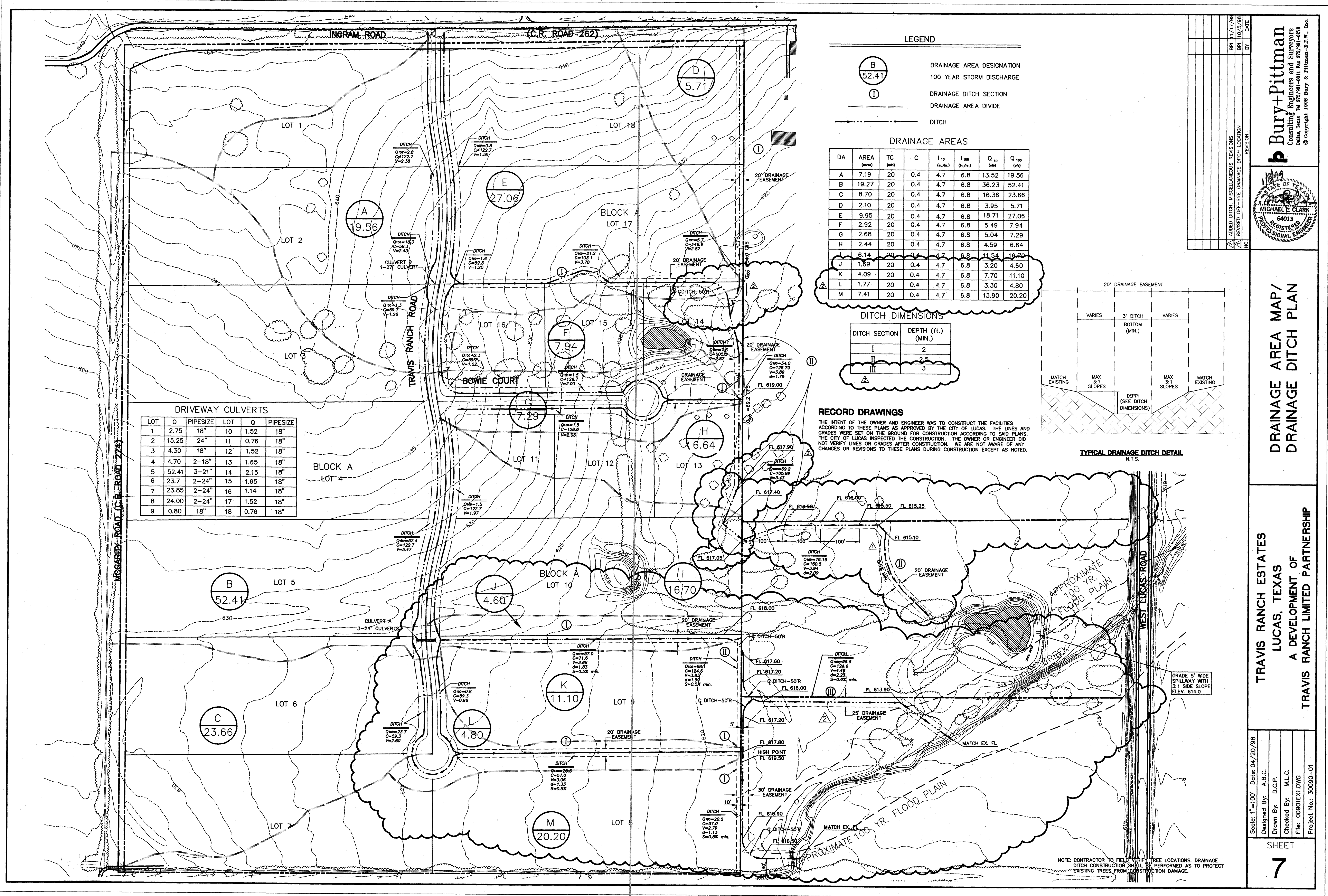
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Designed: A.B.C.
Drawn by: D.C.P.
Checked by: M.L.C.
File: 00301P.V1
Project No.: 30090-01

SHEET
4

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Michael L. Clark
REGISTERED PROFESSIONAL ENGINEER
64013





DRIVEWAY CULVERTS

LOT	Q	PIPESIZE	LOT	Q	PIPESIZE
1	2.75	18"	10	1.52	18"
2	15.25	24"	11	0.76	18"
3	4.30	18"	12	1.52	18"
4	4.70	2-18"	13	1.65	18"
5	52.41	3-21"	14	2.15	18"
6	23.7	2-24"	15	1.65	18"
7	23.85	2-24"	16	1.14	18"
8	24.00	2-24"	17	1.52	18"
9	0.80	18"	18	0.76	18"

LEGEND

$\frac{B}{52.41}$ DRAINAGE AREA DESIGNATION
100 YEAR STORM DISCHARGE

① DRAINAGE DITCH SECTION
DRAINAGE AREA DIVIDE

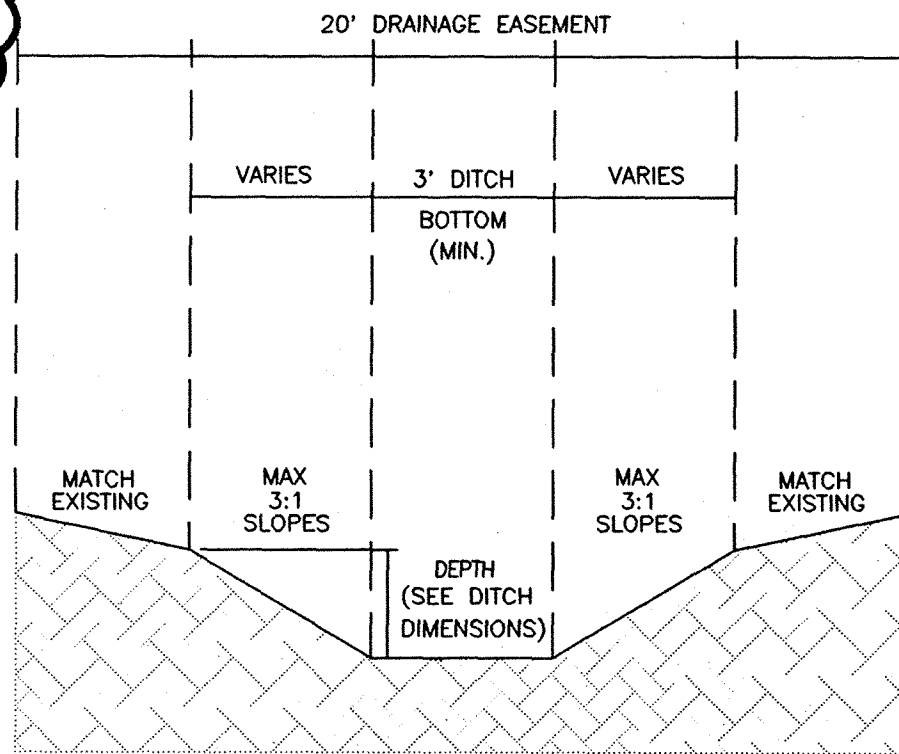
--- DITCH

DRAINAGE AREAS

DA	AREA (acres)	TC (min)	C	I ₁₀ (in./hr.)	I ₁₀₀ (in./hr.)	Q ₁₀ (cfs)	Q ₁₀₀ (cfs)
A	7.19	20	0.4	4.7	6.8	13.52	19.56
B	19.27	20	0.4	4.7	6.8	36.23	52.41
C	8.70	20	0.4	4.7	6.8	16.36	23.66
D	2.10	20	0.4	4.7	6.8	3.95	5.71
E	9.95	20	0.4	4.7	6.8	18.71	27.06
F	2.92	20	0.4	4.7	6.8	5.49	7.94
G	2.68	20	0.4	4.7	6.8	5.04	7.29
H	2.44	20	0.4	4.7	6.8	4.59	6.64
I	6.14	20	0.4	4.7	6.8	11.54	16.70
J	1.69	20	0.4	4.7	6.8	3.20	4.60
K	4.09	20	0.4	4.7	6.8	7.70	11.10
L	1.77	20	0.4	4.7	6.8	3.30	4.80
M	7.41	20	0.4	4.7	6.8	13.90	20.20

DITCH DIMENSIONS

DITCH SECTION	DEPTH (ft.) (MIN.)
I	2
II	2.5
III	3



RECORD DRAWINGS

THE INTENT OF THE OWNER AND ENGINEER WAS TO CONSTRUCT THE FACILITIES ACCORDING TO THESE PLANS AS APPROVED BY THE CITY OF LUCAS. THE LINES AND GRADES WERE SET ON THE GROUND FOR CONSTRUCTION ACCORDING TO SAID PLANS. THE CITY OF LUCAS INSPECTED THE CONSTRUCTION. THE OWNER OR ENGINEER DID NOT VERIFY LINES OR GRADES AFTER CONSTRUCTION. WE ARE NOT AWARE OF ANY CHANGES OR REVISIONS TO THESE PLANS DURING CONSTRUCTION EXCEPT AS NOTED.

Scale: 1"=100' Date: 04/20/98

Designed By: A.B.C.

Drawn By: D.C.P.

Checked By: M.L.C.

File: 00901EXT.DWG

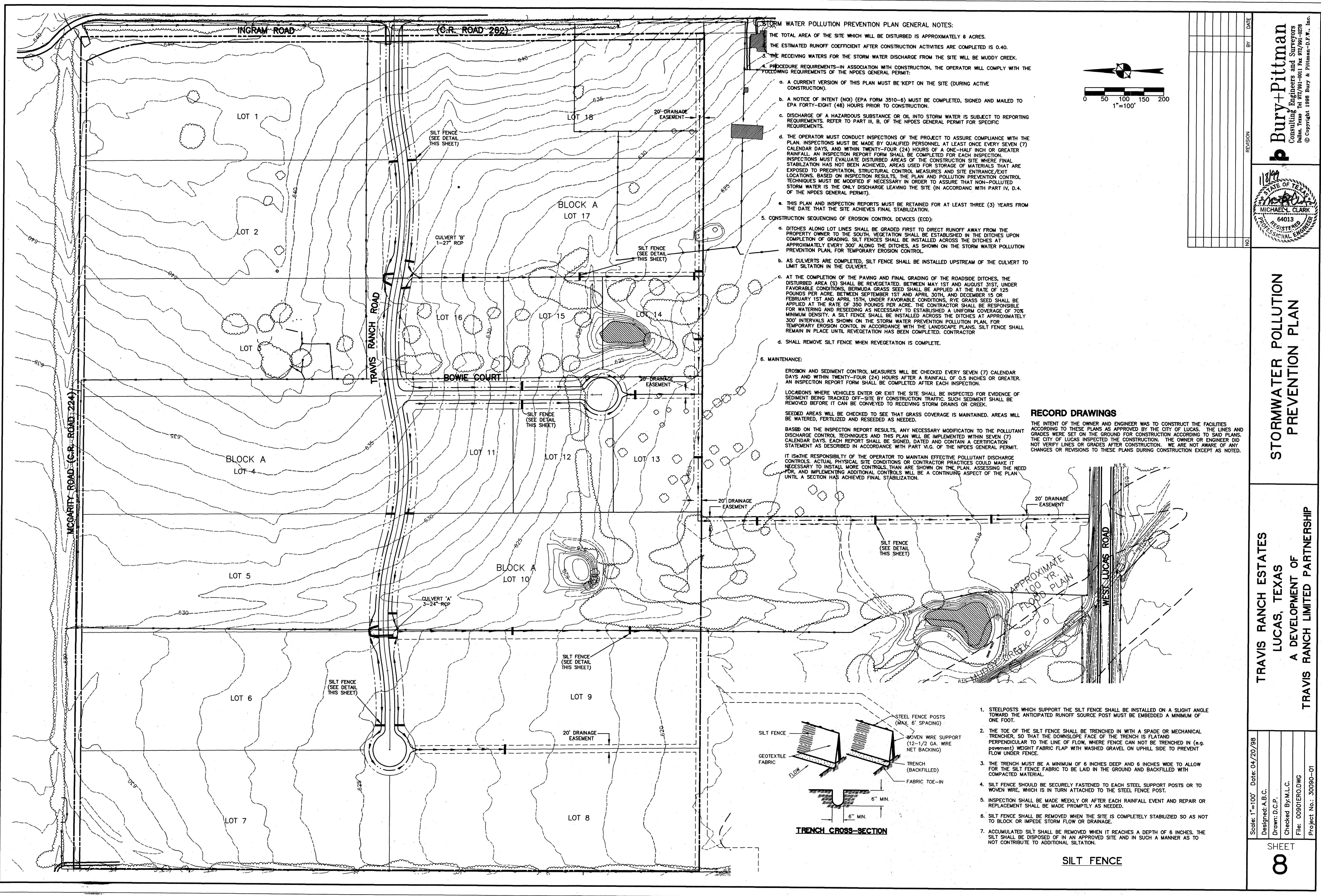
Project No.: 30090-01

TRAVIS RANCH ESTATES
LUCAS, TEXAS
A DEVELOPMENT OF
TRAVIS RANCH LIMITED PARTNERSHIP

SHEET
7

STATE OF TEXAS
MICHAEL E. CLARK
REGISTERED PROFESSIONAL ENGINEER
64013

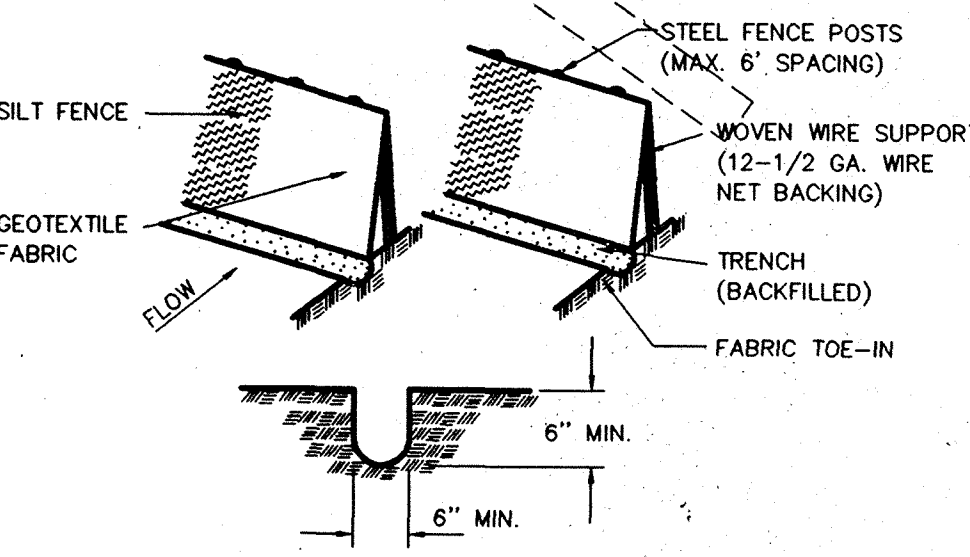
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- STORM WATER POLLUTION PREVENTION PLAN GENERAL NOTES:**
- 1. THE TOTAL AREA OF THE SITE WHICH WILL BE DISTURBED IS APPROXIMATELY 6 ACRES.
 - 2. THE ESTIMATED RUNOFF COEFFICIENT AFTER CONSTRUCTION ACTIVITIES ARE COMPLETED IS 0.40.
 - 3. THE RECEIVING WATERS FOR THE STORM WATER DISCHARGE FROM THE SITE WILL BE MUDDY CREEK.
 - 4. PROCEDURE REQUIREMENTS-IN ASSOCIATION WITH CONSTRUCTION, THE OPERATOR WILL COMPLY WITH THE FOLLOWING REQUIREMENTS OF THE NPDES GENERAL PERMIT:
 - a. A CURRENT VERSION OF THIS PLAN MUST BE KEPT ON THE SITE (DURING ACTIVE CONSTRUCTION).
 - b. A NOTICE OF INTENT (NOI) (EPA FORM 3510-6) MUST BE COMPLETED, SIGNED AND MAILED TO EPA FORTY-FOUR (48) HOURS PRIOR TO CONSTRUCTION.
 - c. DISCHARGE OF A HAZARDOUS SUBSTANCE OR OIL INTO STORM WATER IS SUBJECT TO REPORTING REQUIREMENTS. REFER TO PART III, B, OF THE NPDES GENERAL PERMIT FOR SPECIFIC REQUIREMENTS.
 - d. THE OPERATOR MUST CONDUCT INSPECTIONS OF THE PROJECT TO ASSURE COMPLIANCE WITH THE PLAN. INSPECTIONS MUST BE MADE BY QUALIFIED PERSONNEL AT LEAST ONCE EVERY SEVEN (7) CALENDAR DAYS, AND WITHIN TWENTY-FOUR (24) HOURS OF A ONE-HALF INCH OR GREATER RAINFALL. AN INSPECTION REPORT FORM SHALL BE COMPLETED FOR EACH INSPECTION. INSPECTIONS MUST EVALUATE DISTURBED AREAS OF THE CONSTRUCTION SITE WHERE FINAL STABILIZATION HAS NOT BEEN ACHIEVED. AREAS USED FOR STORAGE OF MATERIALS THAT ARE EXPOSED TO PRECIPITATION, STRUCTURAL CONTROL MEASURES AND SITE ENTRANCE/EXIT LOCATIONS. BASED ON INSPECTION RESULTS, THE PLAN AND POLLUTION PREVENTION CONTROL TECHNIQUES MUST BE MODIFIED IF NECESSARY IN ORDER TO ASSURE THAT NON-POLLUTED STORM WATER IS THE ONLY DISCHARGE LEAVING THE SITE (IN ACCORDANCE WITH PART IV, D.4. OF THE NPDES GENERAL PERMIT).
 - e. THIS PLAN AND INSPECTION REPORTS MUST BE RETAINED FOR AT LEAST THREE (3) YEARS FROM THE DATE THAT THE SITE ACHIEVES FINAL STABILIZATION.
 - 5. CONSTRUCTION SEQUENCING OF EROSION CONTROL DEVICES (ECD):
 - a. DITCHES ALONG LOT LINES SHALL BE GRADED FIRST TO DIRECT RUNOFF AWAY FROM THE PROPERTY OWNER TO THE SOUTH. VEGETATION SHALL BE ESTABLISHED IN THE DITCHES UPON COMPLETION OF GRADING. SILT FENCES SHALL BE INSTALLED ACROSS THE DITCHES AT APPROXIMATELY EVERY 300' ALONG THE DITCHES, AS SHOWN ON THE STORM WATER POLLUTION PREVENTION PLAN, FOR TEMPORARY EROSION CONTROL.
 - b. AS CULVERTS ARE COMPLETED, SILT FENCE SHALL BE INSTALLED UPSTREAM OF THE CULVERT TO LIMIT SILTATION IN THE CULVERT.
 - c. AT THE COMPLETION OF THE PAVING AND FINAL GRADING OF THE ROADSIDE DITCHES, THE DISTURBED AREA (S) SHALL BE REVEGETATED. BETWEEN MAY 1ST AND AUGUST 31ST, UNDER FAVORABLE CONDITIONS, BERMUDA GRASS SEED SHALL BE APPLIED AT THE RATE OF 125 POUNDS PER ACRE. BETWEEN SEPTEMBER 1ST AND APRIL 30TH, AND DECEMBER 15 OR FEBRUARY 1ST AND APRIL 15TH, UNDER FAVORABLE CONDITIONS, RYE GRASS SEED SHALL BE APPLIED AT THE RATE OF 350 POUNDS PER ACRE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR WATERING AND RESEEDING AS NECESSARY TO ESTABLISH A UNIFORM COVERAGE OF 70% MINIMUM DENSITY. A SILT FENCE SHALL BE INSTALLED ACROSS THE DITCHES AT APPROXIMATELY 300' INTERVALS AS SHOWN ON THE STORM WATER POLLUTION PREVENTION PLAN, FOR TEMPORARY EROSION CONTROL IN ACCORDANCE WITH THE LANDSCAPE PLANS. SILT FENCE SHALL REMAIN IN PLACE UNTIL REVEGETATION HAS BEEN COMPLETED. CONTRACTOR
 - d. SHALL REMOVE SILT FENCE WHEN REVEGETATION IS COMPLETE.
 - 6. MAINTENANCE:
 - a. EROSION AND SEDIMENT CONTROL MEASURES WILL BE CHECKED EVERY SEVEN (7) CALENDAR DAYS AND WITHIN TWENTY-FOUR (24) HOURS AFTER A RAINFALL OF 0.5 INCHES OR GREATER. AN INSPECTION REPORT FORM SHALL BE COMPLETED AFTER EACH INSPECTION.
 - b. LOCATIONS WHERE VEHICLES ENTER OR EXIT THE SITE SHALL BE INSPECTED FOR EVIDENCE OF SEDIMENT BEING TRACKED OFF-SITE BY CONSTRUCTION TRAFFIC. SUCH SEDIMENT SHALL BE REMOVED BEFORE IT CAN BE CONVEYED TO RECEIVING STORM DRAINS OR CREEK.
 - c. SEEDED AREAS WILL BE CHECKED TO SEE THAT GRASS COVERAGE IS MAINTAINED. AREAS WILL BE WATERED, FERTILIZED AND RESEEDED AS NEEDED.
 - d. BASED ON THE INSPECTION REPORT RESULTS, ANY NECESSARY MODIFICATION TO THE POLLUTANT DISCHARGE CONTROL TECHNIQUES AND THIS PLAN WILL BE IMPLEMENTED WITHIN SEVEN (7) CALENDAR DAYS. EACH REPORT SHALL BE SIGNED, DATED AND CONTAIN A CERTIFICATION STATEMENT AS DESCRIBED IN ACCORDANCE WITH PART VI.6. OF THE NPDES GENERAL PERMIT.
 - e. IT IS THE RESPONSIBILITY OF THE OPERATOR TO MAINTAIN EFFECTIVE POLLUTANT DISCHARGE CONTROLS. ACTUAL PHYSICAL SITE CONDITIONS OR CONTRACTOR PRACTICES COULD MAKE IT NECESSARY TO INSTALL MORE CONTROLS THAN ARE SHOWN ON THE PLAN, ASSESSING THE NEED FOR, AND IMPLEMENTING ADDITIONAL CONTROLS WILL BE A CONTINUING ASPECT OF THE PLAN UNTIL A SECTION HAS ACHIEVED FINAL STABILIZATION.

RECORD DRAWINGS

THE INTENT OF THE OWNER AND ENGINEER WAS TO CONSTRUCT THE FACILITIES ACCORDING TO THESE PLANS AS APPROVED BY THE CITY OF LUCAS. THE LINES AND GRADES WERE SET ON THE GROUND FOR CONSTRUCTION ACCORDING TO SAID PLANS. THE CITY OF LUCAS INSPECTED THE CONSTRUCTION. THE OWNER OR ENGINEER DID NOT VERIFY LINES OR GRADES AFTER CONSTRUCTION. WE ARE NOT AWARE OF ANY CHANGES OR REVISIONS TO THESE PLANS DURING CONSTRUCTION EXCEPT AS NOTED.



1. STEELPOSTS WHICH SUPPORT THE SILT FENCE SHALL BE INSTALLED ON A SLIGHT ANGLE TOWARD THE ANTICIPATED RUNOFF SOURCE POST MUST BE EMBEDDED A MINIMUM OF ONE FOOT.
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 CAN NOT BE TRENCHED IN (e.g. pavement) WEIGHT FABRIC FLAP WITH WASHED GRAVEL ON 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 SHOULD BE SECURELY FASTENED TO EACH STEEL SUPPORT POSTS OR TO WOVEN WIRE, WHICH IS IN TURN ATTACHED TO THE STEEL FENCE POST.
5. INSPECTION SHALL BE MADE WEEKLY OR AFTER EACH RAINFALL EVENT AND 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 REACHES A DEPTH OF 6 INCHES. THE SILT SHALL BE DISPOSED OF IN AN APPROVED SITE AND IN SUCH A MANNER AS TO NOT CONTRIBUTE TO ADDITIONAL SILTATION.

DATE

BY

REVISION

NO.

1/24/20

1/24/20

1/24/20

1/24/20

STATE OF TEXAS

REGISTERED PROFESSIONAL ENGINEER

64013

MICHAEL CLARK

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STORMWATER POLLUTION PREVENTION PLAN

TRAVIS RANCH ESTATES
LUCAS, TEXAS
A DEVELOPMENT OF
TRAVIS RANCH LIMITED PARTNERSHIP

Scale: 1"=100' Date: 04/20/98

Designed: A.B.C.

Drawn: D.C.P.

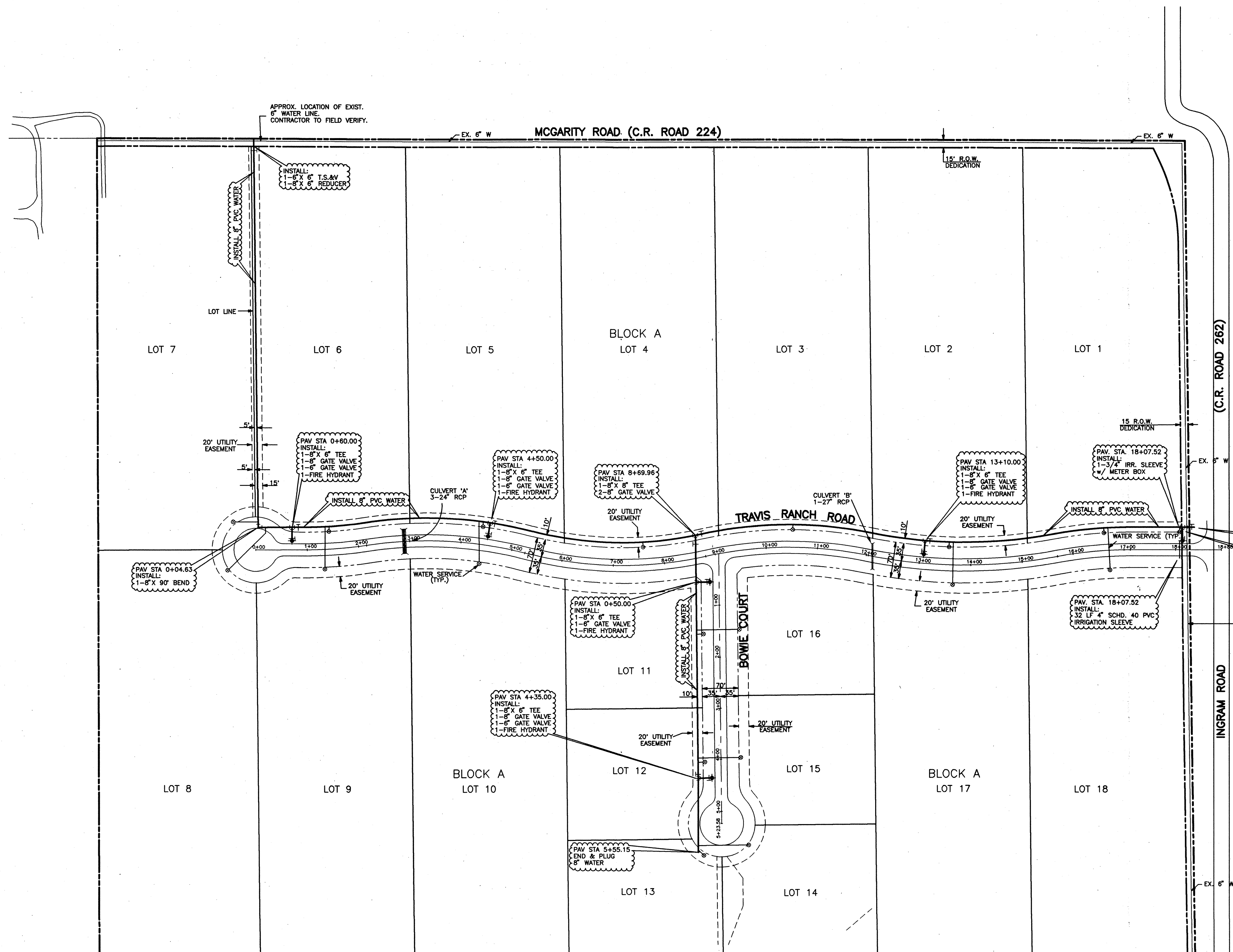
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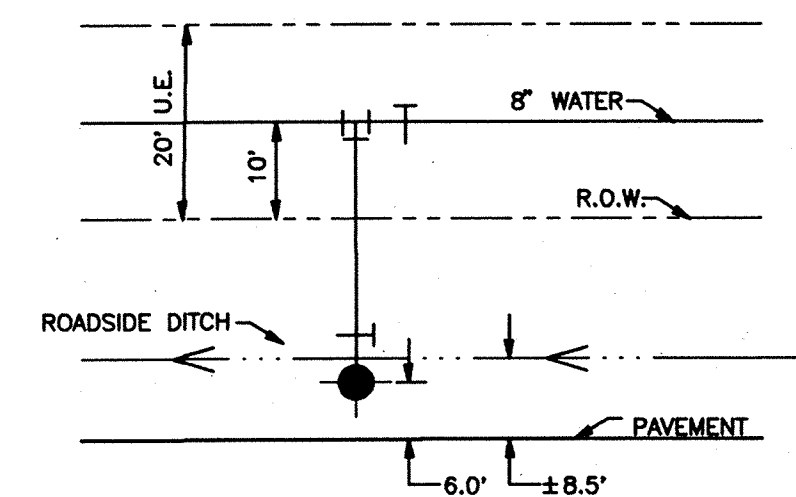
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GENERAL WATER NOTES

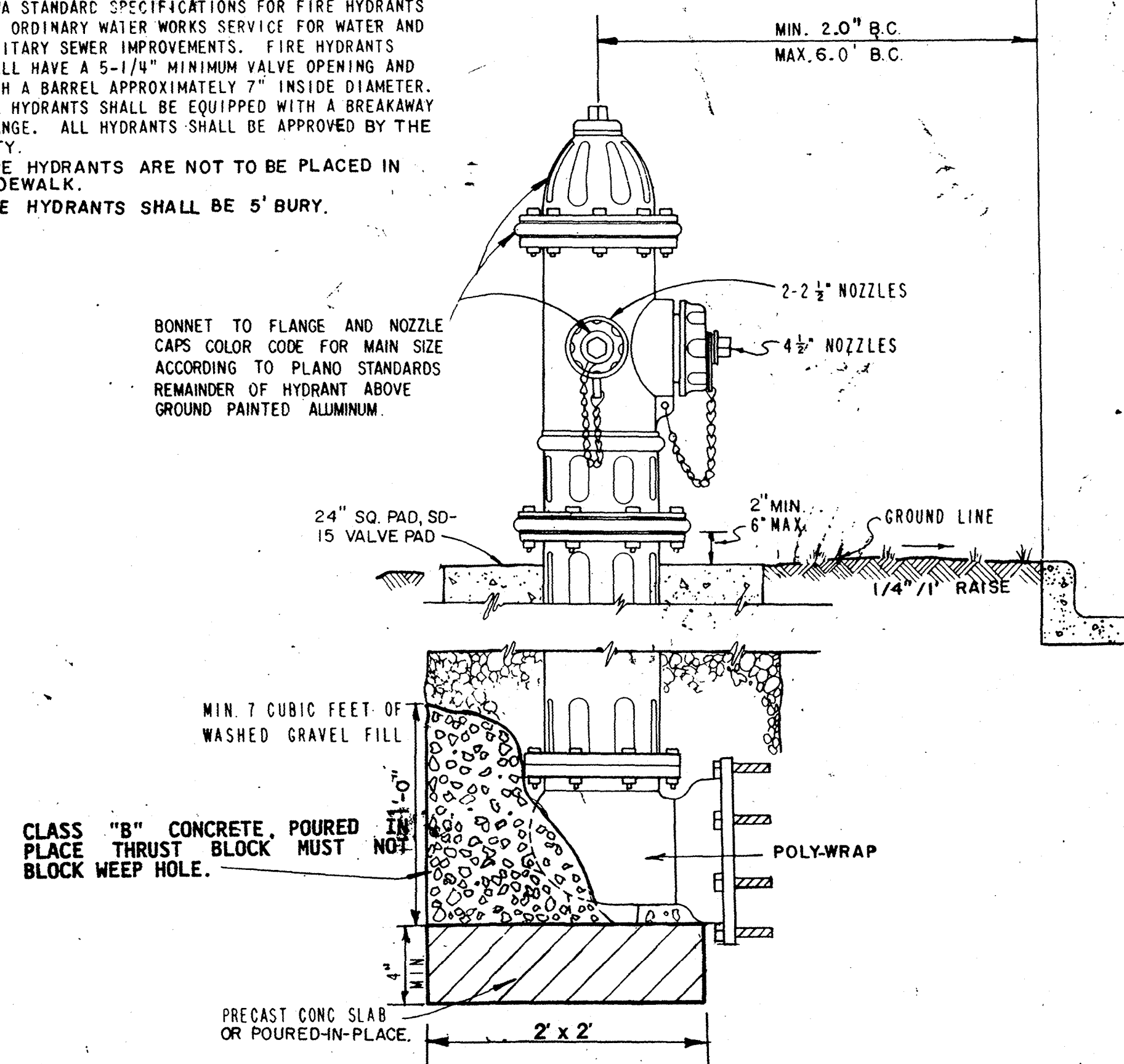
1. ALL MATERIAL AND WORKMANSHIP SHALL CONFORM TO THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION FOR NORTH CENTRAL TEXAS, LATEST EDITION AND ANY SPECIAL PROVISION AS APPROVED BY THE CITY OF LUCAS.
2. ALL WATER LINES SHALL BE PVC-C900-DR-18 FOR 6" AND DR-18 FOR 8."
3. FITTINGS SHALL BE DUCTILE IRON WITH BELL AND SPIGOT OR MECHANICAL JOINT TYPE AND SHALL BE CLASS 250.
4. MINIMUM COVER ON WATER MAINS SHALL BE 48" FOR 6" AND 6" MAINS OR AS REQUIRED TO CLEAR ALL UTILITIES.
5. FIRE HYDRANTS SHALL BE OF THE NATIONAL STANDARD TYPE APPROVED BY THE CITY OF LUCAS. BONNET AND CAPS SHALL BE COLOR CODED IN ACCORDANCE WITH CITY OF LUCAS SPECIFICATIONS.
6. GATE VALVES SHALL BE RESILIENT SEAT.
7. AT TIME OF PLACEMENT ALL WATER MAINS SHALL BE SWABBED WITH KNAPP POLLY PIG BARE SWAB OR APPROVED EQUAL.
8. ALL WATER MAINS SHALL BE PLUGGED WITH A CAST IRON PLUG (OR APPROVED EQUAL) AT THE END OF EACH WORK DAY.
9. WATER SERVICES SHALL BE COPPER, TYPE K 1-1/2-INCH IN SIZE LOCATED AT THE CENTER OF EACH LOT. A METER BOX SHALL BE INSTALLED IN ACCORDANCE WITH THE CITY'S STANDARDS AND SPECIFICATIONS.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING A SET OF PLANS TO THE DESIGN ENGINEER IDENTIFYING ANY CHANGES MADE DURING CONSTRUCTION FOR THE DESIGN ENGINEER'S USE TO PREPARE RECORD DRAWINGS FOR SUBMITTAL TO THE CITY.
11. THE OWNER SHALL PROVIDE CONSTRUCTION STAKING ON A ONE-TIME BASIS TO STAKE ALIGNMENT FOR WATER MAINS AND SERVICES AND ALIGNMENT AND GRADE FOR FIRE HYDRANTS.
12. IRRIGATION SLEEVE TO BE SCH. 40 PVC INSTALLED 24" BELOW FINISH GRADE, EXTENDED AT BOTH ENDS 4' BEYOND THE PAVEMENT AND CAP. CONTRACTOR TO MARK END OF CONDUIT. SIZE TO BE AS SHOWN ON PLANS.



RECORD DRAWINGS

THE INTENT OF THE OWNER AND ENGINEER WAS TO CONSTRUCT THE FACILITIES ACCORDING TO THESE PLANS AS APPROVED BY THE CITY OF LUCAS. THE LINES AND GRADES WERE SET ON THE GROUND FOR CONSTRUCTION ACCORDING TO SAID PLANS. THE CITY OF LUCAS INSPECTED THE CONSTRUCTION. THE OWNER OR ENGINEER DID NOT VERIFY LINES OR GRADES AFTER CONSTRUCTION. WE ARE NOT AWARE OF ANY CHANGES OR REVISIONS TO THESE PLANS DURING CONSTRUCTION EXCEPT AS NOTED.

NOTE: IN GENERAL, ALL FIRE HYDRANTS SHALL CONFORM TO AWWA STANDARD SPECIFICATIONS FOR FIRE HYDRANTS FOR ORDINARY WATER WORKS SERVICE FOR WATER AND SANITARY SEWER IMPROVEMENTS. FIRE HYDRANTS SHALL HAVE A 5-1/4" MINIMUM VALVE OPENING AND WITH A BARREL APPROXIMATELY 7" INSIDE DIAMETER. ALL HYDRANTS SHALL BE EQUIPPED WITH A BREAKAWAY FLANGE. ALL HYDRANTS SHALL BE APPROVED BY THE CITY. FIRE HYDRANTS ARE NOT TO BE PLACED IN SIDEWALK. FIRE HYDRANTS SHALL BE 5' BURY.

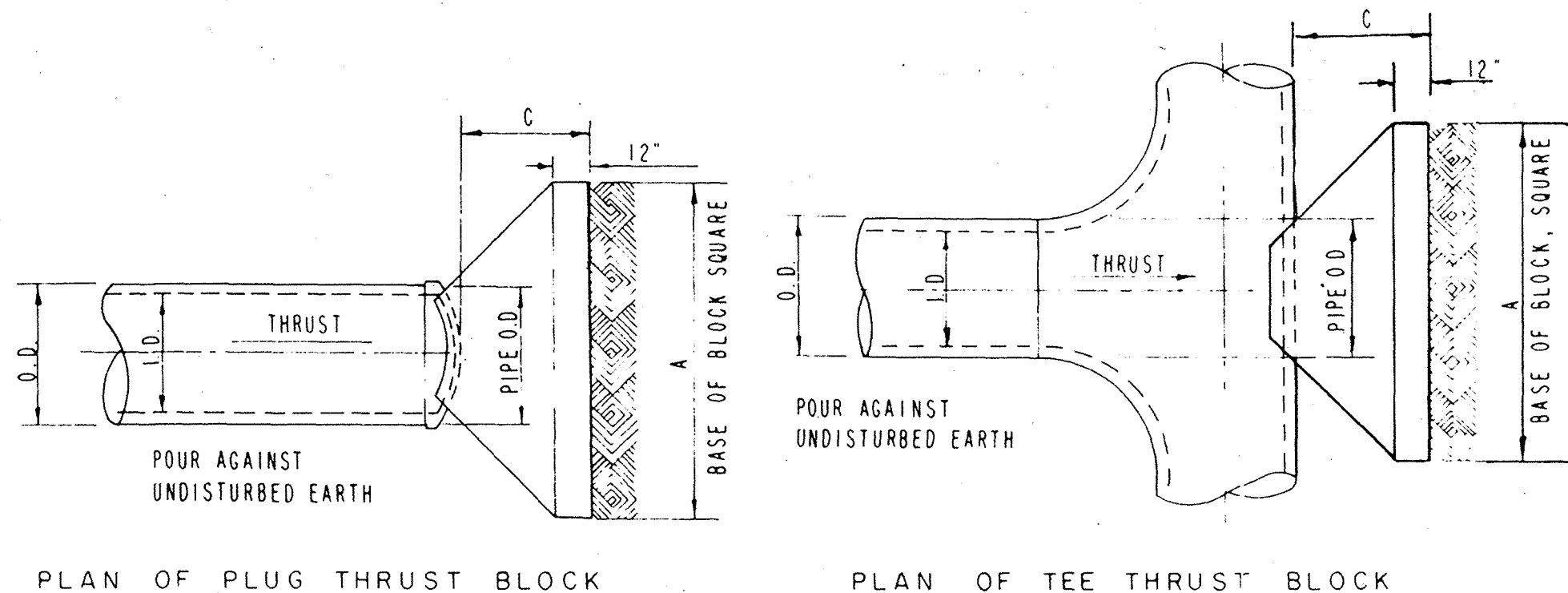


MJ HYDRANT - LONG SWIVEL ADAPTER - MJ VALVE BY SOLID ADAPTER - MJ TEE

TYPICAL FIRE HYDRANT INSTALLATION

THRUST IN TONS FOR VERTICAL OR HORIZONTAL BENDS									
I.D. IN INCHES	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	

TEES & PLUGS			
I.D. UNIT	A FT.	C FT.	THRUST TONS
12"			
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



TYPICAL PLUG & TEE THRUST BLOCKS

APPROVED FIRE HYDRANTS, VALVES, ETC.

VALVES-RSGV

1. MUELLER
2. AMERICAN DARLING
3. WATEROUS "SERIES 500"
4. KENNEDY
5. U.S. PIPE & FOUNDRY "METRO-SEAL"
6. CLOW

FIRE HYDRANTS

1. MUELLER "CENTURION" & "SUPER CENTURION 200"
2. AMERICAN DARLING "B-84B"
3. WATEROUS "PACER MOD. WB 67"
4. KENNEDY K 81A "GUARDIAN"
5. UNITED STATES PIPE & FOUNDRY "METROPOLITAN"
6. CLOW "MEDALLION"

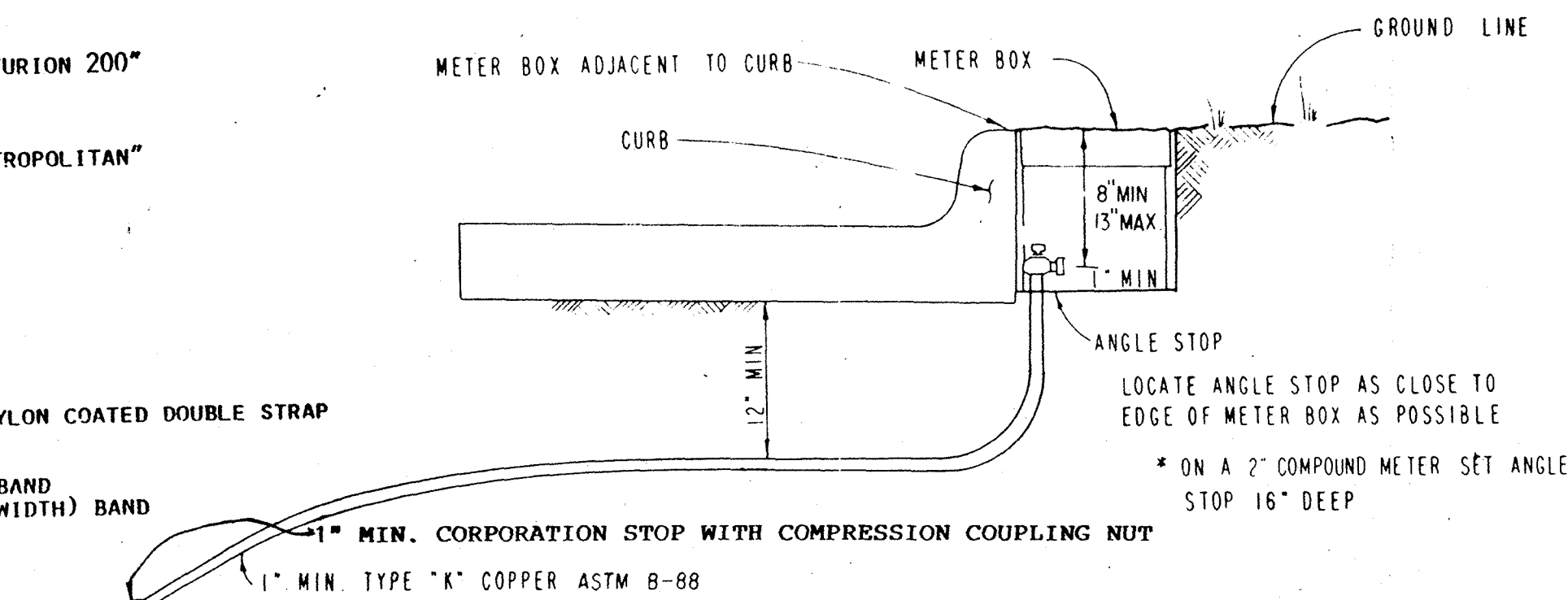
TAPPING SLEEVE

1. MUELLER TRAVERSE
2. TYLER TRAVERSE
3. AMERICAN DARLING MJ SPLIT

TAPPING SADDLES

1. ROCKWELL "317" STAINLESS STEEL NYLON COATED DOUBLE STRAP
2. ROCKWELL BRONZE DOUBLE STRAP
3. MUELLER BRONZE DOUBLE STRAP
4. FORD 2020S BRASS DOUBLE (WIDTH) BAND
5. FORD FC202 EPOXY COATED DOUBLE (WIDTH) BAND

NOTE: DOMESTIC WATER SERVICES SHALL NOT BE CONNECTED TO FIRE HYDRANT LINES



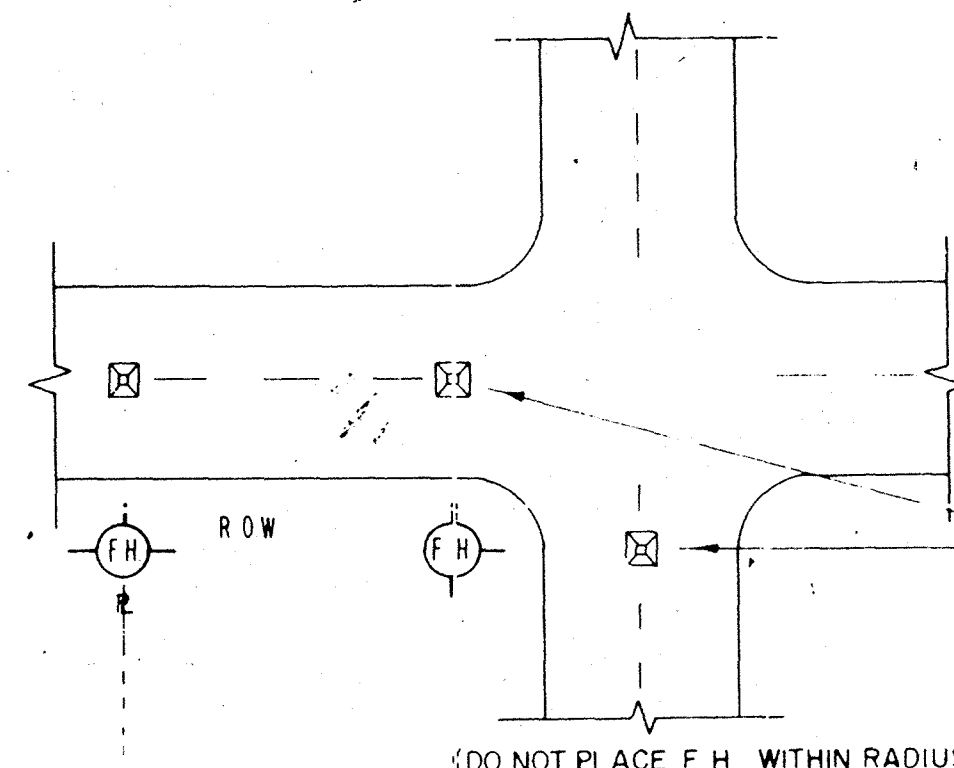
FOR 1" OR SMALLER METER

METER BOX SHALL BE CORRUGATED METAL, 18" DIAMETER, 14" DEEP, SLOTTED FOR SERVICE PIPE FITTED WITH CAST IRON TOP AND LID. LID SHALL BE C.I. BASS & HAYS DOMESTIC MFG LID WITH #3P HAIRPIN LOCK OR TYLER RING #200-R & WESTERN IRON WORKS #D W/IN 92/20. WATER METER SHALL BE PLACED IN CENTER OF LOT WITH SANITARY SEWER HOUSE CONNECTION LOCATED 10 FEET DOWN STREAM. ALL TAPS SHALL BE MADE AT 45° ANGLE TO S OF PIPE. MINIMUM TAP SIZE TO BE 1-INCH-PER 6.7.3(J)(1)(B)(2)(3) OR (5).

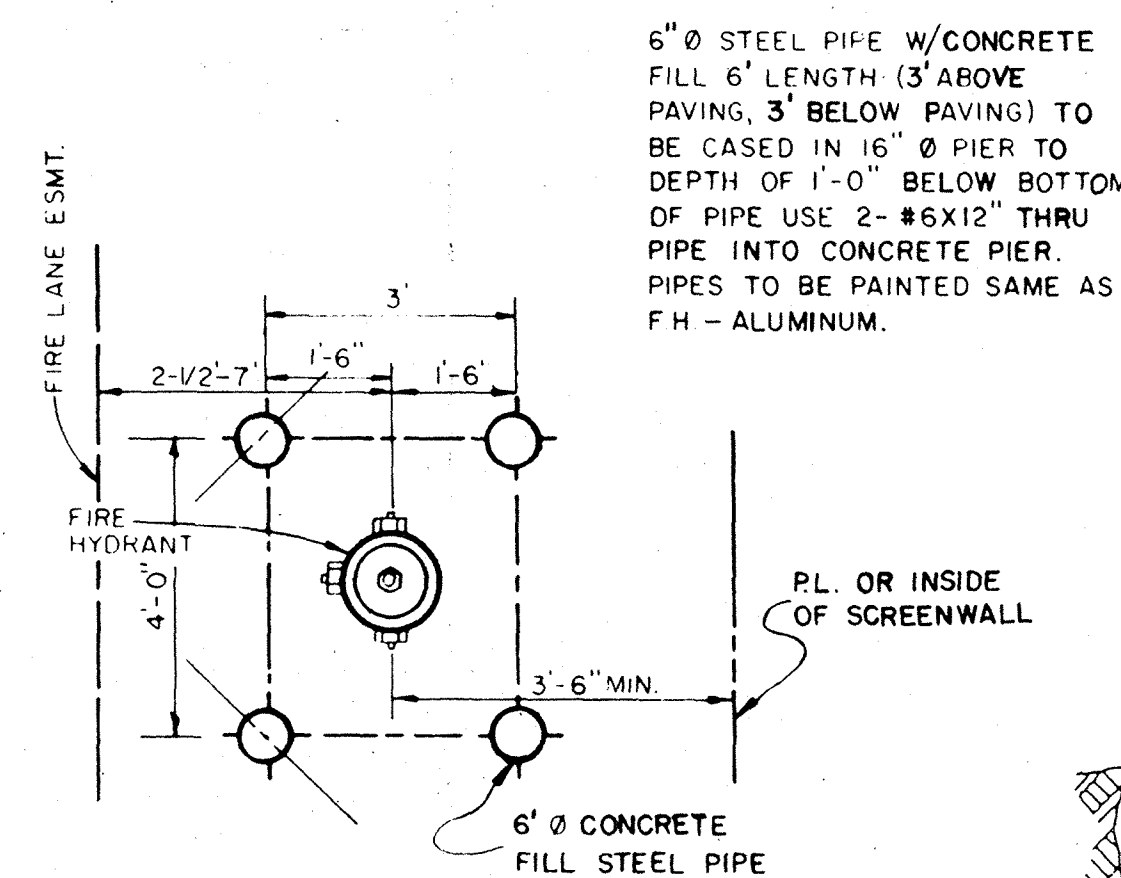
TYPICAL SERVICE CONNECTION WITH METER BOX

TYPE K COPPER SERVICE PIPE SOFT ANNEALED	DOUBLE STRAP BRONZE SERVICE SADDLE WITH C.C. THREADS	BASS & HAYS SLOTTED METER BOX
1 INCH	1 INCH	34AS
1 1/2 INCH	1 1/2 INCH	55AS
2 INCH	2 INCH	55AS

ALL MATERIALS SHALL CONFORM TO THE STANDARD SPECIFICATIONS AND/OR SPECIAL PROVISIONS. REFER TO SD-18 FOR SADDLE SPECIFICATION.

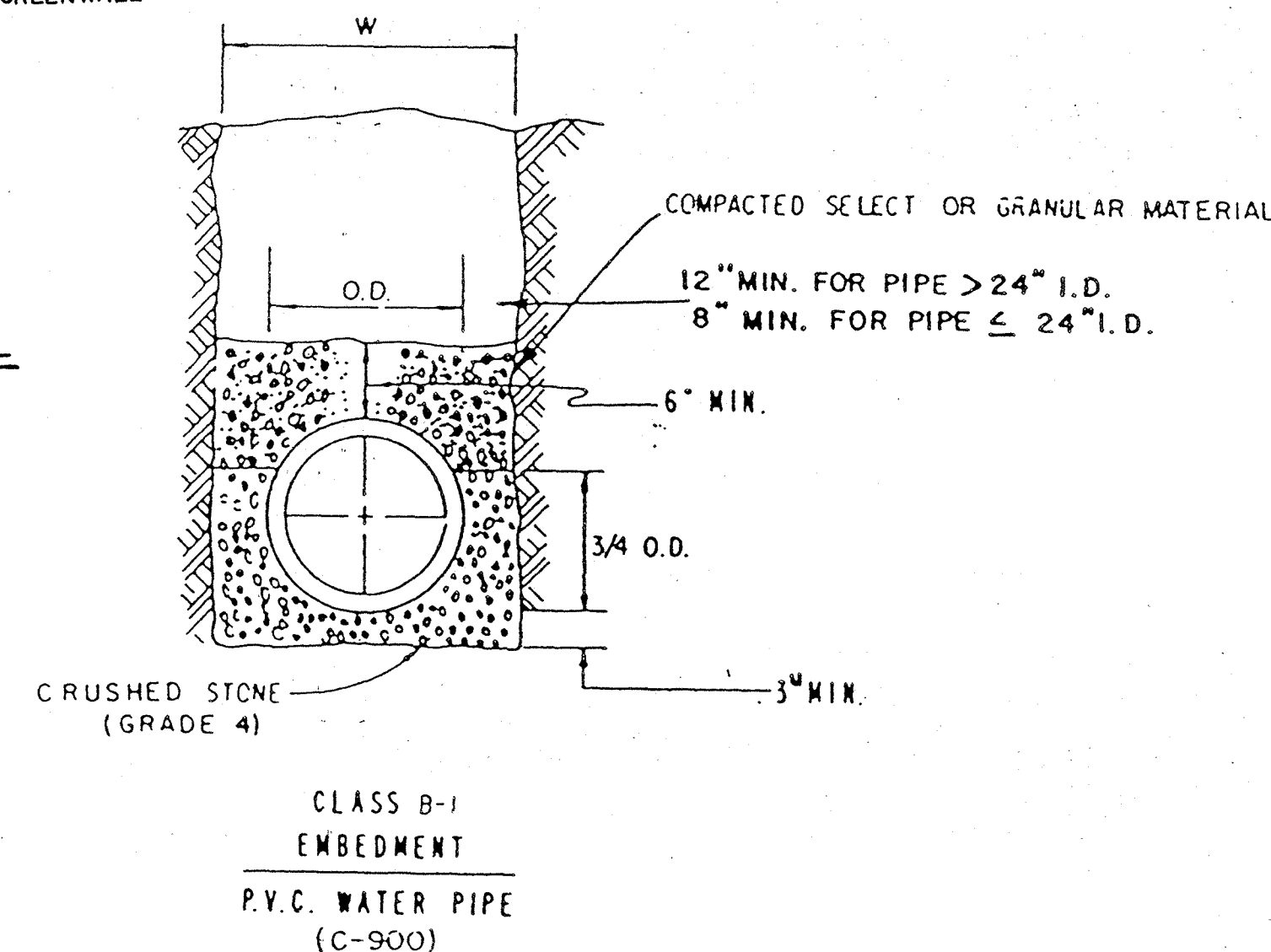


TYPICAL FIRE HYDRANT REFLECTOR INSTALLATION (NO SCALE)



FIRE HYDRANT GUARD POST DETAIL SCALE: N.T.S.

NOTE: FOR USE ONLY WHERE CURBS ARE NOT POSSIBLE



HALF-SECTION TYPICAL CREEK CROSSING

GENERAL NOTES

ALL CALCULATIONS ARE BASED ON TOTAL INTERNAL PRESSURE OF 150 PSI

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 4,000 P.C.Y.) EQUALS THE VERTICAL COMPONENT OF THRUST ON THE VERTICAL BEND. ALL BEARING SURFACES OF THRUST BLOCKS SHALL BE POURED AGAINST UNDISTURBED EARTH.

CONCRETE FOR BLOCKING SHALL BE MINIMUM 20,000 PSI CONCRETE

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

POLYPIG SHALL BE PULLED THROUGH WATER LINES BEFORE LINES ARE ACCEPTED BY CITY.

WATER METER BOXES SHALL BE PROTECTED BY A 6" CURB OR BALLARDS WHEN PLACED IN A PAVED AREA

RECORD DRAWINGS

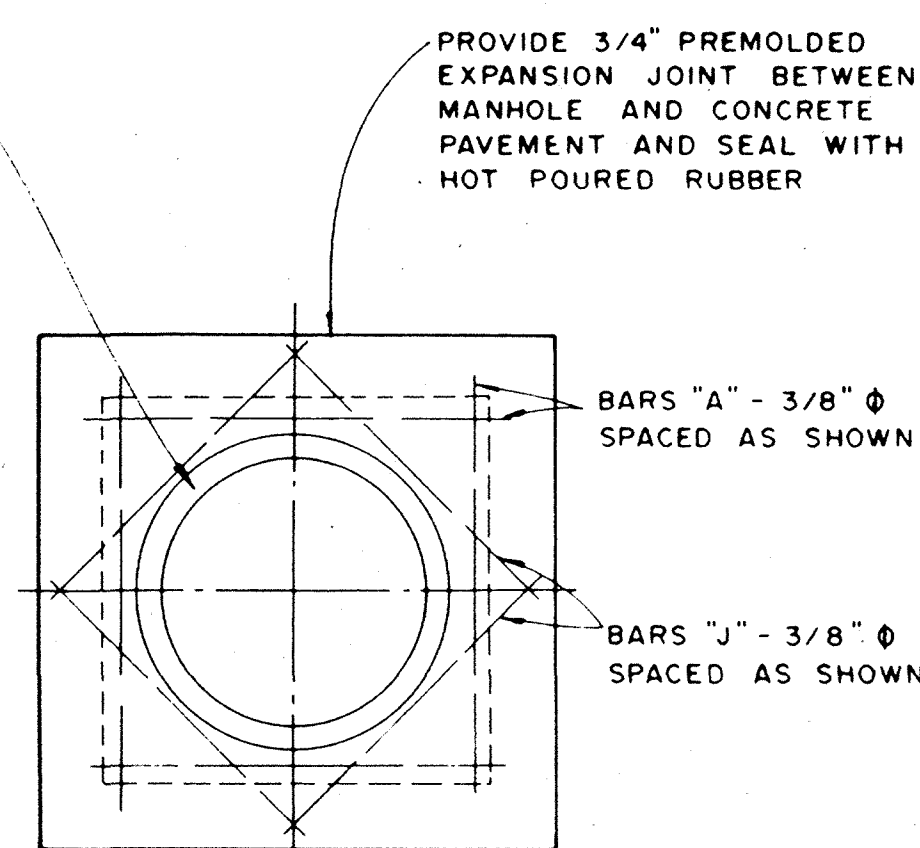
THE INTENT OF THE OWNER AND ENGINEER WAS TO CONSTRUCT THE FACILITIES ACCORDING TO THESE PLANS AS APPROVED BY THE CITY OF LUCAS. THE LINES AND GRADES WERE SET ON THE GROUND FOR CONSTRUCTION ACCORDING TO SAID PLANS. THE CITY OF LUCAS INSPECTED THE CONSTRUCTION. THE OWNER OR ENGINEER DID NOT VERIFY LINES OR GRADES AFTER CONSTRUCTION. WE ARE NOT AWARE OF ANY CHANGES OR REVISIONS TO THESE PLANS DURING CONSTRUCTION EXCEPT AS NOTED.

SHEET
10

NCT STANDARD SPECIFICATIONS		S.A.S. 10-13-87	
NO.	REVISION	BY	DATE
PUBLIC WORKS DEPARTMENT OF ENGINEERING			
STANDARD CONSTRUCTION DETAILS WATER			
FIRE HYDRANT - SERVICE CONNECTION			
APPROVED			
DATE: JULY, 1996		SHEET SD-16	

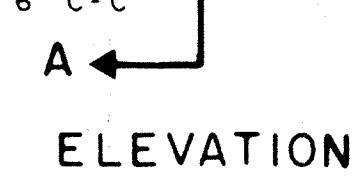


NOTE: FRAME AND COVER SHALL BE
BASS & HAYS PATTERN NO. 400-24
OR EQUAL AND SHALL BE OF GRAY
CAST IRON CONFORMING TO A.S.T.M.
SPEC. A-48 FOR CLASS 30 CAST
IRON.



TOP PLAN
TYPE A & TYPE B
STORM SEWER MANHOLE

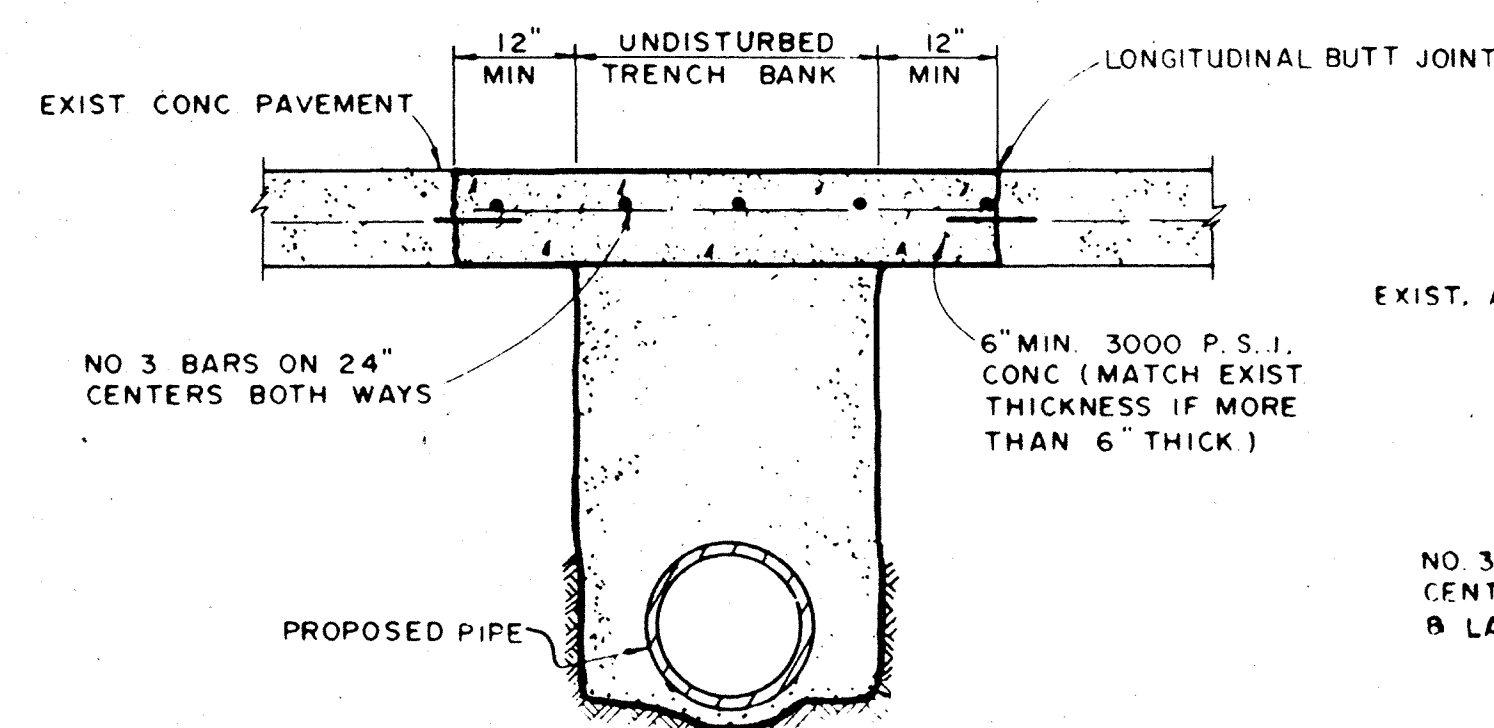
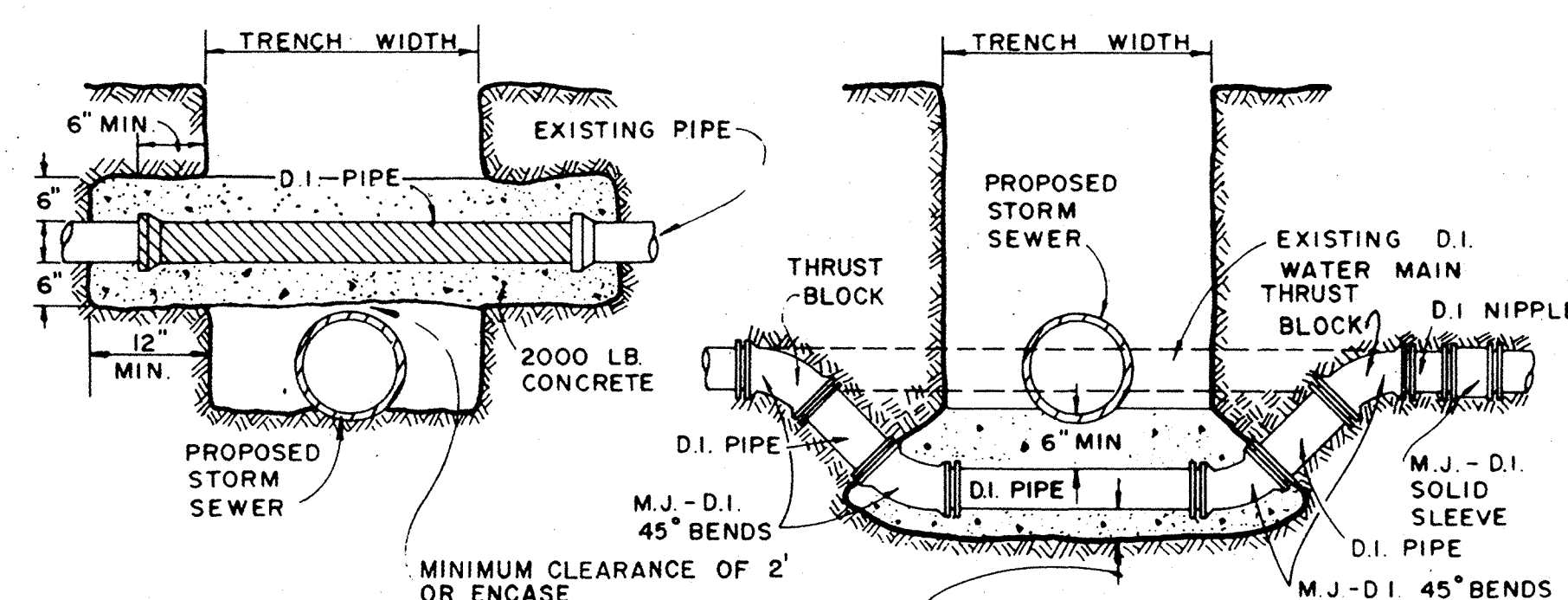
NOTE: MAXIMUM PIPE SIZE
TO BE USED 78"



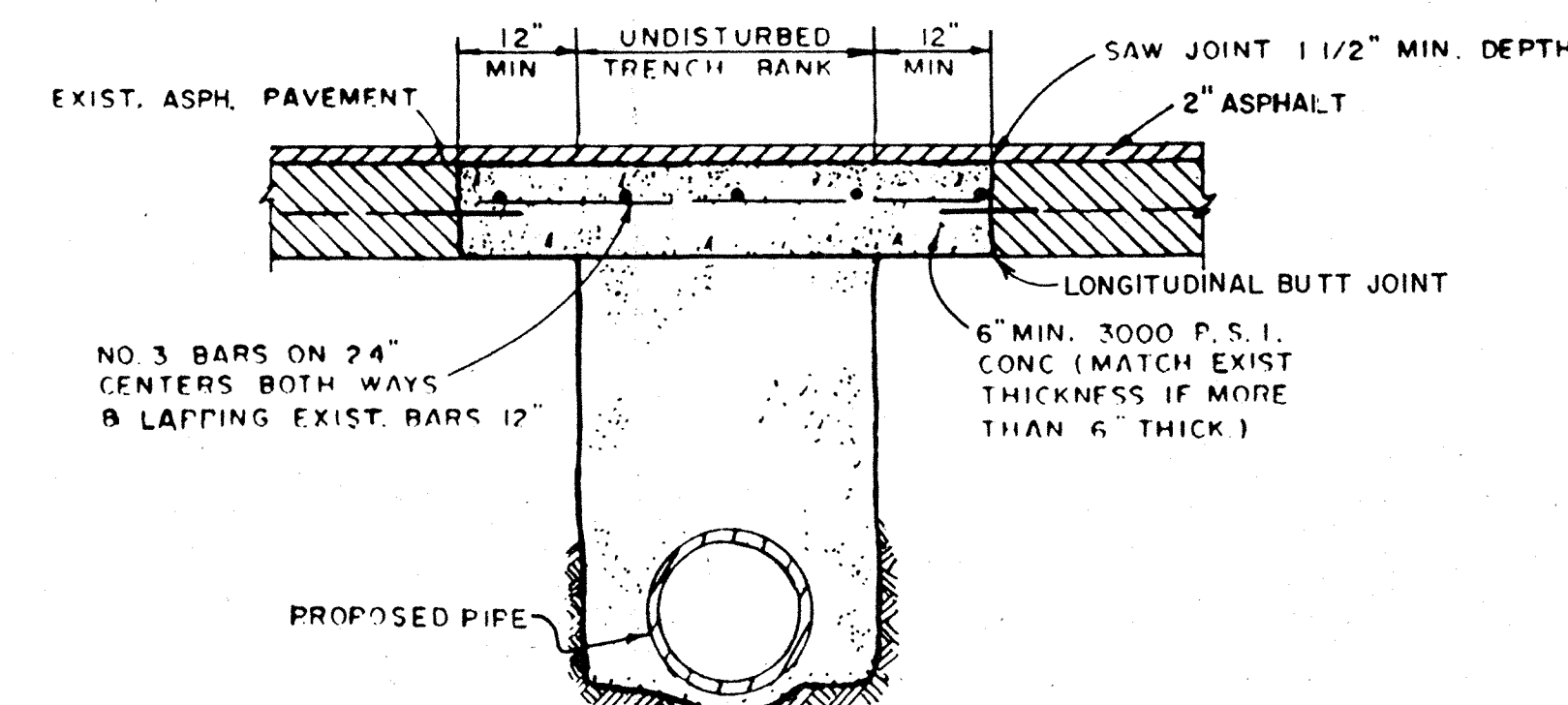
TYPE B STORM SEWER MANHOLE

(FOR PIPE 33" TO 78" IN DIAMETER)

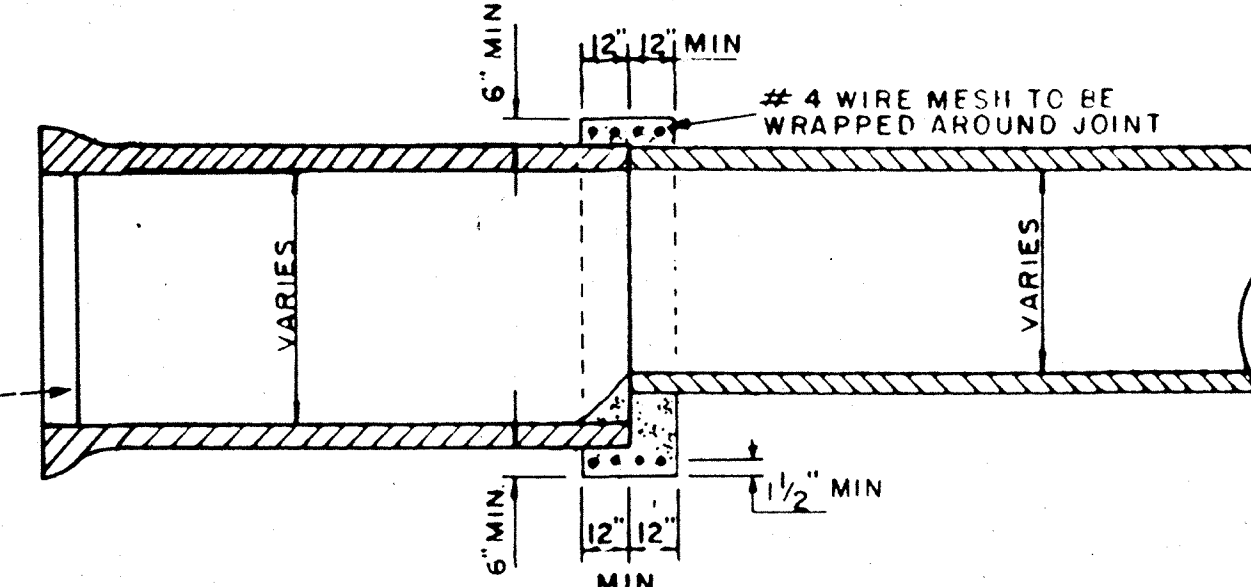
NOTE:
1) STRUCTURAL CONCRETE TO BE MIN.
4200 PSI UNLESS NOTED.



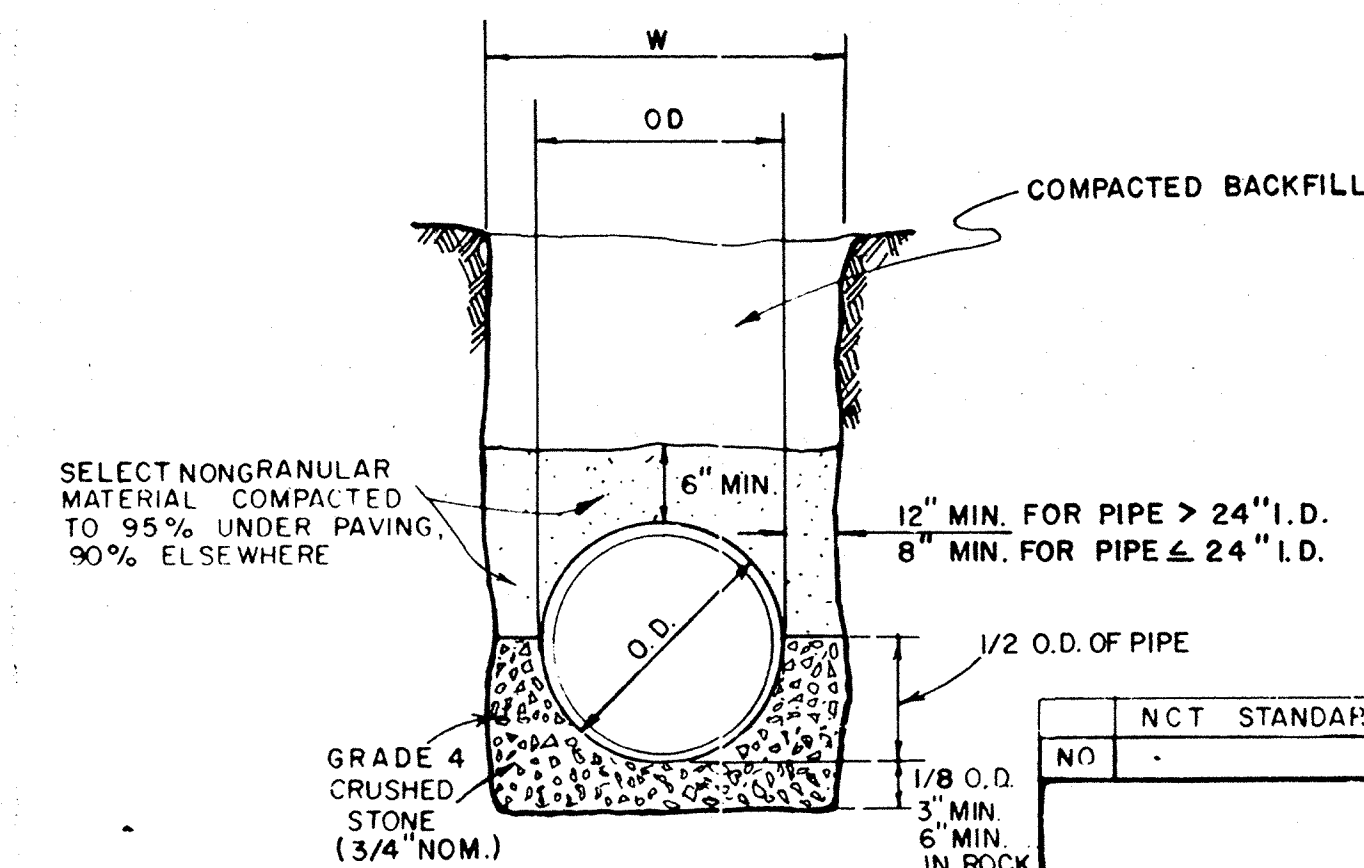
SEE EMBEDMENT FOR TYPE OF PIPE



SEE EMBEDMENT FOR TYPE OF PIPE



DETAIL OF CONCRETE COLLAR FOR PIPE CONNECTIONS



STORM SEWER PIPE BEDDING DETAIL

DEPTH OF TRENCH BELOW PIPE:
3" MIN. FOR 27" PIPE & SMALLER
4" MIN. FOR 30" TO 60" PIPE
6" MIN. FOR 66" PIPE & LARGER

RECORD DRAWINGS

THE INTENT OF THE OWNER AND ENGINEER WAS TO CONSTRUCT THE FACILITIES ACCORDING TO THESE PLANS, AS APPROVED BY THE CITY OF LUCAS. THE LINES AND GRADES WERE SET ON THE GROUND FOR CONSTRUCTION ACCORDING TO SAID PLANS. THE CITY OF LUCAS INSPECTED THE CONSTRUCTION. THE OWNER OR ENGINEER DID NOT VERIFY LINES OR GRADES AFTER CONSTRUCTION. WE ARE NOT AWARE OF ANY CHANGES OR REVISIONS TO THESE PLANS DURING CONSTRUCTION EXCEPT AS NOTED

SHEET
11

NCT STANDARD SPECIFICATIONS		S.A.S.	10-15-87
NO	REVISION	BY	DATE
PUBLIC WORKS DEPARTMENT OF ENGINEERING STANDARD CONSTRUCTION DETAILS STORM DRAINAGE MANHOLES & STORM SEWER			
APPROVED _____		SHEET SD-8	
DATE: JULY, 1996			

TABLE OF DIMENSIONS AND QUANTITIES FOR TWO TYPE B HEADWALLS

SHE
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Rev Jan '59

RECORD DRAWINGS

THE INTENT OF THE OWNER AND ENGINEER WAS TO CONSTRUCT THE FACILITIES-----
ACCORDING TO THESE PLANS AS APPROVED BY THE CITY OF LUCAS. THE LINES AND
GRADES WERE SET ON THE GROUND FOR CONSTRUCTION ACCORDING TO SAID PLANS.
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STD-15