

Oaks North Drive - 100-Year Frequency Hydraulic Calculations

| FROM | TO | PIPE LENGTH FT | DRAINAGE AREA | | | RUNOFF "C" | INC. Ca | TOTAL CA | TIME OF CONCENTRATION | | | 100-YEAR INTENSITIES IN/HR | Q ₁₀₀ RUNOFF CFS | PIPE SIZE IN | Sf ft/ft | HGL | | V1 (IN) FPS | V2 (OUT) FPS | Jump Calculation | DESIGN HGL | INVERT ELEV. | | T/C OR RIM ELEV | REMARKS |
|-------------------------|----------|----------------|----------------------|----------|---------------|------------|----------|----------|-----------------------|-----------------|----------------|----------------------------|-----------------------------|--------------|-----------|-----------|-----------|-------------|--------------|------------------|------------|--------------|-----------|-----------------|----------------------------|
| | | | INCREMENTAL AREA NO. | AREA AC | TOTAL AREA AC | | | | INLET TIME MIN | TRAVEL TIME MIN | TOTAL TIME MIN | | | | | D/S ELEV | U/S ELEV | | | | | FROM | TO | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | |
| SD LINE A | | | | | | | | | | | | | | | | | | | | | | | | | |
| 19+34.57 | 19+54.05 | 19.48 | A-1 | 1.24 | 1.24 | 0.60 | 0.75 | 0.75 | 15.00 | 0.13 | 15.13 | 7.99 | 5.96 | 21 | 0.0014 | 600.53 | 601.75 | 0.00 | 2.48 | 0.12 | 601.75 | 598.78 | 600.00 | 605.00 | INLET A-1 |
| 18+51.36 | 19+34.57 | 83.21 | | | 1.24 | | 0.00 | 0.75 | 15.13 | 0.56 | 15.69 | 7.99 | 5.96 | 21 | 0.0014 | 595.12 | 600.53 | 2.48 | 2.48 | 0.07 | 600.53 | 593.37 | 598.78 | - | 4'x4' SD MH |
| 18+43.47 | 18+51.36 | 7.89 | | | 1.24 | | 0.00 | 0.75 | 15.69 | 0.05 | 15.74 | 7.99 | 5.96 | 21 | 0.0014 | 594.60 | 595.12 | 2.48 | 2.48 | 0.05 | 595.12 | 592.85 | 593.37 | - | CONDUIT ON CURVE |
| 18+00.00 | 18+43.47 | 43.47 | A-2 | 1.51 | 2.75 | 0.60 | 0.91 | 1.65 | 15.74 | 0.13 | 15.88 | 7.99 | 13.20 | 21 | 0.0069 | 591.78 | 594.60 | 2.48 | 5.49 | 0.43 | 594.60 | 590.03 | 592.85 | - | 60D WYE, LAT A-2 |
| 17+43.73 | 18+00.00 | 56.27 | | | 2.75 | | 0.00 | 1.65 | 15.88 | 0.17 | 16.05 | 7.99 | 13.20 | 21 | 0.0069 | 590.99 | 591.78 | 5.49 | 5.49 | 0.00 | 591.78 | 589.24 | 590.03 | - | GRADE BREAK |
| 17+03.64 | 17+43.73 | 40.09 | A-5 | 0.98 | 3.73 | 0.60 | 0.59 | 2.24 | 16.05 | 0.09 | 16.14 | 7.78 | 17.43 | 21 | 0.0121 | 590.43 | 590.99 | 5.49 | 7.25 | 0.61 | 590.99 | 588.68 | 589.24 | - | 60D WYE, LAT A-5 |
| 14+95.69 | 17+03.64 | 207.95 | A-6 | 0.16 | 3.89 | 0.60 | 0.10 | 2.34 | 16.14 | 0.46 | 16.60 | 7.78 | 18.17 | 21 | 0.0132 | 587.52 | 590.43 | 7.25 | 7.56 | 0.54 | 590.43 | 585.77 | 588.68 | - | 60D WYE, LAT A-6 |
| 13+80.00 | 14+95.69 | 115.69 | | | 3.89 | | 0.00 | 2.34 | 16.60 | 0.26 | 16.85 | 7.78 | 18.17 | 21 | 0.0132 | 582.89 | 587.52 | 7.56 | 7.56 | 0.38 | 587.52 | 581.14 | 585.77 | - | 4'x4' SD MH |
| 12+74.67 | 13+80.00 | 105.33 | | | 3.89 | | 0.00 | 2.34 | 16.85 | 0.23 | 17.08 | 7.78 | 18.17 | 21 | 0.0132 | 575.52 | 582.89 | 7.56 | 7.56 | 0.00 | 582.89 | 573.77 | 581.14 | - | GRADE BREAK |
| 12+62.25 | 12+74.67 | 12.42 | | | 3.89 | | 0.00 | 2.34 | 17.08 | 0.03 | 17.11 | 7.58 | 17.71 | 21 | 0.0125 | 574.65 | 575.52 | 7.56 | 7.36 | 0.36 | 575.52 | 572.90 | 573.77 | - | CONDUIT ON CURVE |
| 12+58.25 | 12+62.25 | 4.00 | | | 3.89 | | 0.00 | 2.34 | 17.11 | 0.01 | 17.12 | 7.58 | 17.71 | 24 | 0.0061 | 574.44 | 574.65 | 7.36 | 5.64 | 0.08 | 574.65 | 572.44 | 572.65 | - | Begin 21" RCP, End 24" RCP |
| 10+90.00 | 12+58.25 | 168.25 | A-7 | 2.97 | 6.87 | 0.60 | 1.78 | 4.12 | 17.12 | 0.28 | 17.41 | 7.58 | 31.23 | 24 | 0.0191 | 569.96 | 574.44 | 5.64 | 9.94 | 1.32 | 574.44 | 563.60 | 572.44 | - | 60D WYE, LAT A-7 |
| 9+95.69 | 10+90.00 | 94.31 | | | 6.87 | | 0.00 | 4.12 | 17.41 | 0.16 | 17.56 | 7.58 | 31.23 | 24 | 0.0191 | 568.06 | 569.96 | 9.94 | 9.94 | 0.00 | 569.96 | 561.86 | 563.60 | - | GRADE BREAK |
| OUTFALL, 4 - 8'x4' RCBs | | | | | | | | | | | | | | | | | | | | | | | | | |
| LAT A-2 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0+00.00 | 0+09.15 | 9.15 | A-2 | 1.51 | 1.51 | 0.60 | 0.91 | 0.91 | 15.00 | 0.04 | 15.04 | 7.99 | 7.23 | 18 | 0.0047 | 594.60 | 594.90 | 0.00 | 4.09 | 0.33 | 594.90 | 592.98 | 593.40 | 598.40 | INLET A-2 |
| CONNECT TO SD LINE A | | | | | | | | | | | | | | | | | | | | | | | | | |
| LAT A-5 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0+00.00 | 0+08.56 | 8.56 | A-5 | 0.98 | 0.98 | 0.60 | 0.59 | 0.59 | 15.00 | 0.05 | 15.05 | 7.99 | 4.70 | 18 | 0.0020 | 590.99 | 591.01 | 0.00 | 2.66 | 0.14 | 591.15 | 589.37 | 589.50 | 594.50 | INLET A-5 |
| CONNECT TO SD LINE A | | | | | | | | | | | | | | | | | | | | | | | | | |
| LAT A-6 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0+00.00 | 0+22.70 | 22.70 | A-6 | 0.16 | 0.16 | 0.60 | 0.10 | 0.10 | 15.00 | 0.87 | 15.87 | 7.99 | 0.77 | 18 | 0.0001 | 590.43 | 590.70 | 0.00 | 0.43 | 0.00 | 590.70 | 588.80 | 589.20 | 594.20 | INLET A-6 |
| CONNECT TO SD LINE A | | | | | | | | | | | | | | | | | | | | | | | | | |
| LAT A-7 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0+00.00 | 0+03.77 | 3.77 | A-7 | 2.97 | 2.97 | 0.60 | 1.78 | 1.78 | 15.00 | 0.01 | 15.01 | 7.99 | 14.24 | 18 | 0.0184 | 574.44 | 575.60 | 0.00 | 8.06 | 1.26 | 575.60 | 572.69 | 574.10 | 579.60 | INLET A-7 |
| CONNECT TO SD LINE A | | | | | | | | | | | | | | | | | | | | | | | | | |

RECORD DRAWINGS

THE INTENT OF THE OWNER AND ENGINEER WAS TO CONSTRUCT THE FACILITIES ACCORDING TO THESE PLANS AS APPROVED BY THE TOWN OF ADDISON. THE OWNER OR ENGINEER DID NOT VERIFY LINES OR GRADES AFTER CONSTRUCTION AND IS NOT AWARE OF ANY CHANGES OR REVISIONS TO THESE PLANS DURING CONSTRUCTION EXCEPT AS NOTED BASED ON INFORMATION PROVIDED BY: JOE FUNK CONSTRUCTION, INC. 11226 INDIAN TRAIL DALLAS, TX 75229



Nov 07, 2019

| REVISIONS | | | |
|-----------|------|-------------|----|
| REV NO. | DATE | DESCRIPTION | BY |
| 1 | | | |
| 2 | | | |



CRIADO 4100 SPRING VALLEY ROAD, SUITE 1001
DALLAS, TX 75244
O: 972-392-9092 F: 972-392-9192
FIRM NO. F-4373

HYDRAULIC CALCULATIONS (SHEET 1 OF 1)
OAKS NORTH DRIVE DRAINAGE IMPROVEMENTS
TOWN OF ADDISON, TEXAS

| DESIGN | DRAWN | DATE | SCALE | NOTES | FILE | NO. |
|--------|--------|----------|----------|-----------|----------|-----|
| CRIADO | CRIADO | NOV 2019 | AS SHOWN | R14285.01 | CALCS-02 | 11 |

DATE: 11/18/2020 TIME: 12:06:57 PM FILE NAME: N:\PROJECTS\14285.00_A Addison_2017 Various Projects\R14285.01_White Rock Drainage\07_DGN\076_Sheet1428501_CALCOS_02.dgn