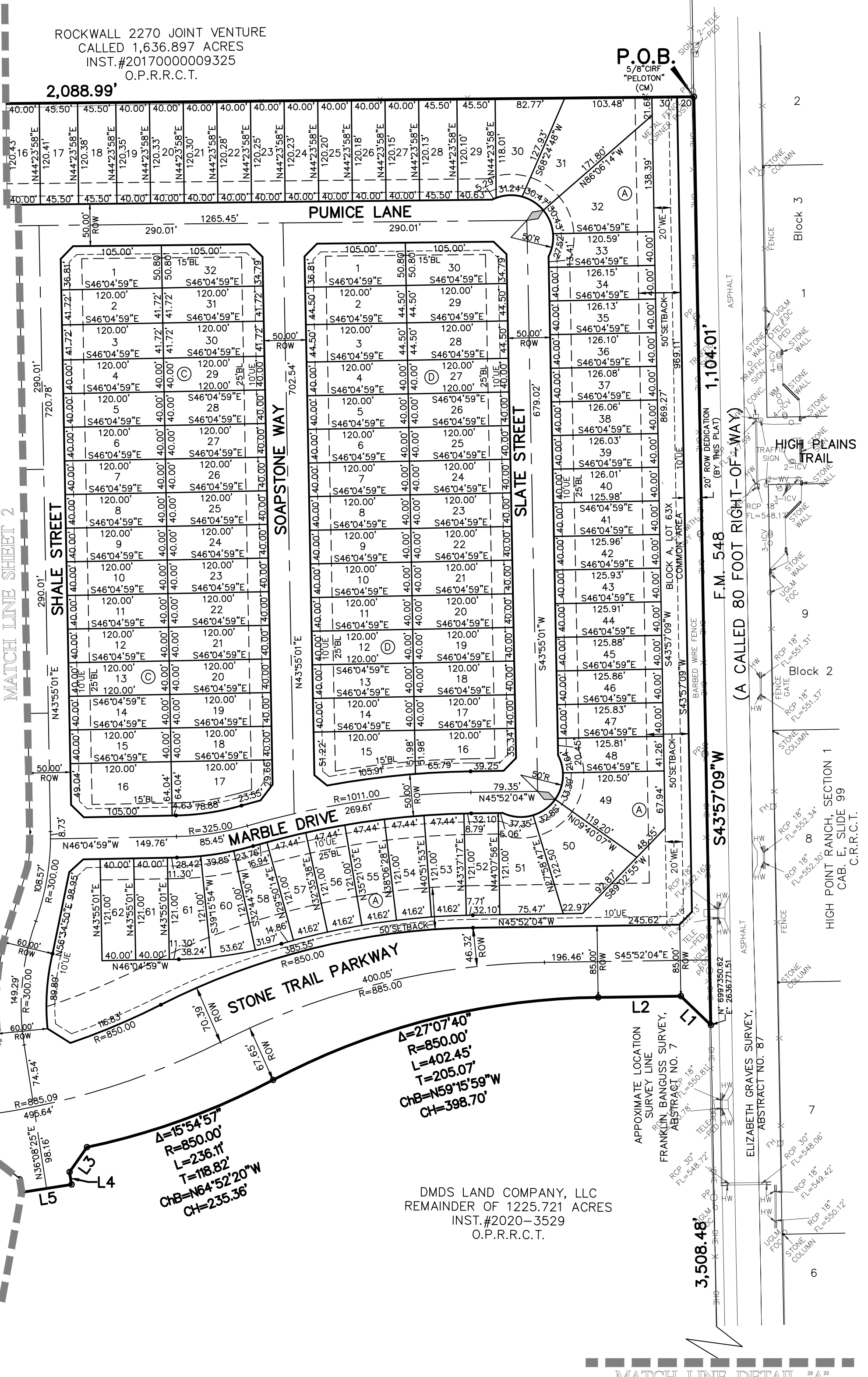


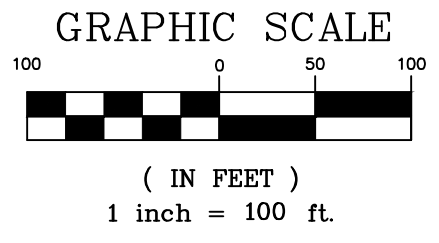
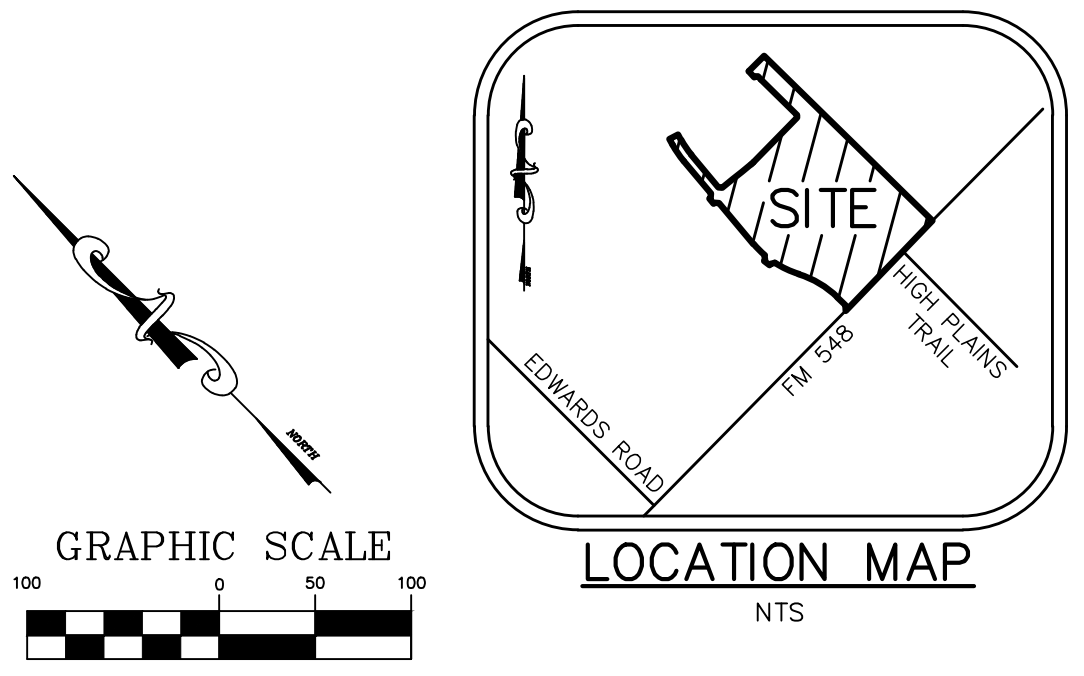
ROCKWALL 2270 JOINT VENTURE
 CALLED 1,636.897 ACRES
 INST.#2017000009325
 O.P.R.R.C.T.

2,088.99'

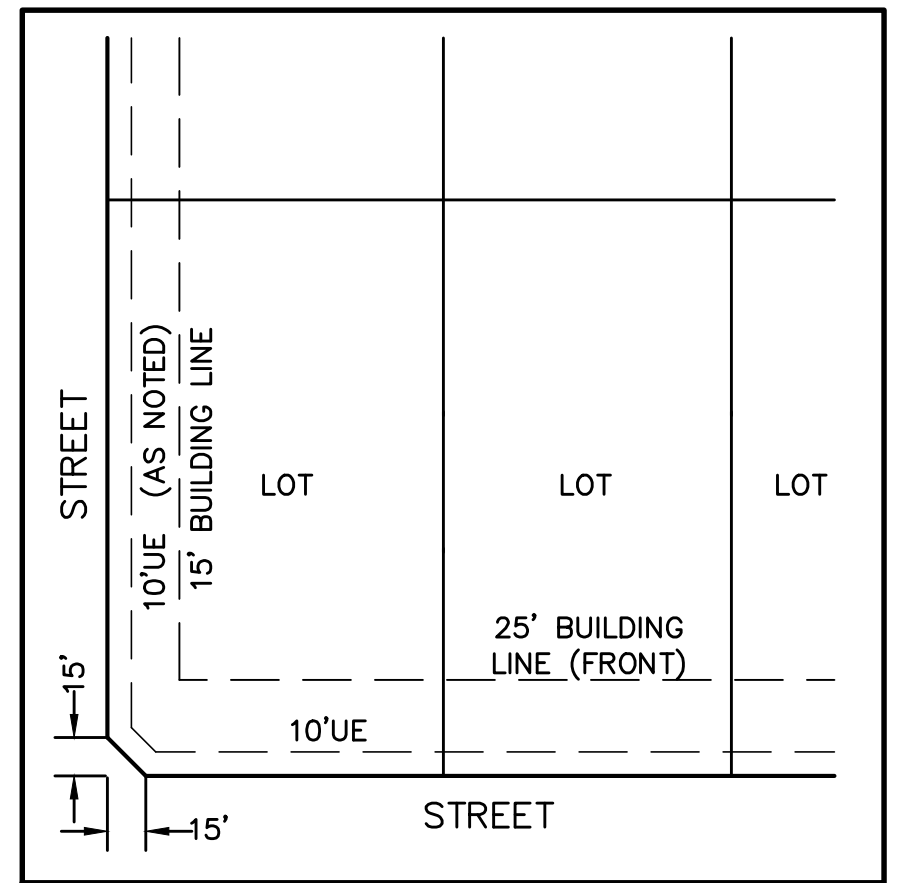
P.O.B.



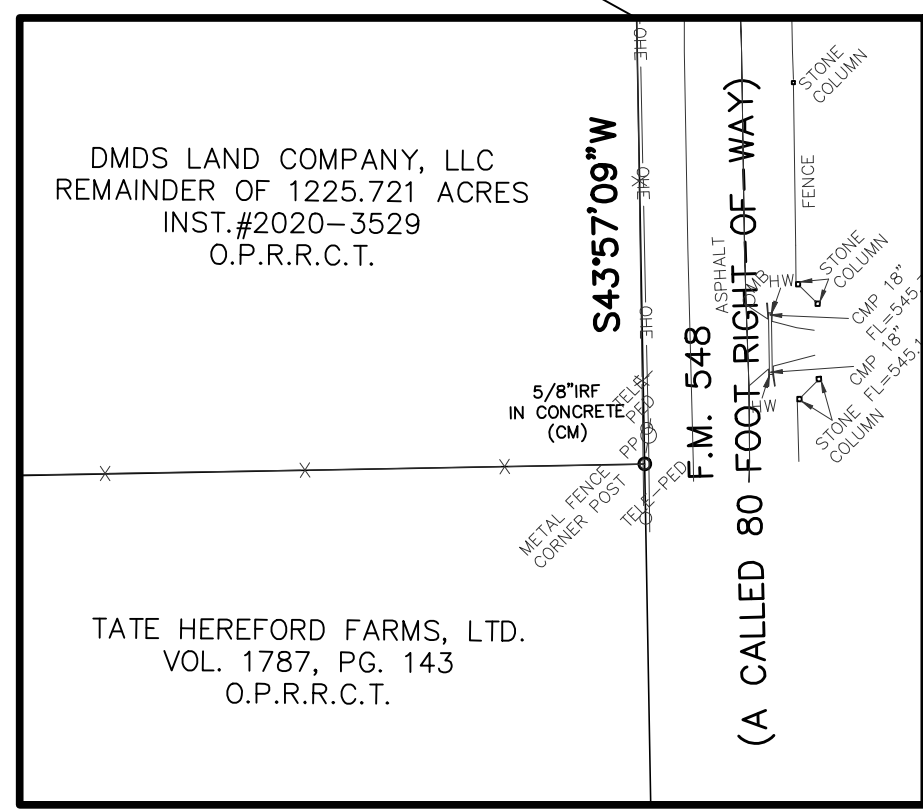
| LINE TABLE | | | LINE TABLE | | | LINE TABLE | | |
|------------|-------------|--------|------------|-------------|---------|------------|-------------|--------|
| NO. | BEARING | LENGTH | NO. | BEARING | LENGTH | NO. | BEARING | LENGTH |
| L1 | N00°57'27"W | 49.58' | L15 | S28°40'31"E | 56.43' | L29 | S45°35'58"E | 15.27' |
| L2 | N45°52'04"W | 98.41' | L16 | S84°55'00"E | 35.36' | L30 | N89°23'58"E | 21.21' |
| L3 | S80°02'03"W | 36.03' | L17 | N50°05'00"E | 34.48' | L31 | N00°36'02"W | 21.21' |
| L4 | S36°08'25"W | 15.00' | L18 | N02°14'29"E | 20.14' | L32 | N45°36'02"W | 15.00' |
| L5 | N53°51'35"W | 60.00' | L19 | N45°36'02"W | 15.00' | L33 | N44°23'58"E | 50.00' |
| L6 | N36°08'25"E | 15.68' | L20 | N44°23'58"E | 50.00' | L34 | S45°36'02"E | 15.00' |
| L7 | N07°06'01"W | 36.42' | L21 | S45°36'02"E | 19.98' | L35 | N89°23'58"E | 21.21' |
| L8 | N84°55'00"W | 35.36' | L22 | S87°45'31"E | 22.24' | L36 | N00°36'02"W | 21.21' |
| L9 | S50°05'00"W | 15.00' | L23 | N50°05'00"E | 5.97' | L37 | S89°23'58"W | 21.21' |
| L10 | N39°55'00"W | 60.00' | L24 | N52°56'45"E | 100.12' | L38 | S44°23'58"W | 15.00' |
| L11 | N50°05'00"E | 15.00' | L25 | N50°05'00"E | 105.68' | L39 | N45°36'02"W | 50.00' |
| L12 | N05°05'00"E | 35.36' | L26 | N01°28'21"E | 20.43' | | | |
| L13 | N28°40'31"W | 56.48' | L27 | N45°36'02"W | 15.00' | | | |
| L14 | N61°21'33"E | 85.00' | L28 | N44°23'58"E | 50.00' | | | |



- LEGEND**
- POB POINT OF BEGINNING
 - (CM) CONTROL MONUMENT
 - CIRF CAPPED IRON ROD FOUND
 - CIRS CAPPED IRON ROD SET
 - ROW RIGHT-OF-WAY
 - F.M. FARMERS MARKET
 - R RADIUS
 - BL BUILDING LINE
 - UE UTILITY EASEMENT
 - WE WATER EASEMENT
 - F.M. FARM-TO-MARKET ROAD
 - PP POWER POLE
 - TP TELEPHONE PEDESTAL
 - UGLM UNDERGROUND LINE MARKER
 - FH FIRE HYDRANT
 - OHE OVERHEAD ELECTRIC
 - O.P.R.R.C.T. OFFICIAL PUBLIC RECORDS
 - ROCKWALL COUNTY, TEXAS
 - STREET NAME CHANGE INDICATOR



TYPICAL LOT EASEMENT DETAIL



PRELIMINARY PLAT
RIVER ROCK TRAILS, PHASE 1A
 BLOCK A, LOTS 1-62, 63X; BLOCK B, LOTS 1-30;
 BLOCK C, LOTS 1-32; BLOCK D, LOTS 1-30;
 BLOCK E, LOTS 1-30; BLOCK F, LOTS 1-24, 25-26X;
 AND BLOCK G, LOTS 1-14

222 TOTAL RESIDENTIAL LOTS
 2 OPEN SPACES LOTS
 1 AMENITY CENTER
PART OF RIVER ROCK TRAILS
MUNICIPAL UTILITY DISTRICT No. 1
 44.752 ACRES OUT OF THE
 FRANKLIN BANGUSS SURVEY, ABSTRACT NO. 7;
 ROCKWALL COUNTY, TEXAS

D.R. HORTON-TEXAS, LTD. OWNER/DEVELOPER

4306 Miller Road, Suite A (214) 607-4244
 Rowlett, Texas 75088
 Contact: David L. Booth

JBI PARTNERS, INC. SURVEYOR/ENGINEER

2121 Midway Road, Suite 300 (972) 248-7676
 Carrollton, Texas 75006
 Contact: Joshua Luke, P.E.
 TBPE No. F-438 TBPLS No. 10076000

| LOT AREA TABLE | | | LOT AREA TABLE | | | LOT AREA TABLE | | | LOT AREA TABLE | | | LOT AREA TABLE | | | LOT AREA TABLE | | |
|----------------|-------------|-------|----------------|-------------|-------|----------------|-------------|-------|----------------|-------------|-------|----------------|-------------|-------|----------------|-------------|-------|
| BLOCK-LOT | SQUARE FEET | ACRES | BLOCK-LOT | SQUARE FEET | ACRES | BLOCK-LOT | SQUARE FEET | ACRES | BLOCK-LOT | SQUARE FEET | ACRES | BLOCK-LOT | SQUARE FEET | ACRES | BLOCK-LOT | SQUARE FEET | ACRES |
| A-1 | 5,960 | 0.137 | A-39 | 5,041 | 0.116 | B-14 | 4,800 | 0.110 | C-22 | 4,800 | 0.110 | D-30 | 5,923 | 0.136 | F-6 | 4,800 | 0.110 |
| A-2 | 5,556 | 0.128 | A-40 | 5,040 | 0.116 | B-15 | 5,923 | 0.136 | C-23 | 4,800 | 0.110 | D-45 | 5,340 | 0.123 | F-7 | 4,800 | 0.110 |
| A-3 | 5,554 | 0.128 | A-41 | 5,039 | 0.116 | B-16 | 6,044 | 0.139 | C-24 | 4,800 | 0.110 | D-56 | 5,340 | 0.123 | F-8 | 4,800 | 0.110 |
| A-4 | 4,829 | 0.111 | A-42 | 5,038 | 0.116 | B-17 | 4,800 | 0.110 | C-25 | 4,800 | 0.110 | E-1 | 6,643 | 0.152 | F-9 | 4,800 | 0.110 |
| A-5 | 4,828 | 0.111 | A-43 | 5,037 | 0.116 | B-18 | 4,800 | 0.110 | C-26 | 4,800 | 0.110 | E-2 | 5,520 | 0.127 | F-10 | 4,800 | 0.110 |
| A-6 | 4,827 | 0.111 | A-44 | 5,036 | 0.116 | B-19 | 4,800 | 0.110 | C-27 | 4,800 | 0.110 | E-3 | 5,520 | 0.127 | F-11 | 4,800 | 0.110 |
| A-7 | 4,826 | 0.111 | A-45 | 5,035 | 0.116 | B-20 | 4,800 | 0.110 | C-28 | 4,800 | 0.110 | E-4 | 4,800 | 0.110 | F-12 | 4,800 | 0.110 |
| A-8 | 4,825 | 0.111 | A-46 | 5,034 | 0.116 | B-21 | 4,800 | 0.110 | C-29 | 4,800 | 0.110 | E-5 | 4,800 | 0.110 | F-13 | 4,800 | 0.110 |
| A-9 | 4,824 | 0.111 | A-47 | 5,033 | 0.116 | B-22 | 4,800 | 0.110 | C-30 | 5,007 | 0.115 | E-6 | 4,800 | 0.110 | F-14 | 4,800 | 0.110 |
| A-10 | 4,823 | 0.111 | A-48 | 5,118 | 0.118 | B-23 | 4,800 | 0.110 | C-31 | 5,007 | 0.115 | E-7 | 4,800 | 0.110 | F-15 | 6,715 | 0.154 |
| A-11 | 4,822 | 0.111 | A-49 | 9,097 | 0.209 | B-24 | 4,800 | 0.110 | C-32 | 5,923 | 0.136 | E-8 | 4,800 | 0.110 | F-16 | 8,041 | 0.185 |
| A-12 | 4,821 | 0.111 | A-50 | 8,848 | 0.203 | B-25 | 4,800 | 0.110 | D-1 | 6,044 | 0.139 | E-9 | 4,800 | 0.110 | F-17 | 5,460 | 0.125 |
| A-13 | 4,820 | 0.111 | A-51 | 6,868 | 0.158 | B-26 | 4,800 | 0.110 | D-3 | 5,340 | 0.123 | E-10 | 4,800 | 0.110 | F-18 | 5,460 | 0.125 |
| A-14 | 4,819 | 0.111 | A-52 | 4,882 | 0.112 | B-27 | 4,800 | 0.110 | D-4 | 4,800 | 0.110 | E-11 | 4,800 | 0.110 | F-19 | 4,800 | 0.110 |
| A-15 | 4,818 | 0.111 | A-53 | 5,388 | 0.124 | B-28 | 5,751 | 0.132 | D-5 | 4,800 | 0.110 | E-12 | 4,800 | 0.110 | F-20 | 4,800 | 0.110 |
| A-16 | 4,817 | 0.111 | A-54 | 5,388 | 0.124 | B-29 | 5,751 | 0.132 | D-6 | 4,800 | 0.110 | E-13 | 4,800 | 0.110 | F-21 | 4,800 | 0.110 |
| A-17 | 5,478 | 0.126 | A-55 | 5,388 | 0.124 | B-30 | 5,888 | 0.135 | D-7 | 4,800 | 0.110 | E-14 | 4,800 | 0.110 | F-22 | 4,800 | 0.110 |
| A-18 | 5,477 | 0.126 | A-56 | 5,388 | 0.124 | C-1 | 6,044 | 0.139 | D-8 | 4,800 | 0.110 | E-15 | 5,923 | 0.136 | F-23 | 4,866 | 0.112 |
| A-19 | 4,814 | 0.111 | A-57 | 5,388 | 0.124 | C-2 | 5,007 | 0.115 | D-9 | 4,800 | 0.110 | E-16 | 6,044 | 0.139 | F-24 | 6,036 | 0.139 |
| A-20 | 4,813 | 0.110 | A-58 | 5,295 | 0.122 | C-3 | 5,007 | 0.115 | D-10 | 4,800 | 0.110 | E-17 | 4,800 | 0.110 | F-25X | 65,232 | 1.498 |
| A-21 | 4,812 | 0.110 | A-59 | 5,655 | 0.130 | C-4 | 4,800 | 0.110 | D-11 | 4,800 | 0.110 | E-18 | 4,800 | 0.110 | F-26X | 34,785 | 0.799 |
| A-22 | 4,811 | 0.110 | A-60 | 5,400 | 0.124 | C-5 | 4,800 | 0.110 | D-12 | 4,800 | 0.110 | E-19 | 4,800 | 0.110 | G-1 | 6,414 | 0.147 |
| A-23 | 4,810 | 0.110 | A-61 | 4,840 | 0.111 | C-6 | 4,800 | 0.110 | D-13 | 4,800 | 0.110 | E-20 | 4,800 | 0.110 | G-2 | 4,836 | 0.111 |
| A-24 | 4,809 | 0.110 | A-62 | 4,840 | 0.111 | C-7 | 4,800 | 0.110 | D-14 | 4,800 | 0.110 | E-21 | 4,800 | 0.110 | G-3 | 4,837 | 0.111 |
| A-25 | 4,808 | 0.110 | A-63X | 61,720 | 1.417 | C-8 | 4,800 | 0.110 | D-15 | 6,839 | 0.157 | E-22 | 4,800 | 0.110 | G-4 | 4,838 | 0.111 |
| A-26 | 4,807 | 0.110 | B-1 | 5,888 | 0.135 | C-9 | 4,800 | 0.110 | D-16 | 5,948 | 0.137 | E-23 | 4,800 | 0.110 | G-5 | 4,839 | 0.111 |
| A-27 | 4,806 | 0.110 | B-2 | 5,751 | 0.132 | C-10 | 4,800 | 0.110 | D-17 | 4,800 | 0.110 | E-24 | 4,800 | 0.110 | G-6 | 4,840 | 0.111 |
| A-28 | 5,465 | 0.125 | B-3 | 5,751 | 0.132 | C-11 | 4,800 | 0.110 | D-18 | 4,800 | 0.110 | E-25 | 4,800 | 0.110 | G-7 | 4,841 | 0.111 |
| A-29 | 5,459 | 0.125 | B-4 | 4,800 | 0.110 | C-12 | 4,800 | 0.110 | D-19 | 4,800 | 0.110 | E-26 | 4,800 | 0.110 | G-8 | 4,842 | 0.111 |
| A-30 | 6,600 | 0.152 | B-5 | 4,800 | 0.110 | C-13 | 4,800 | 0.110 | D-20 | 4,800 | 0.110 | E-27 | 4,800 | 0.110 | G-9 | 4,843 | 0.111 |
| A-31 | 10,171 | 0.234 | B-6 | 4,800 | 0.110 | C-14 | 4,800 | 0.110 | D-21 | 4,800 | 0.110 | E-28 | 5,520 | 0.127 | G-10 | 5,508 | 0.126 |
| A-32 | 10,736 | 0.246 | B-7 | 4,800 | 0.110 | C-15 | 4,800 | 0.110 | D-22 | 4,800 | 0.110 | E-29 | 5,520 | 0.127 | G-11 | 5,509 | 0.126 |
| A-33 | 4,938 | 0.113 | B-8 | 4,800 | 0.110 | C-16 | 7,572 | 0.174 | D-23 | 4,800 | 0.110 | E-30 | 6,643 | 0.152 | G-12 | 4,846 | 0.111 |
| A-34 | 5,046 | 0.116 | B-9 | 4,800 | 0.110 | C-17 | 6,745 | 0.155 | D-24 | 4,800 | 0.110 | F-1 | 6,939 | 0.159 | G-13 | 4,847 | 0.111 |
| A-35 | 5,045 | 0.116 | B-10 | 4,800 | 0.110 | C-18 | 4,800 | 0.110 | D-25 | 4,800 | 0.110 | F-2 | 5,460 | 0.125 | G-14 | 6,485 | 0.149 |
| A-36 | 5,044 | 0.116 | B-11 | 4,800 | 0.110 | C-19 | 4,800 | 0.110 | D-26 | 4,800 | 0.110 | F-3 | 5,460 | 0.125 | | | |
| A-37 | 5,043 | 0.116 | B-12 | 4,800 | 0.110 | C-20 | 4,800 | 0.110 | D-27 | 4,800 | 0.110 | F-4 | 4,800 | 0.110 | | | |
| A-38 | 5,042 | 0.116 | B-13 | 4,800 | 0.110 | C-21 | 4,800 | 0.110 | D-28 | 5,340 | 0.123 | F-5 | 4,800 | 0.110 | | | |

NOTES:

- BASIS OF BEARING: THE BASIS OF BEARING IS BASED ON THE COORDINATE SYSTEM (NORTH CENTRAL ZONE 4202 STATE PLANE COORDINATES, NAD83), DISTANCES SHOWN HERON ARE SURFACE DISTANCE VALUES WITH A SCALE FACTOR OF GRID TO SURFACE OF 1.00014416.
- ALL CORNERS SET ARE 1/2 INCH IRON RODS WITH PLASTIC CAP STAMPED "JBI" UNLESS OTHERWISE NOTED.
- WATER SUPPLY SOURCE - WATER SUPPLY WILL BE PROVIDED BY THE CURRENT CCN HOLDER, BLACKLAND WSC. ALL WATER SUPPLY SHALL BE PROVIDED IN ACCORDANCE WITH TCEQ REQUIREMENTS.
- WASTEWATER TREATMENT SOURCE - WASTEWATER TREATMENT WILL BE PROVIDED BY RIVER ROCK TRAILS MUNICIPAL UTILITY DISTRICT NO. 1, IN WHICH THIS PROPERTY LIES. ALL WASTEWATER TREATMENT SHALL BE PROVIDED IN ACCORDANCE WITH TCEQ REQUIREMENTS.
- FLOOD STATEMENT: ACCORDING TO COMMUNITY PANEL NO. 48397C0130I, DATED SEPTEMBER 26, 2008 OF THE FEDERAL EMERGENCY MANAGEMENT AGENCY, NATIONAL FLOOD INSURANCE MAP, THIS PROPERTY IS WITHIN UNSHADED ZONE "X", (AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN), WHICH IS NOT A SPECIAL FLOOD HAZARD AREA. IF THIS SITE IS NOT WITHIN AN IDENTIFIED SPECIAL FLOOD HAZARD AREA, THIS FLOOD STATEMENT DOES NOT IMPLY THAT THE PROPERTY AND/OR THE STRUCTURES THEREON WILL BE FREE FROM FLOODING OR FLOOD DAMAGE. ON RARE OCCASIONS, GREATER FLOODS CAN AND WILL OCCUR AND FLOOD HEIGHTS MAY BE INCREASED BY MAN-MADE OR NATURAL CAUSES. THIS STATEMENT SHALL NOT CREATE LIABILITY ON THE PART OF THE SURVEYOR.
- BLOCKING THE FLOW OF WATER, CONSTRUCTING IMPROVEMENTS IN DRAINAGE EASEMENTS, AREAS OF NATURAL STREAM FLOW OR AREAS WITH SPECIFIC DRAINAGE DESIGN AND FILLING OR OBSTRUCTION OF THE FLOODWAY IS PROHIBITED.
- ROCKWALL COUNTY WILL NOT BE RESPONSIBLE FOR ANY PROPERTY DAMAGE, PROPERTY LOSS, PERSONAL INJURY OR LASS OF LIFE OR PROPERTY OCCASIONED BY FLOODING OR FLOODING CONDITIONS.
- ALL CULVERTS WITHIN ANY RIGHT-OF-WAY SHALL MEET MINIMUM COUNTY STANDARDS AND REQUIRE COUNTY RIGHT-OF-WAY PERMIT APPROVAL.
- NO ROAD, STREET, OR PUBLIC IMPROVEMENT DEDICATED BY THIS PLAT SHALL BE MAINTAINED BY ROCKWALL COUNTY IN THE ABSENCE OF AN EXPRESS ORDER OF THE COMMISSIONERS COURT, ENTERED OF RECORD IN THE MINUTES OF THE COMMISSIONERS COURT OF ROCKWALL COUNTY, SPECIFICALLY IDENTIFYING ANY SUCH ROAD, STREET, OR PUBLIC IMPROVEMENT AND SPECIFICALLY ACCEPTING SUCH FOR COUNTY MAINTENANCE.
- ALL CUL-DE-SACS, LOCAL STREETS, AND COLLECTOR STREETS SHALL BE MAINTAINED BY RIVER ROCK TRAILS MUNICIPAL UTILITY DISTRICT NO. 1
- EASEMENTS: ANY PUBLIC UTILITY, INCLUDING THE COUNTY, SHALL HAVE THE RIGHT TO REMOVE AND KEEP CLEAR ALL OR PART OF ANY BUILDING, FENCES, TREES, OVERGROWN SHRUBS OR IMPROVEMENTS THAT IN ANY WAY ENDANGER OR INTERFERE WITH THE CONSTRUCTION, MAINTENANCE, OR EFFICIENCY OF ITS RESPECTIVE SYSTEMS ON ANY OF THE EASEMENT OR RIGHT-OF-WAY SHOWN ON THE PLAT (ORFILED BY SEPARATE INSTRUMENT THAT IS ASSOCIATED WITH SAID PROPERTY); AND ANY PUBLIC UTILITY, INCLUDING THE COUNTY, SHALL HAVE THE RIGHT AT ALL TIMES AN INGRESS AND EGRESS TO AND FROM UPON SAID EASEMENTS FOR THE PURPOSE OF CONSTRUCTION, RECONSTRUCTION, INSPECTION, PATROLLING, MAINTAINING AND ADDING TO OR REMOVING ALL OR PART OF IT ITS RESPECTIVE SYSTEMS WITHOUT THE NECESSITY AT ANY TIME OF PROCURING THE PERMISSION OF ANYONE. PROPERTY OWNERS SHALL MAINTAIN EASEMENTS. THE COUNTY CAN REMOVE TREES OR ANY OTHER IMPROVEMENT(S) AND DOES NAT HAVE THE RESPONSIBILITY TO REPLACE THEM.
- THE EXISTING CREEKS OR DRAINING CHANNELS TRAVERSING ALONG OR ACROSS THE SUBDIVIDED TRACTS WILL REMAIN AS OPEN CHANNELS AND WILL BE MAINTAINED BY THE INDIVIDUAL OWNERS OF THE LOT OR THE LOTS THAT ARE TRAVERSED BY OR ADJACENT TO THE DRAINAGE COURSES ALONG OR ACROSS SAID LOTS.

PRELIMINARY PLAT
RIVER ROCK TRAILS, PHASE 1A
BLOCK A, LOTS 1-62, 63X; BLOCK B, LOTS 1-30;
BLOCK C, LOTS 1-32; BLOCK D, LOTS 1-30;
BLOCK E, LOTS 1-30; BLOCK F, LOTS 1-24, 25-26X;
AND BLOCK G, LOTS 1-14

222 TOTAL RESIDENTIAL LOTS
2 OPEN SPACES LOTS
1 AMENITY CENTER
PART OF RIVER ROCK TRAILS
MUNICIPAL UTILITY DISTRICT No. 1
44.752 ACRES OUT OF THE
FRANKLIN BANGUSS SURVEY, ABSTRACT NO. 7;

ROCKWALL COUNTY, TEXAS
D.R. HORTON-TEXAS, LTD. OWNER/DEVELOPER
4306 Miller Road, Suite A (214) 607-4244
Rowlett, Texas 75088
Contact: David L. Booth

JBI PARTNERS, INC. SURVEYOR/ENGINEER
2121 Midway Road, Suite 300 (972) 248-7676
Carrollton, Texas 75006
Contact: Joshua Luke, P.E.
TBPE No. F-438 TBPLS No. 10076000

LEGAL DESCRIPTION
44.752 ACRES

BEING a parcel of land located in Rockwall County, Texas, a part of the Franklin Banguss Survey, Abstract Number 7, and being a part of that called 1,225.721 acre tract of land described in deed to DMDS LAND COMPANY LLC as recorded in Document Number 2020-3529, Official Public Records of Rockwall County, Texas and being further described as follows:

BEGINNING at a 5/8 inch iron rod with cap stamped "Peloton" found at the east corner of said 1,225.721 acre tract, said point being the south corner of that tract of land described in deed to 2270 Joint Venture as recorded in Document Number 2017000009325, Official Public Records of Rockwall County, Texas, said point also being in the northwest right-of-way line of Farm-To-Market 548 (a called 80 foot wide right-of-way);

THENCE South 43 degrees 57 minutes 09 seconds West, 1,104.01 feet along the southeast line of said 1,225.721 acre tract and along the northwest right-of-way line of Farm-To-Market 548 to a one-half inch iron rod with yellow cap stamped "JBI" set for corner, from which said set point bears South 43 degrees 57 minutes 09 seconds West, 3,508.48 feet to a 5/8 inch iron rod in concrete found at the south corner of said 1,225.721 acre tract;

THENCE North 00 degrees 57 minutes 27 seconds West, 49.58 feet to a one-half inch iron rod with yellow cap stamped "JBI" set for corner;

THENCE North 45 degrees 52 minutes 04 seconds West, 98.41 feet to a one-half inch iron rod with yellow cap stamped "JBI" set for corner;

THENCE Northwesterly, 402.45 feet along a curve to the left having a central angle of 27 degrees 07 minutes 40 seconds, a radius of 850.00 feet, a tangent of 205.07 feet, and whose chord bears North 59 degrees 15 minutes 59 seconds West, 398.70 feet to a one-half inch iron rod with yellow cap stamped "JBI" set for corner;

THENCE Northwesterly, 236.11 feet along a curve to the right having a central angle of 15 degrees 54 minutes 57 seconds, a radius of 850.00 feet, a tangent of 118.82 feet, and whose chord bears North 64 degrees 52 minutes 20 seconds West, 235.36 feet to a one-half inch iron rod with yellow cap stamped "JBI" set for corner;

THENCE South 80 degrees 02 minutes 03 seconds West, 36.03 feet to a one-half inch iron rod with yellow cap stamped "JBI" set for corner;

THENCE South 36 degrees 08 minutes 25 seconds West, 15.00 feet to a one-half inch iron rod with yellow cap stamped "JBI" set for corner;
THENCE North 53 degrees 51 minutes 35 seconds West, 60.00 feet to a one-half inch iron rod with yellow cap stamped "JBI" set for corner;

THENCE North 36 degrees 08 minutes 25 seconds East, 15.68 feet to a one-half inch iron rod with yellow cap stamped "JBI" set for corner;

THENCE North 07 degrees 06 minutes 01 seconds West, 36.42 feet to a one-half inch iron rod with yellow cap stamped "JBI" set for corner;

THENCE Northwesterly, 142.15 feet along a curve to the right having a central angle of 09 degrees 34 minutes 54 seconds, a radius of 850.00 feet, a tangent of 71.24 feet, and whose chord bears North 44 degrees 42 minutes 27 seconds West, 141.98 feet to a one-half inch iron rod with yellow cap stamped "JBI" set for corner;

THENCE North 39 degrees 55 minutes 00 seconds West, 472.21 feet to a one-half inch iron rod with yellow cap stamped "JBI" set for corner;

THENCE North 84 degrees 55 minutes 00 seconds West, 35.36 feet to a one-half inch iron rod with yellow cap stamped "JBI" set for corner;

THENCE South 50 degrees 05 minutes 00 seconds West, 15.00 feet to a one-half inch iron rod with yellow cap stamped "JBI" set for corner;

THENCE North 39 degrees 55 minutes 00 seconds West, 60.00 feet to a one-half inch iron rod with yellow cap stamped "JBI" set for corner;

THENCE North 50 degrees 05 minutes 00 seconds East, 15.00 feet to a one-half inch iron rod with yellow cap stamped "JBI" set for corner;

THENCE North 05 degrees 05 minutes 00 seconds East, 35.36 feet to a one-half inch iron rod with yellow cap stamped "JBI" set for corner;

THENCE North 39 degrees 55 minutes 00 seconds West, 373.62 feet to a one-half inch iron rod with yellow cap stamped "JBI" set for corner;

THENCE Northwesterly, 175.11 feet along a curve to the right having a central angle of 11 degrees 14 minutes 29 seconds, a radius of 892.50 feet, a tangent of 87.84 feet, and whose chord bears North 34 degrees 17 minutes 46 seconds West, 174.83 feet to a one-half inch iron rod with yellow cap stamped "JBI" set for corner;

THENCE North 28 degrees 40 minutes 31 seconds West, 56.48 feet to a one-half inch iron rod with yellow cap stamped "JBI" set for corner;

THENCE North 61 degrees 21 minutes 33 seconds East, 85.00 feet to a one-half inch iron rod with yellow cap stamped "JBI" set for corner;

THENCE South 28 degrees 40 minutes 31 seconds East, 56.43 feet to a one-half inch iron rod with yellow cap stamped "JBI" set for corner;

THENCE Southeasterly, 158.43 feet along a curve to the left having a central angle of 11 degrees 14 minutes 29 seconds, a radius of 807.50 feet, a tangent of 79.47 feet, and whose chord bears South 34 degrees 17 minutes 46 seconds East, 158.18 feet to a one-half inch iron rod with yellow cap stamped "JBI" set for corner;

THENCE South 39 degrees 55 minutes 00 seconds East, 373.62 feet to a one-half inch iron rod with yellow cap stamped "JBI" set for corner;

THENCE South 84 degrees 55 minutes 00 seconds East, 35.36 feet to a one-half inch iron rod with yellow cap stamped "JBI" set for corner;

THENCE North 50 degrees 05 minutes 00 seconds East, 34.48 feet to a one-half inch iron rod with yellow cap stamped "JBI" set for corner;

THENCE North 02 degrees 14 minutes 29 seconds East, 20.14 feet to a one-half inch iron rod with yellow cap stamped "JBI" set for corner;

THENCE North 45 degrees 36 minutes 02 seconds West, 15.00 feet to a one-half inch iron rod with yellow cap stamped "JBI" set for corner;

THENCE North 44 degrees 23 minutes 58 seconds East, 50.00 feet to a one-half inch iron rod with yellow cap stamped "JBI" set for corner;

THENCE South 45 degrees 36 minutes 02 seconds East, 19.98 feet to a one-half inch iron rod with yellow cap stamped "JBI" set for corner;

THENCE South 87 degrees 45 minutes 31 seconds East, 22.24 feet to a one-half inch iron rod with yellow cap stamped "JBI" set for corner;

THENCE North 50 degrees 05 minutes 00 seconds East, 5.97 feet to a one-half inch iron rod with yellow cap stamped "JBI" set for corner;

THENCE North 52 degrees 56 minutes 45 seconds East, 100.12 feet to a one-half inch iron rod with yellow cap stamped "JBI" set for corner;

THENCE North 50 degrees 05 minutes 00 seconds East, 105.68 feet to a one-half inch iron rod with yellow cap stamped "JBI" set for corner;

THENCE North 01 degrees 28 minutes 21 seconds East, 20.43 feet to a one-half inch iron rod with yellow cap stamped "JBI" set for corner;

LEGAL DESCRIPTION
44.752 ACRES
(CONTINUED)

THENCE North 45 degrees 36 minutes 02 seconds West, 15.00 feet to a one-half inch iron rod with yellow cap stamped "JBI" set for corner;

THENCE North 44 degrees 23 minutes 58 seconds East, 50.00 feet to a one-half inch iron rod with yellow cap stamped "JBI" set for corner;

THENCE South 45 degrees 35 minutes 58 seconds East, 15.27 feet to a one-half inch iron rod with yellow cap stamped "JBI" set for corner;

THENCE North 89 degrees 23 minutes 58 seconds East, 21.21 feet to a one-half inch iron rod with yellow cap stamped "JBI" set for corner;

THENCE North 44 degrees 23 minutes 58 seconds East, 210.00 feet to a one-half inch iron rod with yellow cap stamped "JBI" set for corner;

THENCE North 00 degrees 36 minutes 02 seconds West, 21.21 feet to a one-half inch iron rod with yellow cap stamped "JBI" set for corner;

THENCE North 45 degrees 36 minutes 02 seconds West, 15.00 feet to a one-half inch iron rod with yellow cap stamped "JBI" set for corner;

THENCE North 49 degrees 23 minutes 58 seconds East, 50.00 feet to a one-half inch iron rod with yellow cap stamped "JBI" set for corner;

THENCE South 45 degrees 36 minutes 02 seconds East, 15.00 feet to a one-half inch iron rod with yellow cap stamped "JBI" set for corner;

THENCE North 89 degrees 23 minutes 58 seconds East, 21.21 feet to a one-half inch iron rod with yellow cap stamped "JBI" set for corner;

THENCE North 44 degrees 23 minutes 58 seconds East, 210.00 feet to a one-half inch iron rod with yellow cap stamped "JBI" set for corner;

THENCE North 00 degrees 36 minutes 02 seconds West, 21.21 feet to a one-half inch iron rod with yellow cap stamped "JBI" set for corner;

THENCE North 45 degrees 36 minutes 02 seconds West, 518.47 feet to a one-half inch iron rod with yellow cap stamped "JBI" set for corner;

THENCE South 89 degrees 23 minutes 58 seconds West, 21.21 feet to a one-half inch iron rod with yellow cap stamped "JBI" set for corner;

THENCE South 44 degrees 23 minutes 58 seconds West, 15.00 feet to a one-half inch iron rod with yellow cap stamped "JBI" set for corner;

THENCE North 45 degrees 36 minutes 02 seconds West, 50.00 feet to a one-half inch iron rod with yellow cap stamped "JBI" set for corner;

THENCE North 44 degrees 23 minutes 58 seconds East, 201.23 feet to a one-half inch iron rod with yellow cap stamped "JBI" set for corner, in the northeast line of said 1,225.721 acre tract, said point also being in the southwest line of said 2270 Joint Venture tract;

THENCE South 45 degrees 33 minutes 54 seconds East, 2,08.99 feet along the northeast line of said 1,225.721 acre tract and the southwest line of said 2270 Joint Venture tract to the POINT OF BEGINNING and containing 1,949,414 square feet or 44.752 acres of land.

BASIS OF BEARING: The Basis of Bearing is based on the coordinate system (North Central Zone 4202 State Plane Coordinates, NAD83), distances shown hereon are surface distance values with a scale factor of grid to surface of 1.00014416.

DEDICATION STATEMENT §

NOW THEREFORE, KNOW ALL MEN BY THESE PRESENTS;

THE D.R. HORTON-TEXAS, LTD acting herein by and through its duly-authorized officers, does hereby adopt this plat designating the herein above described property as **RIVER ROCK TRAILS, PHASE 1A**, an addition to Rockwall County, Texas, and does hereby dedicate, in fee simple, to the public use forever, the streets, alleys, and public use areas shown hereon, and does hereby dedicate the easements shown on the plat for the purposes indicated to the public use forever, said dedications being free and clear of all liens and encumbrances, except as shown herein. The easements shown hereon are hereby reserved for the purposes as indicated.

THE D.R. HORTON-TEXAS, LTD. does hereby bind itself, its successors and assigns to forever warrant and defend, all and singular, the above-described streets, alleys, easements and rights unto the public, against every person whomsoever lawfully claiming or to claim the same or any part thereof.

This plat approved subject to all platting ordinances, rules, regulations and resolutions of Rockwall County, Texas.

WITNESS MY HAND THIS ____ DAY OF _____, 2023.

BY: THE D.R. HORTON-TEXAS, LTD

BY: _____
David L. Booth, an Authorized Agent for D.R. HORTON-TEXAS, LTD

STATE OF TEXAS §

COUNTY OF DALLAS §

BEFORE ME, the undersigned, a Notary Public in and for The State of Texas, on this day personally appeared David L. Booth, known to me to be the person and officer whose name is subscribed to the foregoing instrument, and acknowledged to me that he executed the same for the purposes and considerations therein expressed and in the capacity therein stated.

GIVEN UNDER MY HAND AND SEAL OF OFFICE this the ____ day of _____, 2023.

Notary Public, State of Texas

SURVEYOR'S CERTIFICATE

KNOW ALL MEN BY THESE PRESENTS:

I, Mark W. Harp, Registered Professional Land Surveyor of the State of Texas, do hereby certify that I have prepared this plat from an actual on the ground survey of the land and that the corner monuments shown hereon were properly placed under my personal supervision.

Dated this the ___th day of _____, 2023.

PELIMINARY FOR REVIEW PURPOSES ONLY

Mark W. Harp, R.P.L.S. No. 6425

STATE OF TEXAS §

COUNTY OF DALLAS §

BEFORE ME, the undersigned authority in and for the State of Texas, on this day personally appeared Mark W. Harp, 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 consideration therein expressed and in the capacity therein stated.

GIVEN UNDER MY HAND AND SEAL OF OFFICE this ___th day of _____, 2023.

Notary Public, State of Texas

PRELIMINARY PLAT

RIVER ROCK TRAILS, PHASE 1A

**BLOCK A, LOTS 1-62, 63X; BLOCK B, LOTS 1-30;
BLOCK C, LOTS 1-32; BLOCK D, LOTS 1-30;
BLOCK E, LOTS 1-30; BLOCK F, LOTS 1-24, 25-26X;
AND BLOCK G, LOTS 1-14**

**222 TOTAL RESIDENTIAL LOTS
2 OPEN SPACES LOTS
1 AMENITY CENTER
PART OF RIVER ROCK TRAILS
MUNICIPAL UTILITY DISTRICT No. 1**

**44.752 ACRES OUT OF THE
FRANKLIN BANGUSS SURVEY, ABSTRACT NO. 7;**

ROCKWALL COUNTY, TEXAS

D.R. HORTON-TEXAS, LTD. OWNER/DEVELOPER

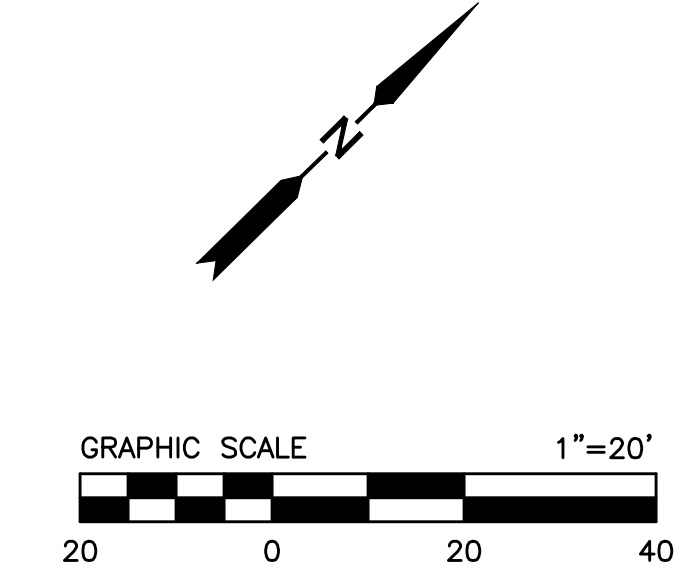
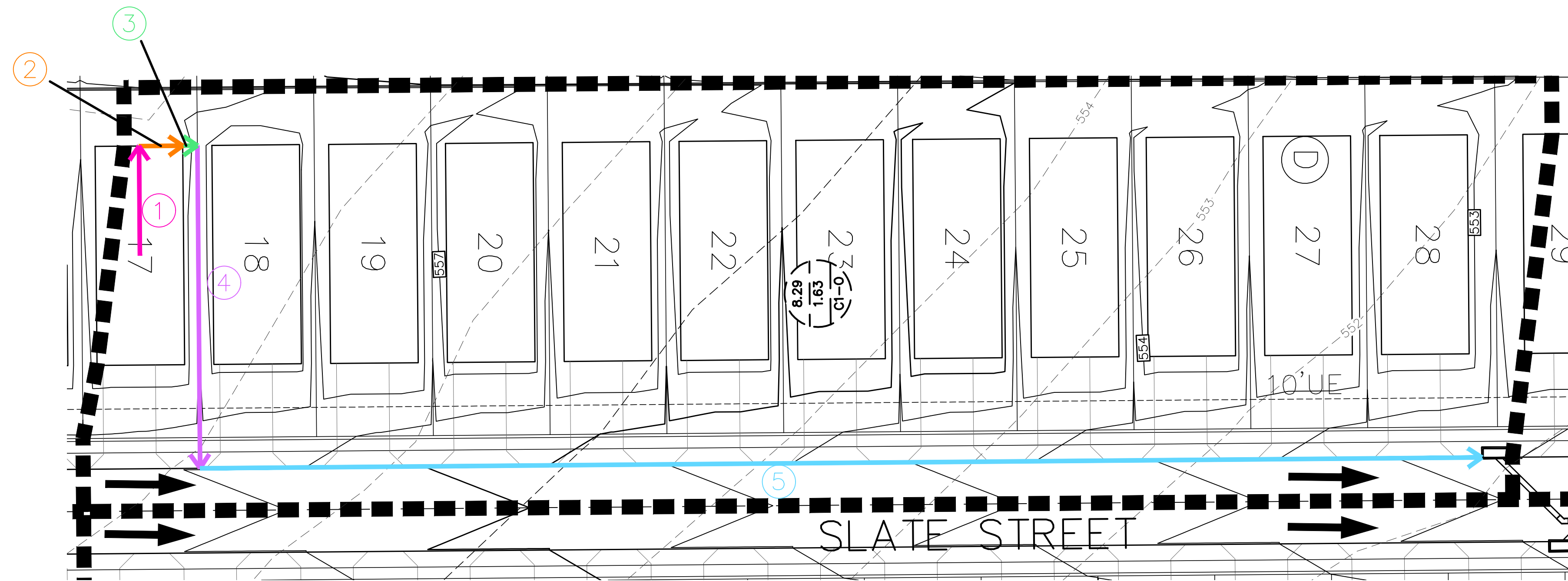
**4306 Miller Road, Suite A (214) 607-4244
Rowlett, Texas 75088
Contact: David L. Booth**

JBI PARTNERS, INC. SURVEYOR/ENGINEER

**2121 Midway Road, Suite 300 (972) 248-7676
Carrollton, Texas 75006
Contact: Joshua Luke, P.E.
TBPE No. F-438 TBPLS No. 10076000**

Date: May 19, 2023

Sheet 4 of 4



① OVERLAND FLOW (ROOF), ASSUMING 8:12 PITCH (66.67%)

$C = 0.95$
 $T_c = 1.8(1.1 - C)(D)^{0.5}/(S)^{1/3}$
 $= 1.8(0.15)(37.5)^{0.5}/(66.67)^{1/3}$
 $T_c = 0.41 \text{ MIN}$

② ROOF GUTTER FLOW, ASSUMING AVERAGE GUTTER SLOPE 1/2"/10' (0.42%)

$C = 1.00$
 $T_c = 1.8(1.1 - 1.00)(15)^{0.5}/(0.42)^{1/3}$
 $T_c = 0.93 \text{ MIN}$

③ OVERLAND FLOW (SIDEYARD), ASSUMING STEEPER SLOPE, CLAY SOIL, STEEP, >7%

$C = 0.35$ $S = 15\% \rightarrow \text{ASSUMPTION}$
 $T_c = 1.8(1.1 - 0.35)(5)^{0.5}/(15)^{1/3}$
 $T_c = 1.22 \text{ MIN}$


④ SHALLOW CONCENTRATED FLOW (SIDEYARD SWALE), $S = 1.00\%$, CLAY SOILS, FLAT, 2%

$V = \frac{1.49}{n} R^{2/3} S^{1/2}$ $n = 0.035$
 $V = 42.57(0.012)^{2/3} (0.01)^{1/2}$ $R = 0.012 \rightarrow \text{ASSUMING } 1/2" \text{ FLOW DEPTH}$
 $V = 0.22 \text{ ft/sec}$ $S = 0.01 \text{ ft/ft}$
 $\text{FLOW TIME} = \frac{110.5 \text{ ft}}{(0.22 \text{ ft/sec} \times 60 \text{ sec/min})}$
 $\text{FLOW TIME} = 8.37 \text{ MIN}$

⑤ SHALLOW CONCENTRATED FLOW (CONCRETE PAVEMENT, GUTTER), $S = 1.20\%$

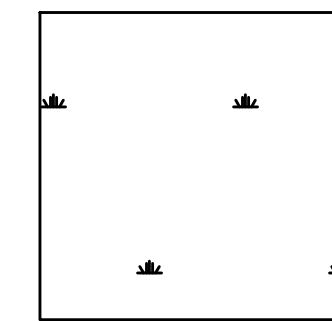
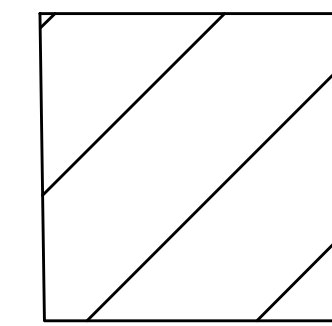
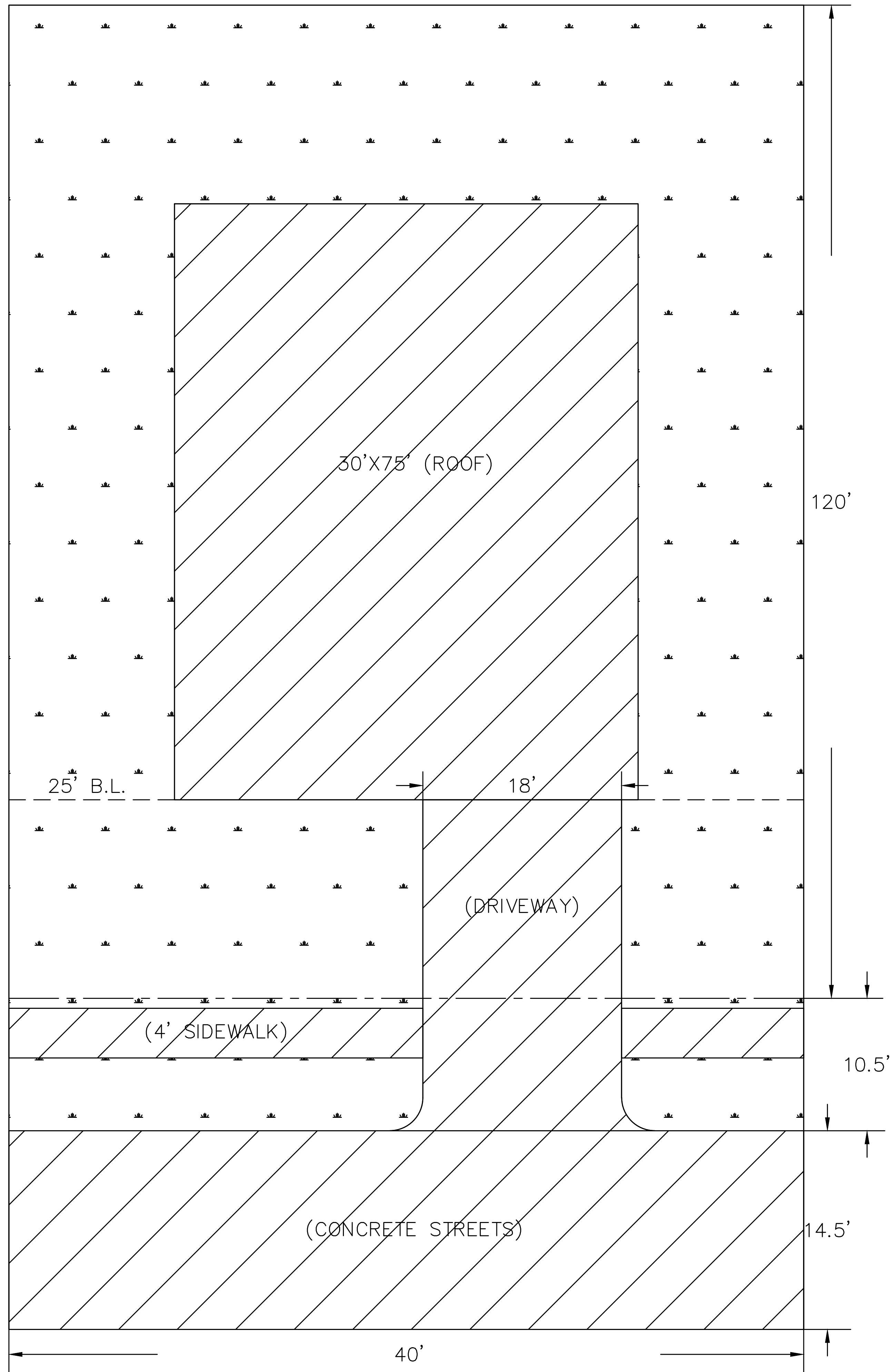
$V = \frac{1.49}{n} R^{2/3} S^{1/2}$ $n = 0.035$
 $V = 114.62(0.02)^{2/3} (0.012)^{1/2}$ $R = 0.02 \rightarrow \text{ASSUMING } 1/2" \text{ FLOW DEPTH}$
 $V = 0.93 \text{ ft/sec}$ $S = 0.012 \text{ ft/ft}$
 $\text{FLOW TIME} = \frac{439.5 \text{ ft}}{(0.93 \text{ ft/sec} \times 60 \text{ sec/min})}$
 $\text{FLOW TIME} = 7.88 \text{ MIN}$

TOTAL $T_c = 18.81 \text{ MIN}$

| | | | |
|---|--|------------------------------------|------------------------------|
|  | 2121 Midway Road Suite 300 Carrollton, Texas 75006 972.248.7676 TBPE No. F-438 TBPLS No. 10076000 | FLOW PATH EXHIBIT | PROJECT NO. HOE341 |
| | | RIVER ROCK TRAILS, PHASE 1A | SHEET NO. 1 OF 1 |
| | | Rockwall County, Texas | |

Drawing: H:\Projects\HOE341-River Rock\Engineering\dwg\Phase 1A\HOE341-A-C-DAMP-JAR EXHIBIT.dwg Saved By: jrodriguez Save Time: 5/19/2023 10:32 AM
 Plotted by: jrodriguez Plot Date: 5/19/2023 10:41 AM

NOT TO SCALE



TOTAL AREA TO C.L. OF STREET: 5800 S.F.

DRIVES, WALKS, ROOFS, & ASPHALT/CONCRETE STREETS: $C = 0.95$
 TOTAL IMPERVIOUS AREA: 3568 S.F. (61.5%)

LAWN: $C = 0.22 \rightarrow$ CLAY SOIL, AVERAGE, 2-7%
 TOTAL PERVIOUS AREA: 2,232 S.F. (38.5%)

WEIGHTED RUNOFF COEFFICIENT (C)

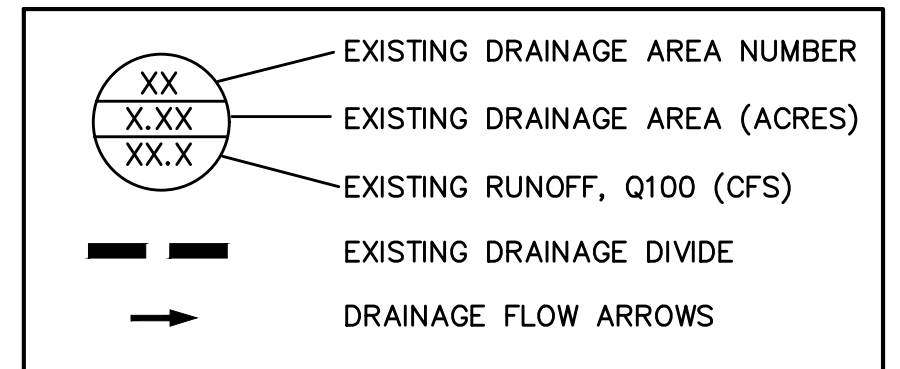
| % OF TOTAL LAND AREA | RUNOFF COEFFICIENT | WEIGHTED (C) |
|----------------------|--------------------|--------------|
| .615 | 0.95 | 0.58 |
| .385 | 0.22 | 0.08 |

TOTAL WEIGHTED (C) = 0.66

| | | | |
|---|--------------------------------|--------|-------------|
| <p>2121 Midway Road Suite 300 Carrollton, Texas 75006 972.248.7676 TBPE No. F-438 TBPLS No. 10076000</p> | WEIGHTED ROUGHNESS COEFFICIENT | | PROJECT NO. |
| | | | HOE341 |
| | RIVER ROCK TRAILS, PHASE 1A | | SHEET NO. |
| Rockwall County, Texas | | 1 OF 1 | |

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 Plotted by: jrodriguez Plot Date: 5/19/2023 8:18 AM

LEGEND



DRAINAGE THEORY

Rational Method: $Q = CIA$

$Q \sim$ Runoff [cfs]

$C \sim$ Runoff Coefficient

C (Existing) = 0.35 Open Space

C (Developed) = 0.65 Single Family Residential

C (Developed) = 1.00 Ponds

$I \sim$ Intensity [in/hr]

T_c (20 min.) $\sim I(100yr) = 6.81$ in/hr (Existing)

T_c (15 min.) $\sim I(100yr) = 7.83$ in/hr (Proposed)

$A \sim$ Area [acres]

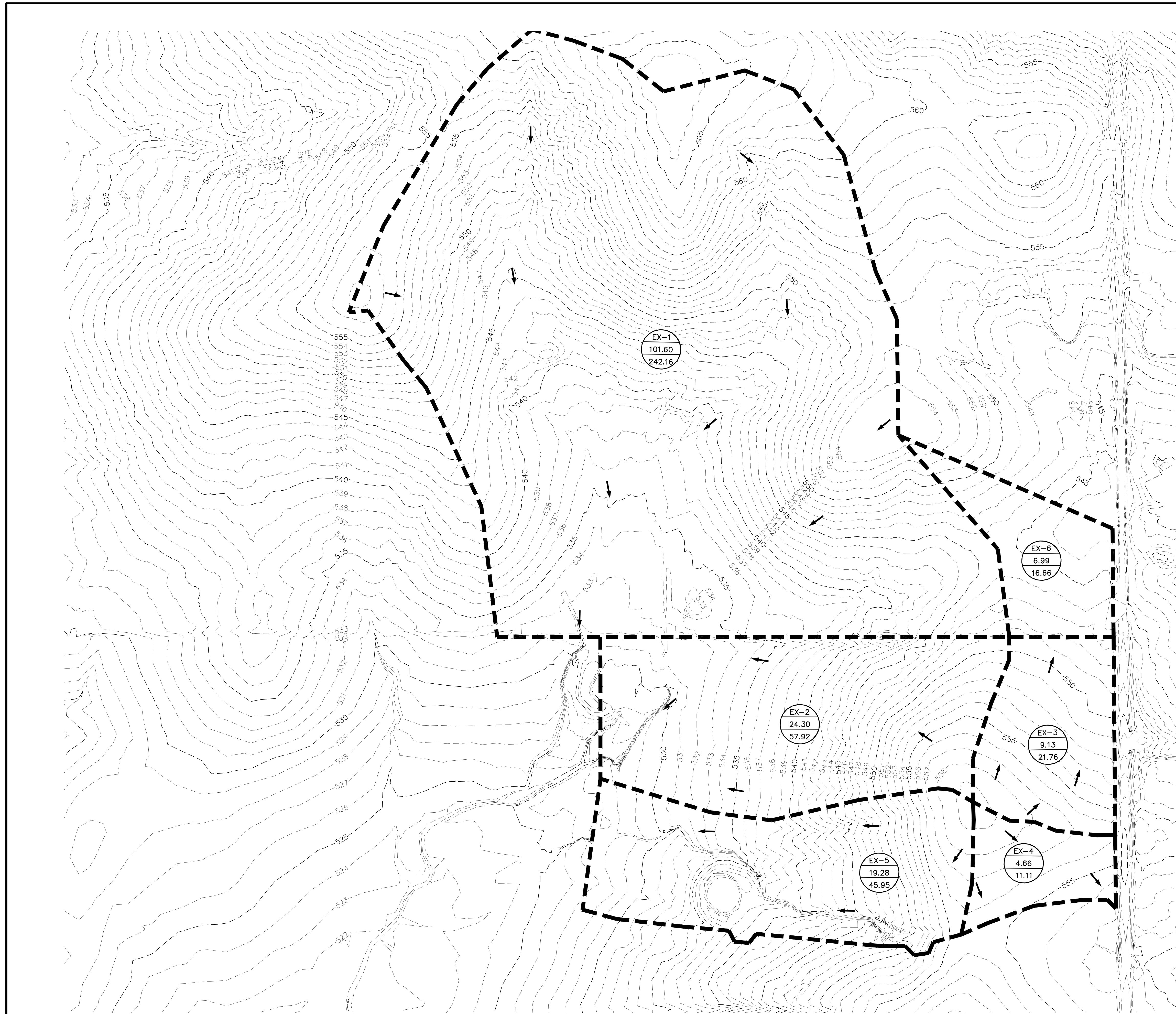
| EXISTING CONDITIONS RUNOFF CALCULATIONS | | | | | | | |
|---|--------------|------------------------|-------------------|-------------------------|------------------------|--------------------|---------|
| Drainage Basin | Area (Acres) | Runoff Coefficient "C" | Design Storm (Yr) | Intensity (in./hr.) "I" | Time Conc. (Min.) "Tc" | Discharge (C.F.S.) | Comment |
| EX-1 | 101.60 | 0.35 | 100 | 6.81 | 20 | 242.16 | |
| EX-2 | 24.30 | 0.35 | 100 | 6.81 | 20 | 57.92 | |
| EX-3 | 9.13 | 0.35 | 100 | 6.81 | 20 | 21.76 | |
| EX-4 | 4.66 | 0.35 | 100 | 6.81 | 20 | 11.11 | |
| EX-5 | 19.28 | 0.35 | 100 | 6.81 | 20 | 45.95 | |
| EX-6 | 6.99 | 0.35 | 100 | 6.81 | 20 | 16.66 | |

DRAINAGE DESIGN THEORY

Rational Method

$Q = CIA$

"C" and "I" values taken from ISWM Technical Design Manual



BENCHMARKS:
 BM 1) "60D NAIL" IN THE CENTER OF VINYL PANEL AERIAL TARGET LOCATED ON SOUTH SIDE OF FARM TO MARKET ROAD NO. 6 APPROXIMATELY 7.00 FEET WEST AND 34 FEET SOUTH OF THE CENTER LINE INTERSECTION OF FARM TO MARKET ROAD NO. 6 AND COUNTY ROAD NO. 976, ELEVATION = 539.39
 BM 2) "60D NAIL" IN THE CENTER OF VINYL PANEL AERIAL TARGET LOCATED ON NORTH SIDE OF FARM TO MARKET ROAD NO. 6 APPROXIMATELY 6097.00 FEET EAST AND 156.00 NORTH OF THE CENTER LINE INTERSECTION OF FARM TO MARKET ROAD NO. 6 AND COUNTY ROAD NO. 976, ELEVATION = 560.15

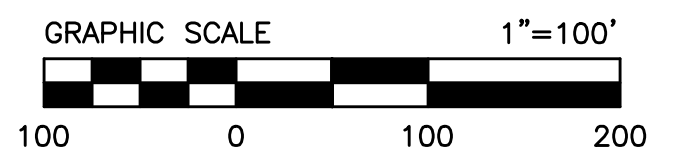
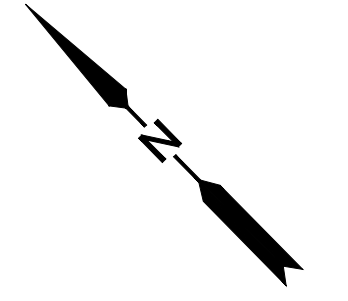
| NO. | REVISIONS DURING CONSTRUCTION | BY | DATE |
|-----|-------------------------------|----|------|
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| | | | |

DESIGNED BY: _____
 DRAWN BY: _____
 CHECKED BY: _____
PRELIMINARY FOR REVIEW ONLY
 NOT FOR CONSTRUCTION OR PERMIT PURPOSES
 ENGINEER: Daniel Dewey, P.E.
 P.E. No. 93961 Date: 03/02/2023

JBI PARTNERS
 2121 Midway Road
 Suite 300
 Carrollton, Texas 75006
 972.248.7676
 TBPE No. F-438
 TBPLS No. 10076000

EXISTING DRAINAGE AREA MAP
 PROJECT NO. **HOE341**
RIVER ROCK TRAILS, PHASE 1A
 Rockwall County, Texas
 SHEET NO. **4.01**

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LEGEND

- DRAINAGE AREA NUMBER
DRAINAGE AREA (ACRES)
DRAINAGE AREA FLOW (CFS)
- PROPOSED DRAINAGE DIVIDE
- DRAINAGE FLOW ARROWS
- INLET
- INLET NAME CALLOUT

DRAINAGE THEORY

Rational Method: $Q=CIA$

$Q \sim$ Runoff [cfs]

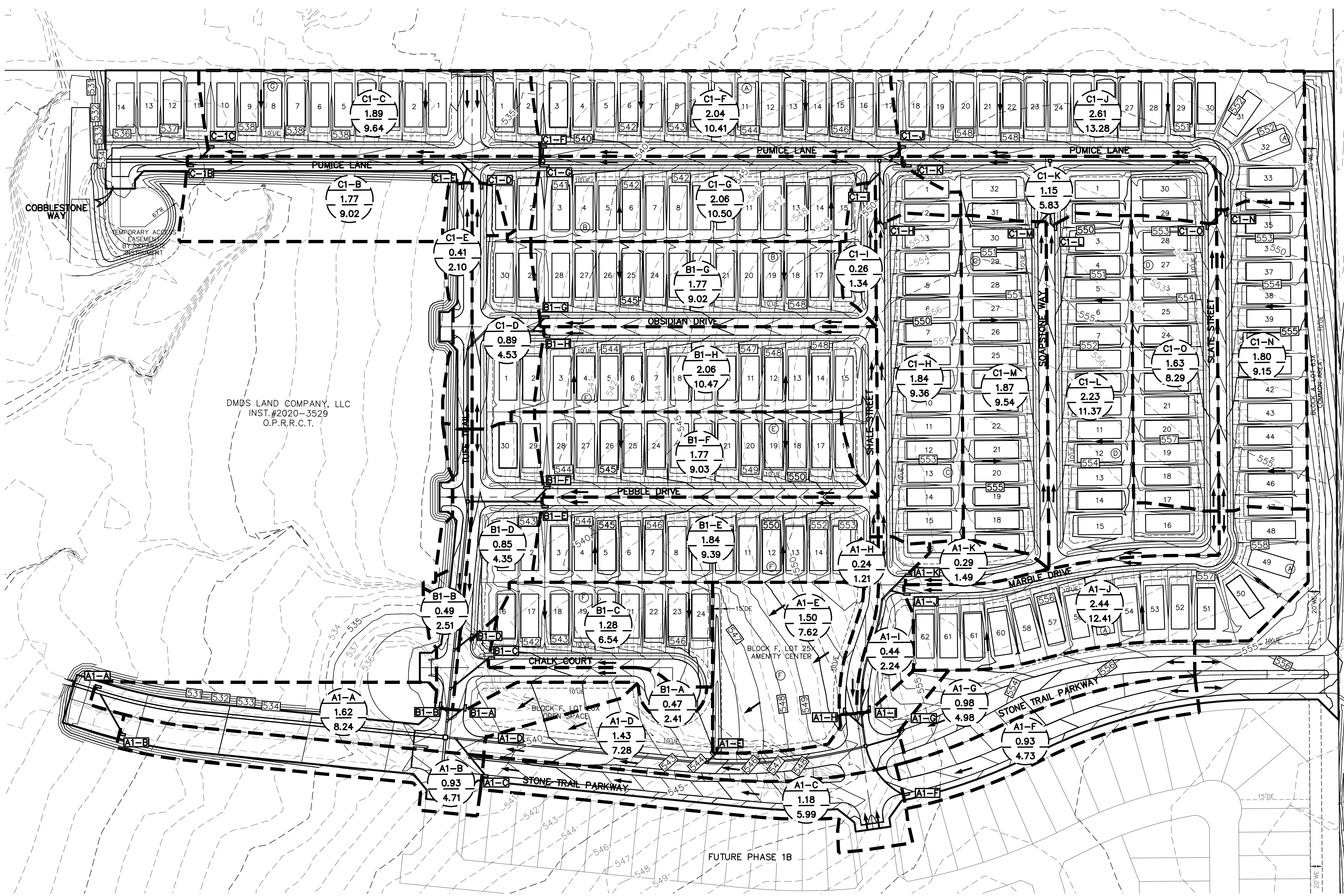
$C \sim$ Runoff Coefficient
 C (Existing) = 0.35 Open Space
 C (Developed) = 0.65 Single Family Residential
 C (Developed) = 0.80 Commercial/Industrial
 C (Developed) = 1.00 Ponds

$I \sim$ Intensity [in/hr]
 I_{Tc} (20 min.) $\sim I(100yr) = 6.81$ in/hr (Existing)
 I_{Tc} (15 min.) $\sim I(100yr) = 7.83$ in/hr (Proposed)

$A \sim$ Area [acres]

"C" AND "I" VALUES TAKEN FROM ISWM TECHNICAL DESIGN MANUAL

NOTE:
 DRAINAGE AREAS SHOWN ARE FOR ULTIMATE FULLY DEVELOPED. REFER TO SHEET 4.03 FOR DRAINAGE FLOW TABLE.



BENCHMARKS:

BM 1) "60D NAIL" IN THE CENTER OF VINYL PANEL AERIAL TARGET LOCATED ON SOUTH SIDE OF FARM TO MARKET ROAD NO. 6 APPROXIMATELY 7.00 FEET WEST AND 34 FEET SOUTH OF THE CENTER LINE INTERSECTION OF FARM TO MARKET ROAD NO. 6 AND COUNTY ROAD NO. 976, ELEVATION = 539.39

BM 2) "60D NAIL" IN THE CENTER OF VINYL PANEL AERIAL TARGET LOCATED ON NORTH SIDE OF FARM TO MARKET ROAD NO. 6 APPROXIMATELY 6097.00 FEET EAST AND 156.00 NORTH OF THE CENTER LINE INTERSECTION OF FARM TO MARKET ROAD NO. 6 AND COUNTY ROAD NO. 976, ELEVATION = 560.15

| NO. | REVISIONS DURING CONSTRUCTION | BY | DATE |
|-----|-------------------------------|----|------|
| | | | |
| | | | |
| | | | |

DESIGNED BY: _____

DRAWN BY: _____

CHECKED BY: _____

PRELIMINARY FOR REVIEW ONLY
 NOT FOR CONSTRUCTION OR PERMIT PURPOSES

ENGINEER: Daniel Dewey, P.E.
 P.E. No. 93961 Date: 03/02/2023

2121 Midway Road
 Suite 300
 Carrollton, Texas 75006
 972.248.7676
 TBPE No. F-438
 TBPLS No. 10076000

PROPOSED SUB-DRAINAGE AREA MAP

RIVER ROCK TRAILS, PHASE 1A

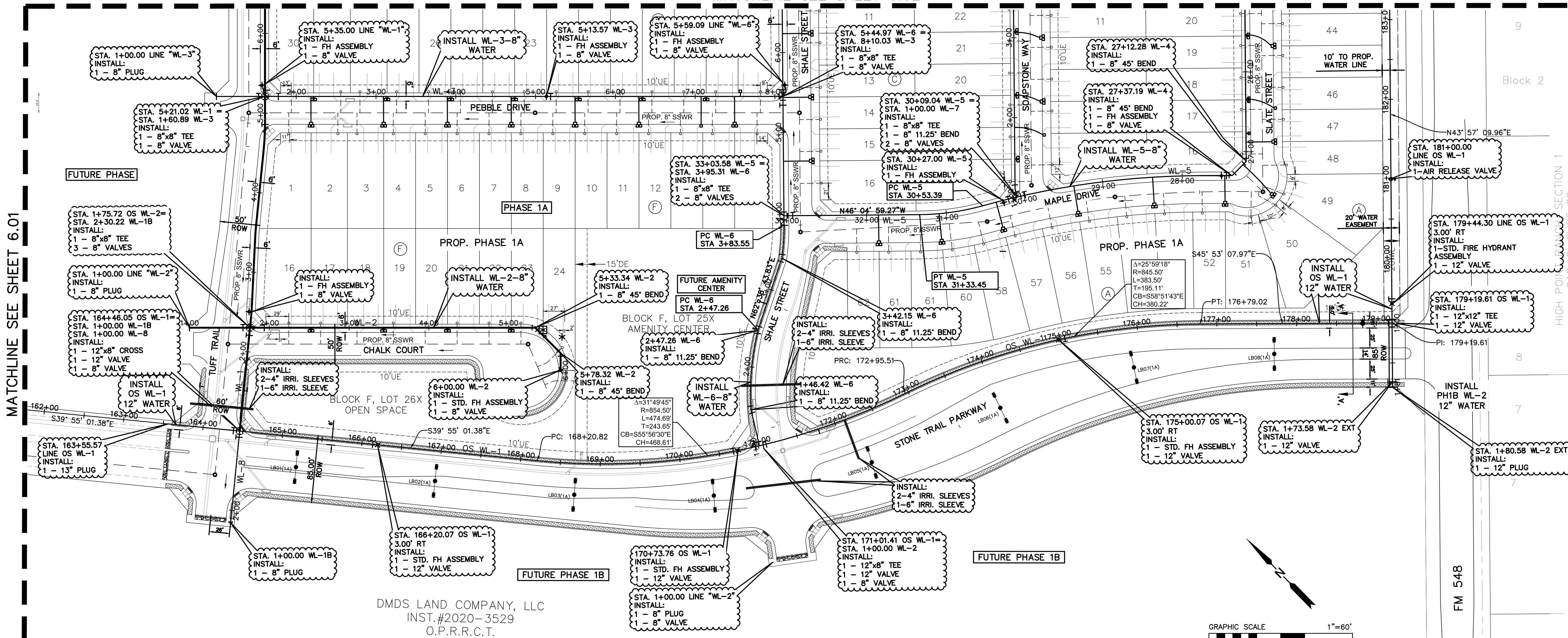
Rockwall County, Texas

PROJECT NO.
HOE341

SHEET NO.
4.02

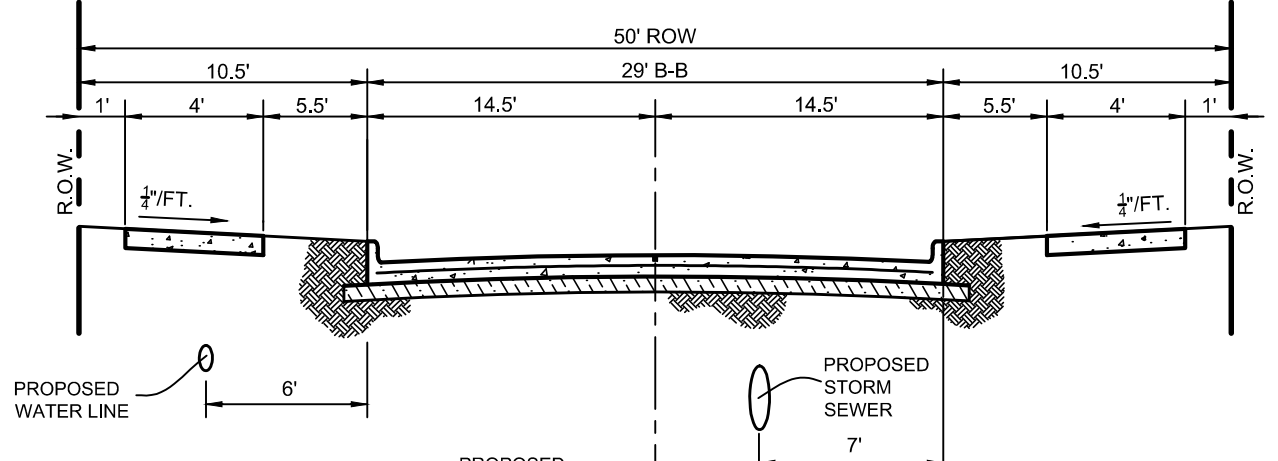
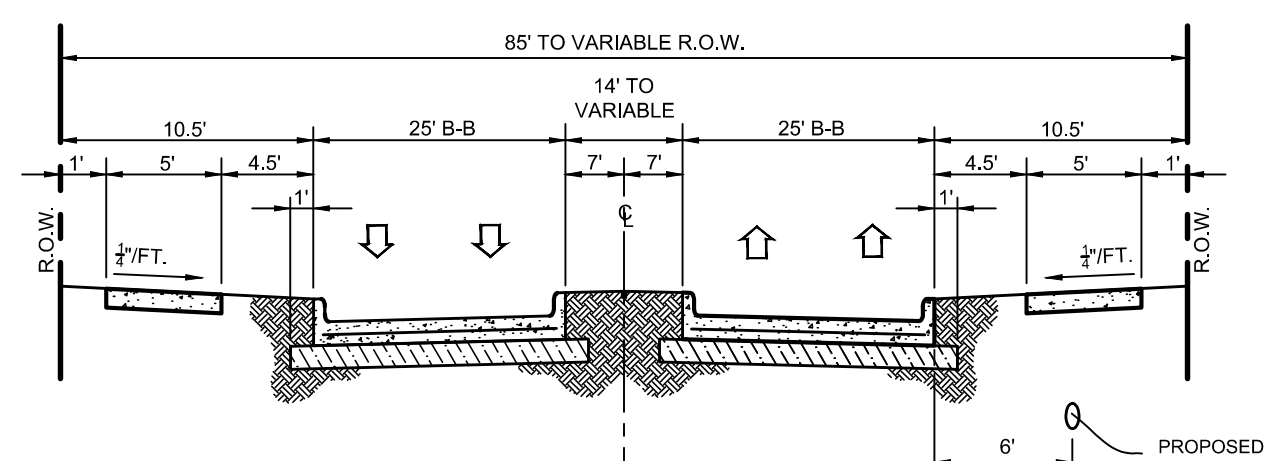
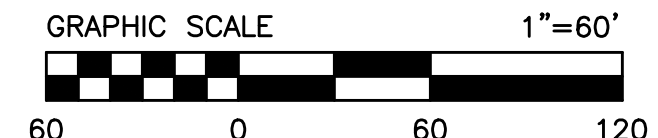
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MATCHLINE SEE SHEET 6.02



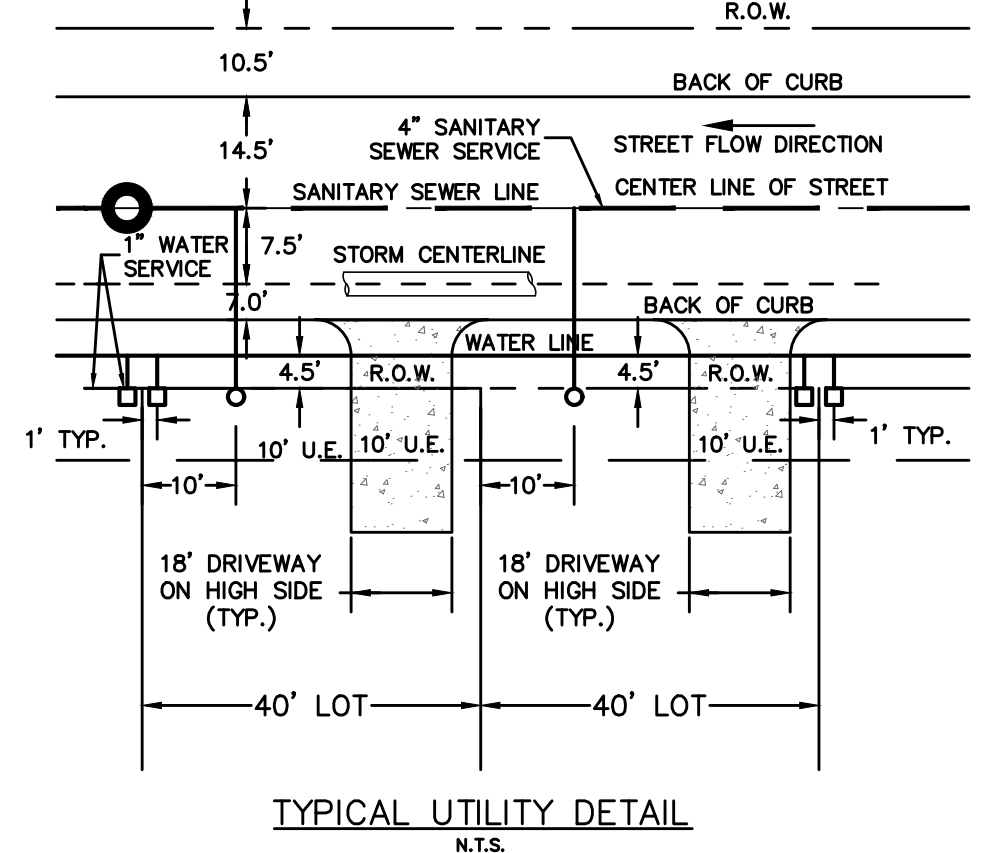
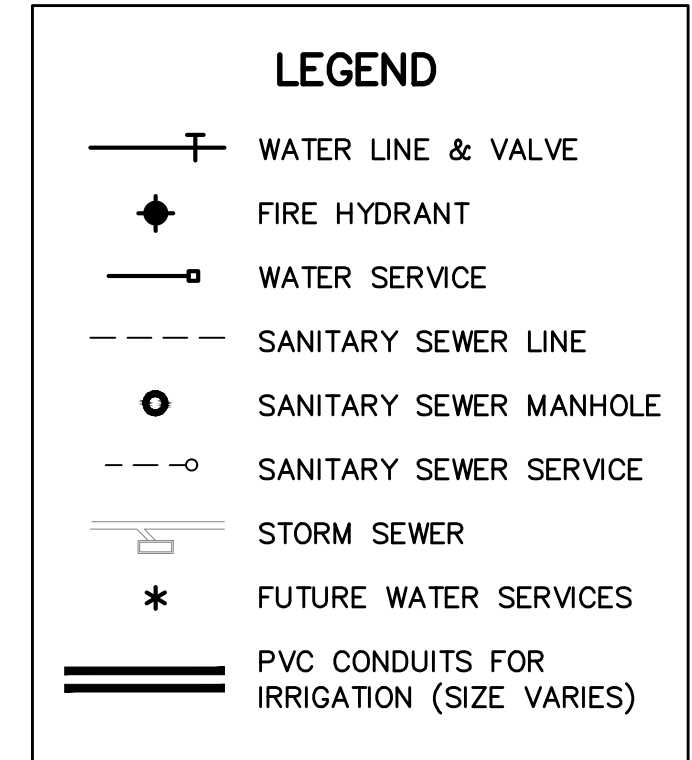
MATCHLINE SEE SHEET 6.01

HIGH POINT SECTION 1
CAB. E. SLIDE 99



CAUTION: Existing underground utilities. Contractor to call for location (1-800-DIG-TESS) and field verify the location of all existing utilities prior to excavation.

FIRE HYDRANTS ARE TO BE LOCATED 3' OFF THE BACK OF CURB.



NOTES:

- WHEN WATER CROSSINGS ARE CROSSING OVER WASTEWATER MAINS AND ARE MAINTAINING A MINIMUM OF 2' SEPARATION, CONTRACTOR TO ENCASE WASTEWATER MAIN WITH A MINIMUM OF 18" OF CEMENT STABILIZED SAND ENCASEMENT PER TAC 290.44(d)(II)(I).
- WHEN WATER CROSSINGS ARE CROSSING OVER WASTEWATER MAINS AND 2' OF MINIMUM SEPARATION CANNOT BE ACHIEVED, CONTRACTOR TO ENCASE WASTEWATER MAIN WITH AN ENCASEMENT PIPE AT LEAST TWO NOMINAL SIZES LARGER THAN WASTEWATER MAIN AND ENSURE A MINIMUM OF 6" OF SEPARATION BETWEEN THE OUTSIDE OF THE ENCASEMENT PIPE AND WATERMAIN. ENCASEMENT PIPE TO HAVE A MINIMUM PRESSURE RATING OF AT LEAST 150 PSI AND BE WATERTIGHT SEALED ON BOTH ENDS. PER TAC 290.44(d)(II)(II)

NOTES:

- PROPOSED WATER SERVICES:
104 BULLHEAD - PHASE 1A
14 SINGLE - PHASE 1A
FUTURE WATER SERVICES
6 BULLHEAD - PHASE 1A
1 SINGLE - PHASE 1A
235 TOTAL
PROPOSED SANITARY SEWER SERVICES:
235 SINGLE - PHASE 1A
- PROPOSED FIRE HYDRANT ASSEMBLY TO INCLUDE:
1- 8"x6" TEE OR 12"x6" TEE ON OSWL-1
1- 6" 90° ANCHOR COUPLING
1- 8" VALVE
1- FIRE HYDRANT

BENCHMARKS:

BM 1) "60D NAIL" IN THE CENTER OF VINYL PANEL AERIAL TARGET LOCATED ON SOUTH SIDE OF FARM TO MARKET ROAD NO. 6 APPROXIMATELY 7.00 FEET WEST AND 34 FEET SOUTH OF THE CENTER LINE INTERSECTION OF FARM TO MARKET ROAD NO. 6 AND COUNTY ROAD NO. 976, ELEVATION = 539.39

BM 2) "60D NAIL" IN THE CENTER OF VINYL PANEL AERIAL TARGET LOCATED ON NORTH SIDE OF FARM TO MARKET ROAD NO. 6 APPROXIMATELY 6097.00 FEET EAST AND 156.00 NORTH OF THE CENTER LINE INTERSECTION OF FARM TO MARKET ROAD NO. 6 AND COUNTY ROAD NO. 976, ELEVATION = 560.15

| NO. | REVISIONS DURING CONSTRUCTION | BY | DATE |
|-----|-------------------------------|----|------|
| | | | |
| | | | |

DESIGNED BY:
DRAWN BY:
CHECKED BY:

PRELIMINARY FOR REVIEW ONLY
NOT FOR CONSTRUCTION OR PERMIT PURPOSES

ENGINEER: Daniel Dewey, P.E.
P.E. No. 93961 Date: 03/02/2023

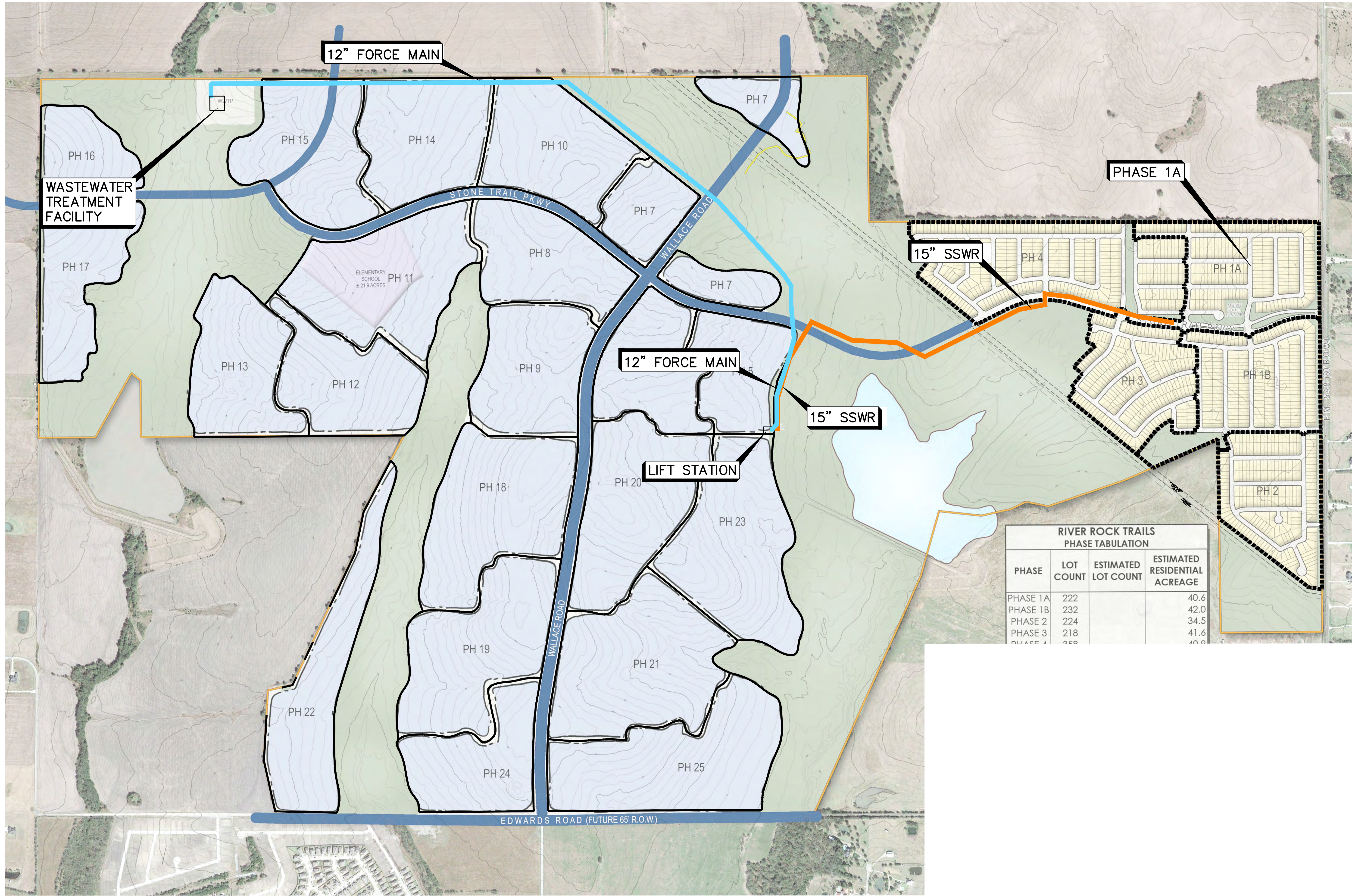
JBI PARTNERS

2121 Midway Road
Suite 300
Carrollton, Texas 75006
972.248.7676
TBPE No. F-438
TBPLS No. 10076000

WATER PLAN
SHEET 3

RIVER ROCK TRAILS, PHASE 1A
Rockwall County, Texas

PROJECT NO. **HOE341**
SHEET NO. **6.03**



| RIVER ROCK TRAILS PHASE TABULATION | | | |
|---------------------------------------|--------------|------------------------|-------------------------------------|
| PHASE | LOT COUNT | ESTIMATED LOT COUNT | ESTIMATED RESIDENTIAL ACREAGE |
| PHASE 1A | 222 | | 40.6 |
| PHASE 1B | 232 | | 42.0 |
| PHASE 2 | 224 | | 34.5 |
| PHASE 3 | 218 | | 41.6 |
| PHASE 4 | 250 | | 40.0 |

JBI
PARTNERS

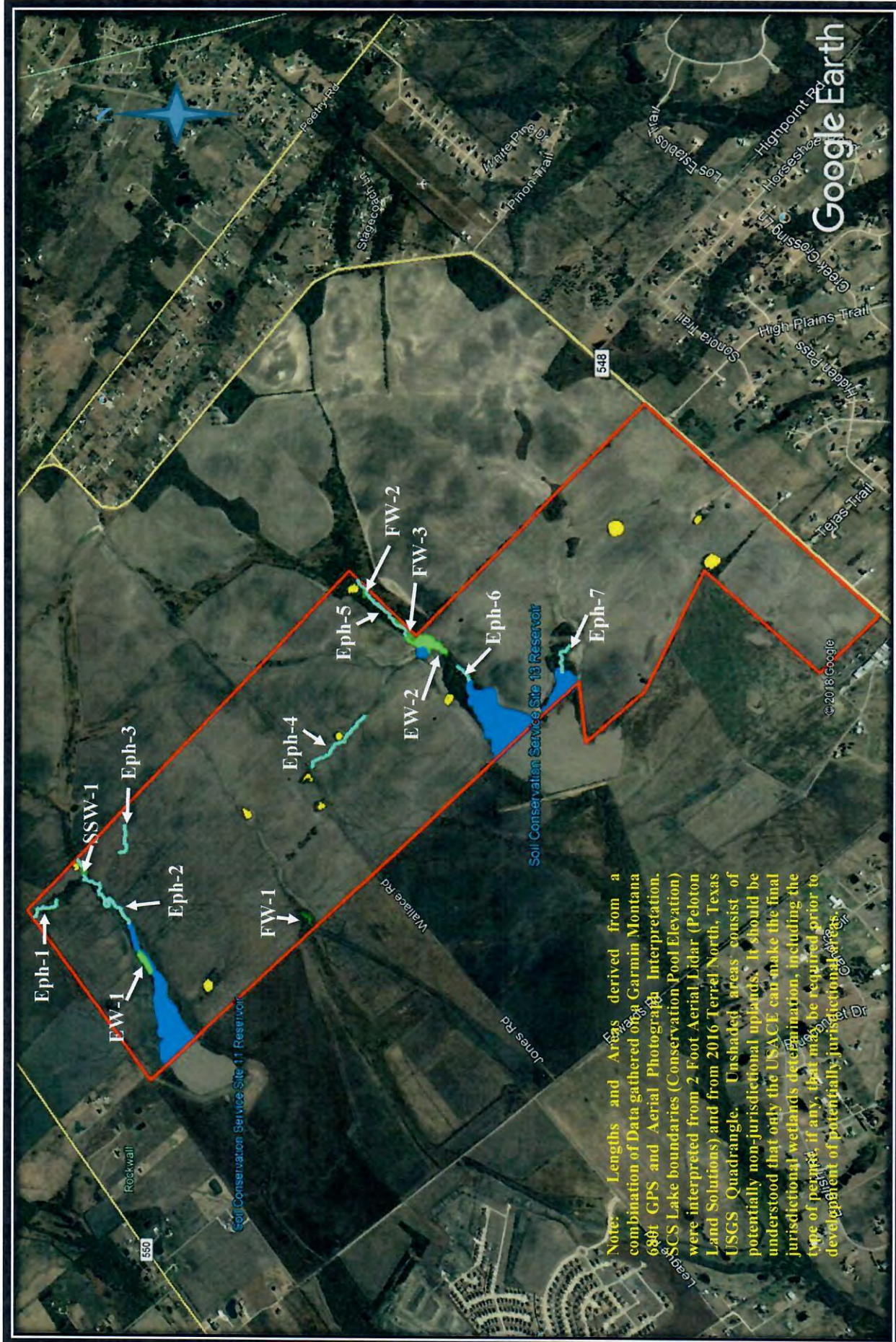
2121 Midway Road
Suite 300
Carrollton, Texas 75006
972.248.7676
TBPE No. F-438
TBPLS No. 10076000

PHASE 1A OFFSITE SSWR


RIVER ROCK TRAILS
ROCKWALL COUNTY, TEXAS

PROJECT
NO.
HOE341

SHEET NO.
1 OF 1



Note: Lengths and Areas derived from a combination of Data gathered on a Garmin Montana 680t GPS and Aerial Photograph Interpretation. SCS Lake boundaries (Conservation Pool Elevation) were interpreted from 2 Foot Aerial Lidar (Peloton Land Solutions) and from 2016 Terrel North, Texas USGS Quadrangle. Unshaded areas consist of potentially non-jurisdictional uplands. It should be understood that only the USACE can make the final jurisdictional wetlands determination, including the type of permit, if any, that may be required prior to development of potentially jurisdictional areas.









JONES & RIDENOUR, INC.
Environmental Consulting and Services

Potential Jurisdictional Features Map
Rockwall County 1237
Approximately 1,237 Acres
Rockwall County, Texas

Date: 16 October 2019
Prepared by: Lance C. Jones

Potential Jurisdictional Features Map Legend

-  **Approximate Site Boundary**
-  **Potentially Jurisdictional Other Waters of the US**
(Approximately 7,755 Feet of Berry Creek and Unnamed Ephemeral Drainages)
-  **Potentially Jurisdictional SCS Reservoirs Sites 11 and 13 and Potentially Jurisdictional Pond**
(Approximately 29.1 Acres)
-  **Potentially Jurisdictional Forested Wetlands including Scrub-shrub Wetland**
(Approximately 1.0 Acres)
-  **Potentially Jurisdictional Emergent Wetlands**
(Approximately 2.1 Acres)
-  **Potentially Non-Jurisdictional Off-channel Ponds**
(Approximately 2.7 Acres)



Potential Jurisdictional Features Map Legend
Rockwall County 1237
Approximately 1,237 Acres
Rockwall County, Texas

Date: 16 October 2019
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WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Koch 1237 City/County: Rockwall County Sampling Date: 9/11/19

Applicant/Owner: DR Horton State: TX Sampling Point: SPL 1

Investigator(s): Lance C. Jones & Doug Ridenour Section, Township, Range: _____

Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): None Slope (%): 1

Subregion (LRR): LRR J Lat: 32.87385 Long: -96.34862 Datum: NAD 83

Soil Map Unit Name: Houston Black clay, 1 to 3 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | | | |
|--|---|--|--|-----------|--|
| Hydrophytic Vegetation Present? | Yes <input checked="" type="checkbox"/> | No _____ | Is the Sampled Area within a Wetland? | Yes _____ | No <input checked="" type="checkbox"/> |
| Hydric Soil Present? | Yes _____ | No <input checked="" type="checkbox"/> | | | |
| Wetland Hydrology Present? | Yes <input checked="" type="checkbox"/> | No _____ | | | |
| Remarks: <u>Sampling Point is on a terrace, in a park-like area, just southeast of the ephemeral drainage extending from the northeast, way above SCS Site 11 Reservoir. It's also west - southwest of an ephemeral tributary extending from the east - southeast.</u> | | | | | |

VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: <u>30'</u>) | Absolute % Cover | Dominant Species? | Indicator Status | Dominance Test worksheet: |
|--|------------------|-------------------|------------------|--|
| 1. <u>Celtis laevigata</u> | 60 | Yes | Fac | Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>4</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B) |
| 2. _____ | | | | |
| 3. _____ | | | | |
| 4. _____ | | | | |
| <u>60</u> = Total Cover | | | | Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____ |
| Sapling/Shrub Stratum (Plot size: <u>15'</u>) | | | | |
| 1. <u>Celtis laevigata</u> | 30 | Yes | Fac | |
| 2. _____ | | | | |
| 3. _____ | | | | |
| <u>30</u> = Total Cover | | | | |
| Herb Stratum (Plot size: <u>5'</u>) | | | | |
| 1. <u>Elymus virginicus</u> | 10 | Yes | Fac | Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 ¹ ___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. |
| 2. <u>Ambrosia trifida</u> | 10 | Yes | Fac | |
| 3. <u>Carex sp.</u> | 2 | No | | |
| 4. _____ | | | | |
| 5. _____ | | | | |
| 6. _____ | | | | |
| 7. _____ | | | | |
| 8. _____ | | | | |
| 9. _____ | | | | |
| 10. _____ | | | | |
| <u>22</u> = Total Cover | | | | |
| Woody Vine Stratum (Plot size: <u>30'</u>) | | | | |
| 1. _____ | | | | |
| 2. _____ | | | | |
| _____ = Total Cover | | | | |
| % Bare Ground in Herb Stratum <u>95</u> | | | | |

Remarks: Dominant vegetation is "hydrophytic", but all four species are facultative.

SOIL

Sampling Point: SPL 1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

| Depth (inches) | Matrix | | Redox Features | | | | Texture | Remarks |
|----------------|---------------|-----|----------------|---|-------------------|------------------|---------|---------|
| | Color (moist) | % | Color (moist) | % | Type ¹ | Loc ² | | |
| 0-18 | 10YR 2/1 | 100 | | | | | clay | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5) (LRR F)
- 1 cm Muck (A9) (LRR F, G, H)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- 5 cm Mucky Peat or Peat (S3) (LRR F)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- High Plains Depressions (F16) (MLRA 72 & 73 of LRR H)

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (A9) (LRR I, J)
- Coast Prairie Redox (A16) (LRR F, G, H)
- Dark Surface (S7) (LRR G)
- High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks: It appears water runs off the area quickly.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Water-Stained Leaves (B9)
- Salt Crust (B11)
- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Dry-Season Water Table (C2)
- Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
- Presence of Reduced Iron (C4)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Sparsely Vegetated Concave Surface (B8)
- Drainage Patterns (B10)
- Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)
- Frost-Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____
Water Table Present? Yes _____ No X Depth (inches): _____
Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? Yes X No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Area is a terrace alongside an ephemeral drainage.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Koch 1237 City/County: Rockwall County Sampling Date: 9/11/19
 Applicant/Owner: DR Horton State: TX Sampling Point: SPL 2
 Investigator(s): Lance C. Jones & Doug Ridenour Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): Swale Local relief (concave, convex, none): Concave Slope (%): 1
 Subregion (LRR): LRR J Lat: 32.87513 Long: -96.34746 Datum: NAD 83
 Soil Map Unit Name: Houston Black clay, 1 to 3 percent slopes NWI classification: R4SBC

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | |
|--|--|
| Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____ Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____ | Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____ |
| Remarks: Sampling Point is almost all the way up to the top of the on-site reach of the ephemeral drainage extending from the northeast, above SCS Site 11 Reservoir. It is in-line with the aforementioned ephemeral drainage. | |

VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: <u>30'</u>) | Absolute % Cover | Dominant Species? | Indicator Status | |
|--|------------------|-------------------|------------------|---|
| 1. <u>Celtis laevigata</u> | <u>4</u> | No | Fac | Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>4</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B) |
| 2. _____ | _____ | _____ | _____ | |
| 3. _____ | _____ | _____ | _____ | |
| 4. _____ | _____ | _____ | _____ | |
| <u>4</u> = Total Cover | | | | Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____ |
| <u>25</u> = Total Cover | | | | |
| Sapling/Shrub Stratum (Plot size: <u>15'</u>) | | | | |
| 1. <u>Celtis laevigata</u> | <u>25</u> | Yes | Fac | |
| 2. _____ | _____ | _____ | _____ | |
| 3. _____ | _____ | _____ | _____ | |
| 4. _____ | _____ | _____ | _____ | |
| 5. _____ | _____ | _____ | _____ | |
| <u>25</u> = Total Cover | | | | |
| Herb Stratum (Plot size: <u>5'</u>) | | | | |
| 1. <u>Elymus virginicus</u> | <u>30</u> | Yes | Fac | Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation <u>X</u> 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 ¹ ___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. |
| 2. <u>Rumex altissimus</u> | <u>30</u> | Yes | Fac | |
| 3. <u>Ambrosia trifida</u> | <u>30</u> | Yes | Fac | |
| 4. <u>Aster dumosus</u> | <u>2</u> | No | Fac | |
| 5. <u>Carex crus-corvi</u> | <u>2</u> | No | Obl | |
| 6. _____ | _____ | _____ | _____ | |
| 7. _____ | _____ | _____ | _____ | |
| 8. _____ | _____ | _____ | _____ | |
| 9. _____ | _____ | _____ | _____ | |
| 10. _____ | _____ | _____ | _____ | |
| <u>94</u> = Total Cover | | | | |
| Woody Vine Stratum (Plot size: <u>30'</u>) | | | | |
| 1. _____ | _____ | _____ | _____ | |
| 2. _____ | _____ | _____ | _____ | |
| _____ = Total Cover | | | | |
| % Bare Ground in Herb Stratum <u>50</u> | | | | |
| Remarks: | | | | |

SOIL

Sampling Point: SPL 2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

| Depth (inches) | Matrix | | Redox Features | | | | Texture | Remarks |
|----------------|---------------|----|----------------|----|-------------------|------------------|-----------------|------------------------|
| | Color (moist) | % | Color (moist) | % | Type ¹ | Loc ² | | |
| 0-8 | 10YR 3/1 | 60 | 10YR 4/2 | 25 | | M | Silty clay loam | Mottled |
| | | | 10YR 5/6 | 15 | | PL | Silty clay loam | Oxidized root channels |
| 8-18 | 10YR 2/1 | 80 | 10YR 5/6 | 15 | | M | Clay | Mottled |
| | | | 10YR 5/6 | 5 | | PL | Clay | Oxidized root channels |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

| | | |
|--|---|---|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Sandy Gleyed Matrix (S4) | <input type="checkbox"/> 1 cm Muck (A9) (LRR I, J) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Sandy Redox (S5) | <input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Stripped Matrix (S6) | <input type="checkbox"/> Dark Surface (S7) (LRR G) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Mucky Mineral (F1) | <input type="checkbox"/> High Plains Depressions (F16) |
| <input type="checkbox"/> Stratified Layers (A5) (LRR F) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) | (LRR H outside of MLRA 72 & 73) |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H) | <input type="checkbox"/> Depleted Matrix (F3) | <input type="checkbox"/> Reduced Vertic (F18) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input checked="" type="checkbox"/> Redox Dark Surface (F6) | <input type="checkbox"/> Red Parent Material (TF2) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Depleted Dark Surface (F7) | <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Redox Depressions (F8) | <input type="checkbox"/> Other (Explain in Remarks) |
| <input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) | <input type="checkbox"/> High Plains Depressions (F16) | ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F) | (MLRA 72 & 73 of LRR H) | |

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

| | | |
|---|--|---|
| <u>Primary Indicators (minimum of one required; check all that apply)</u> | | <u>Secondary Indicators (minimum of two required)</u> |
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Salt Crust (B11) | <input type="checkbox"/> Surface Soil Cracks (B6) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Aquatic Invertebrates (B13) | <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) |
| <input type="checkbox"/> Saturation (A3) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) | <input checked="" type="checkbox"/> Drainage Patterns (B10) |
| <input type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Dry-Season Water Table (C2) | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) |
| <input checked="" type="checkbox"/> Sediment Deposits (B2) | <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) | (where tilled) |
| <input checked="" type="checkbox"/> Drift Deposits (B3) | (where not tilled) | <input type="checkbox"/> Crayfish Burrows (C8) |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Presence of Reduced Iron (C4) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Thin Muck Surface (C7) | <input checked="" type="checkbox"/> Geomorphic Position (D2) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Other (Explain in Remarks) | <input type="checkbox"/> FAC-Neutral Test (D5) |
| <input type="checkbox"/> Water-Stained Leaves (B9) | | <input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F) |

Field Observations:

| | | | |
|---|---|-----------------------|---|
| Surface Water Present? | Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | Depth (inches): _____ | Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> |
| Water Table Present? | Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | Depth (inches): _____ | |
| Saturation Present? (includes capillary fringe) | Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | Depth (inches): _____ | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Preliminary Wetlands Determination and
Exhibit of Identified Potentially Jurisdictional Features

Approximately 1,237 Acres
Rockwall County, Texas

Prepared for

DR Horton – Texas Ltd. Partnership
Attn. Mr. David Booth, CPA, Land Manager
4306 Miller Road
Rowlett, Texas 75088

Prepared by

Jones & Ridenour, Inc.
2000 E. Lamar Boulevard, Suite 600
Arlington, Texas 76006

17 October 2019



17 October 2019

DR Horton – Texas Ltd. Partnership
Attn. Mr. David Booth, CPA, Land Manager
4306 Miller Road
Rowlett, Texas 75088

Telephone: 214.607.4244
E-mail: dbooth@drhorton.com

Re: Preliminary Wetlands Determination and
Exhibit of Identified Potentially Jurisdictional Features
Rockwall County Approximately 1,237 Acres
Southeast of FM 550 and Northwest and Southwest of FM 548
Rockwall County, Texas

Mr. Booth:

Jones & Ridenour, Inc. (J&R) is pleased to submit the results of a Preliminary Wetlands Determination (PWD) for the above-referenced tract of land (hereinafter referred to as the Site).

Introduction:

The specific objective of this PWD was to identify on-site areas that appear to exhibit physical characteristics typical of jurisdictional wetlands (Wetlands that are Waters of the United States) and/or jurisdictional Other Waters of the United States (e.g. certain streams, certain ponds). J&R performed this PWD by reviewing readily available information (e.g. USGS topographic map, aerial photography) and by completing a field investigation / field work.

J&R identified and documented dominant plant species, hydrological indicators (including a lack thereof), and soil characteristics, as well as other physical characteristics and apparent past and present land use practices that could determine the jurisdictional / non-jurisdictional nature of subject features. J&R completed this PWD in general accordance with the methodologies described in the January, 1987 Corps of Engineers Wetlands Delineation Manual (Technical Report Y-87-1), in conjunction with the Great Plains Regional Supplement. Those areas appearing to meet established criteria were considered potential jurisdictional Wetlands that are Waters of the United States and/or Other Waters of the United States, and their locations were approximated on the attached Potential Jurisdictional Features Map (PJF Map).

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Limitations:

It should be understood that only the U.S. Army Corps of Engineers (USACE) can make the final jurisdictional wetlands determination, including the type of permit, if any, that may be required prior to development of potentially jurisdictional features.

J&R's PWD has been based on generally accepted practices of professionals undertaking similar projects at the same time, and in the same geographical area. J&R observes that same degree of care and skill generally exercised by professionals under similar circumstances and conditions.

J&R's observations, findings, and opinions must not be considered as scientific certainties, but solely as opinions based on our professional judgment concerning the significance of the limited data gathered during the course of the project. Further, the services herein shall in no way be construed, designed, or intended to be relied upon as legal interpretation or advice.

Preliminary Wetlands Determination:

J&R Biologists Mr. Lance C. Jones and Mr. Doug Ridenour visited the Site the weeks of 9, 16 and 30 September 2019, following numerous rainfall events in the area. The majority of the irregularly-shaped Site was found to be open, fallow agricultural fields, upland pastures with scattered ponds, upland woodlots, and wooded riparian corridors along Berry Creek and other ephemeral drainages. Two Soil Conservation Service (SCS) Reservoirs (Sites 11 and 13) and various wetland types were also identified on-site. Topography was found to be gently rolling and to slope mainly toward the two SCS Reservoirs. Ecologically, the Site has been broken into four different community types, described as follows.

Community Types:

- Upland Pastures and Fallow Agricultural Fields Complex

Woody vegetation found scattered across this complex and in the fencerows included sugarberry (*Celtis laevigata*), cedar elm (*Ulmus crassifolia*), Osage-orange (*Maclura pomifera*), mesquite (*Prosopis glandulosa*), coral-berry (*Symphoricarpos orbiculatus*), poison-ivy (*Toxicodendron radicans*) and eastern red cedar (*Juniperus virginiana*). The majority of this complex was made up of white prairie aster (*Aster ericoides*), long-spike tridens (*Tridens strictus*), saw-leaf daisy (*Grindelia papposa*), silver-leaf nightshade (*Solanum eleagnifolium*), lamb's quarter's (*Chenopodium spp.*), Japanese brome (*Bromus japonicus*), eastern prickly-pear (*Opuntia humifusa*), green milkweed (*Asclepias viridis*), cane bluestem (*Bothriochloa barbinodis*),

broomweed (*Amphiachyrus dracunculoides*), horse-nettle (*Solanum carolinense*), threeawn (*Aristida purpurascens*), snow-on-the-prairie (*Euphorbia bicolor*), Tall fescue (*Festuca arundinacea*), broomsedge bluestem (*Andropogon virginicus*), dallis grass (*Paspalum dilatatum*), buffalo-bur (*Solanum rostratum*), prairie-parsley (*Polytaenia nuttallii*), silver bluestem (*Bothriochloa laguroides*), Maximilian sunflower (*Helianthus maximiliani*), woolly croton (*Croton capitatus*), Bermuda grass (*Cynodon dactylon*), ragweed (*Ambrosia artimisiifolia*), common sunflower (*Helianthus annuus*), Johnson grass (*Sorghum halepense*), goldenrod (*Solidago spp.*) and saw greenbrier (*Smilax bona-nox*).

- SCS Reservoirs (Sites 11 and 13), Off-channel Ponds and Jurisdictional Pond (created on wetlands) Complex

Species composition in the overstory component at the edge of the open water within the SCS Reservoirs, off-channel ponds and jurisdictional pond is made up of black willow (*Salix nigra*), eastern red cedar, Osage-orange, sugarberry and honey-locust (*Gleditsia triacanthos*). Species observed within and adjacent to the banks include cattail (*Typha latifolia*), sumpweed (*Iva annua*), sand spikerush (*Eleocharis montevidensis*), compressed spikerush (*Eleocharis compressa*), pieplant (*Eclipta prostrata*), soft rush (*Juncus effusus*), morning glory (*Ipomea spp.*), water primrose (*Ludwigia peploides*), green ash (*Fraxinus pennsylvanica*), frogfruit (*Phyla lanceolata*), cockle-bur (*Xanthium strumarium*), bulrush (*Scirpus pendulis*), camphor weed (*Pluchea camphorata*), pale dock (*Rumex altissimus*), curly dock (*Rumex crispus*), crow-foot sedge (*Carex crus-corvi*), nut-grass (*Cyperus esculentus*), barnyard grass (*Echinochloa crus-gallii*), pondweed (*Potamogeton nodosus*), caric sedge (*Carex muehlenbergii*), and coontail (*Ceratophyllum demersum*).

- Berry Creek, Unnamed Ephemeral Drainages and Woodlots Complex

Species found within the overstory within the corridors along Berry Creek and the five ephemeral drainages and within the scattered woodlots were sugarberry, Osage-orange, green ash, pecan (*Carya illinoensis*), cedar elm, honey locust, American elm (*Ulmus americana*) and black willow. Understory and midstory vegetation within this complex is made up of peppervine (*Ampelopsis arborea*), giant ragweed (*Ambrosia trifida*), eastern red cedar, eastern redbud (*Cercis canadensis*), persimmon (*Diospyros virginiana*), forget-me-not (*Myosotis macrosperma*), gum bumelia (*Bumelia lanuginosa*), poison-ivy, Mexican plum (*Prunus mexicana*), coral-berry, soapberry (*Sapindus saponaria*), Canada sanicle (*Sanicula canadensis*), cluster sanicle (*Sanicula odorata*), Carolina snailseed vine (*Cocculus carolinus*), frostweed (*Verbesina virginica*), wood-oats (*Chasmanthium latifolium*), pink smartweed (*Polygonum pennsylvanicum*), Virginia wildrye (*Elymus viriginicus*), white avens (*Geum canadense*), wild petunia (*Ruellia carolinensis*), Eve's necklace (*Sophora affinis*), Japanese honeysuckle (*Lonicera japonica*) and saw greenbrier.

- Scrub-shrub Wetland, Forested Wetlands and Emergent Wetlands Complex

Overstory species within the forested wetlands consist of black willow, American elm, cedar elm and honey-locust. Herbaceous/understory species within this complex were consistent in all three wetland types (listed above) and included sand spikerush, compressed spikerush, purple ammannia (*Ammannia coccinea*), giant ragweed, cockle-bur, soft rush (*Juncus effusus*), crow-foot sedge, curly dock, Virginia wildrye, Cherokee caric sedge (*Carex cherokeensis*), pale dock, sumpweed, pink smartweed, pale dock, balloon-vine (*Cardiospermum halicacabum*), lamb's quarters, water primrose, grassleaf rush (*Juncus marginatus*), nut-grass, marshpepper knotweed (*Polygonum hydropiper*), frogfruit, barnyard grass and saltmarsh aster (*Symphotrichum dumosum*).

As presented above, the majority of the irregularly-shaped Site was found to be open fallow agricultural fields, upland pastures with scattered ponds, upland woodlots, and wooded riparian corridors along Berry Creek and ephemeral tributaries. Two, Soil Conservation Service (SCS) Reservoirs (Sites 11 and 13) and various wetland types were also identified on-site. Eph-1 was found to enter the Site under a barbed wire fence and meander through a thin wooded riparian corridor at the north corner of the Site for approximately 866 feet where it enters a large woodlot and sheetflows (no apparent Ordinary High Water Mark (OHWM) or bed or bank) through this area to a point where it headcuts and reforms to a channel and meanders for approximately 80 feet where it then intersects Eph-2 (PJF Map). Eph-2 enters the northeastern Site boundary via a barbed wire fence where it meanders in a somewhat west-southwesterly direction for approximately 205 feet and spills into what J&R identified as an approximately 0.2-acre, scrub-shrub wetland (SSW-1) (PJF Map). It then exits SSW-1 and meanders for approximately 1,908 feet where it enters SCS Site 11 Reservoir. Near the upper end of the aforementioned reservoir, J&R identified an approximately 0.53-acre emergent wetland (EW-1) (PJF Map). This area likely formed due to the outbanking of the reservoir. Eph-3 enters the Site via a large grassy swale and eventually headcuts to form a channel that meanders in a somewhat westerly direction for approximately 699 feet to a point where it loses definition and forms back into a swale for approximately 800 feet and then headcuts again for approximately 83 feet to a point where it intersects Eph-2 (PJF Map). A small, 0.1-acre forested wetland (FW-1) was identified in a woodlot near the southwestern Site boundary (PJF Map). This area catches quite a bit of runoff from an identified grassy swale to the northeast. Eph-4 forms at Wallace Road via a 36" culvert and meanders in a southeasterly direction for approximately 1,480 feet and then loses definition and forms a grassy swale that eventually dumps into a jurisdictional pond and EW-2 approximately 1,500 feet to the southeast (PJF Map). Eph-5 (Berry Creek) enters a southeastern Site boundary under a barbed wire fence and meanders in a southwesterly direction for approximately 1,526 feet to a point where it drains into an emergent wetland (EW-2). EW-2 was found to encompass approximately 1.57 acres. EW-2 appears to outflow into a wooded swale and the eventually

headcuts and forms Eph-6 (downstream segment of Berry Creek). Eph-6 meanders in a southwesterly direction for approximately 343 feet to a point where it enters SCS Site 13 Reservoir (PJF Map). Along and within the Berry Creek (Eph-5) riparian corridor, J&R identified two, forested wetland areas (FW-2 and FW-3) that cumulatively encompass approximately 0.7 acre. Eph-7 was identified in a wooded area above the southern arm of SCS Site 13 Reservoir. Eph-7 catches quite a bit of runoff from a grassy swale to the east, that enters the aforementioned wooded area and eventually headcuts to form the approximately 565 feet of Eph-7 just above the southern arm of the aforementioned SCS Reservoir (PJF Map). As previously mentioned, two, on-channel, Soil Conservation Service (SCS) Reservoirs (Sites 11 and 13) and one jurisdictional pond that appeared to have been created on wetlands were also identified across the Site. Site 11 encompasses approximately 14.5 acres and Site 13 encompasses approximately 14.3 acres (Table 3 and PJF Map). The jurisdictional pond encompasses approximately 0.3 acre and was identified within EW-2 (PJF Map). It should be noted that because the USACE recognizes the Conservation Pool Elevation (CPE) of an SCS Reservoir as a jurisdictional boundary, open water, adjacent forested and emergent wetlands, lower reaches of streams and drains, and/or dry land located below the Conservation Pool Elevation would be regulated by the USACE. That being said, and from information provided by Peloton Land Solutions in conjunction with the 2016 Terrell North, Texas USGS Quadrangle, the elevations of the CPE for Site 11 is 522.6 and the CPE for Site 13 is 517.2. Eleven, upland, off-channel ponds were identified across the Site and encompass approximately 2.7 acres (Table 4 and PJF Map). These ponds were excavated and likely created on uplands for past cattle operations. For linear distances, average distances between OHWMs, resulting acreages associated with the above-referenced, on-site reaches of Berry Creek and unnamed ephemeral drainages, see Table 1, below. The areas for the Scrub-shrub wetland, the two emergent wetlands and the three forested wetlands are located in Table 2. Areas for the SCS Sites 11 and 13 Reservoirs and jurisdictional pond are located in Table 3. The cumulative area for the eleven, off-channel ponds is located in Table 4.

Table 1. Potential Jurisdictional Other Waters of the United States (Berry Creek and Unnamed Ephemeral Drainages).

| Feature: | Length (Feet) | Average OHWM (Feet) | Resulting Area (Acres) |
|---------------------|----------------------|----------------------------|-------------------------------|
| Eph-1 | 946 | 5 | 0.1 |
| Eph-2 | 2,113 | 8 | 0.4 |
| Eph-3 | 782 | 3 | 0.05 |
| Eph-4 | 1,480 | 3 | 0.1 |
| Eph-5 (Berry Creek) | 1,526 | 8 | 0.3 |
| Eph-6 (Berry Creek) | 343 | 6 | 0.05 |
| Eph-7 | 565 | 5 | 0.06 |
| Total: | 7,755 | NA | 1.06 |

* Lengths and Areas derived from data collected on Garmin Montana 680t GPS, Aerial Photography and Ocular Estimations (OHWMs).

Table 2. Potential Jurisdictional Wetlands that are Waters of the United States (Scrub-shrub Wetland, Emergent Wetlands and Forested Wetlands).

| Feature: | Area (Acres) |
|---------------------|---------------------|
| Scrub-shrub Wetland | 0.2 |
| Emergent Wetlands | 2.1 |
| Forested Wetlands | 0.8 |
| Total: | 3.1 |

* Areas derived from data collected on Garmin Montana 680t GPS.

Table 3. Potential Jurisdictional Other Waters of the United States (SCS Reservoirs 11 and 13 and Jurisdictional Pond).

| Feature: | Area (Acres) |
|---|---------------------|
| SCS Site 11 Reservoir | 14.5 |
| SCS Site 13 Reservoir | 14.3 |
| Jurisdictional Pond (created on wetlands) | 0.3 |
| Total: | 29.1 |

* SCS Lake boundaries (Conservation Pool Elevation) were interpreted from 2 Foot Aerial Lidar (Peloton Land Solutions) and from 2016 Terrel North, Texas USGS Quadrangle and Area of Jurisdictional Pond was derived from Aerial Photography.

Table 4. Potential Non-Jurisdictional Waters that are not Waters of the United States (Off-channel Ponds).

| Feature: | Area (Acres) |
|-------------------|---------------------|
| Off-channel Ponds | 2.7 |
| Total: | 2.7 |

* Areas derived from Aerial Photography.

1973 aerial photography included in the Soil Survey of Kaufman and Rockwall Counties, Texas revealed the Site as then being mostly open pastures and agricultural fields with wooded areas being discernible on the upper ends of Hackberry Creek Site 11 and Berry Creek Site 13 Reservoirs. On-site, adjacent to and upstream of the Hackberry Creek Site 11 Reservoir; this resource illustrates three intermittent streams on the north side of the drainage area of the reservoir and six intermittent streams south of the drainage area. These unnamed tributaries intersect the main tributary that is illustrated as being intermittent in nature and to flow into the aforementioned reservoir. Of these nine illustrated streams, J&R only identified two (PJF Map) that would likely be considered jurisdictional by USACE. Another drainage is illustrated as being intermittent in nature just northwest of Wallace Road. This is a drainage area that J&R identified as being a grassy swale that drains into a woodlot that contains FW-1 (PJF Map). A small intermittent tributary is illustrated intersecting the aforementioned tributary at the approximate location of FW-1. On-site, adjacent to and upstream of the Berry Creek Site 13 Reservoir, this resource illustrates three intermittent streams to the north of what was identified in the field as Eph-5 and 6 (Berry Creek). J&R identified one of these in the field (Eph-4) while the other two appeared to have no OHWM or bed or bank and had been farmed across in previous years (PJF Map). Eph-5 and 6 are illustrated as continuous on this resource where in the field Eph-5 drained into EW-2 and then into

a wooded swale where it then headcut back into Eph-6 just before dumping into the aforementioned reservoir. Another stream is illustrated as being intermittent in nature where J&R identified Eph-7. This resource illustrates the stream meandering across the Site; however, J&R identified a grassy swale that appeared to have no OHWM or bed or bank during the Site visit in the vicinity of where this is illustrated (PJF Map). Another intermittent stream is illustrated along the eastern Site boundary; however, J&R did not identify this feature in the field. None of wetland types identified during the Site visits are illustrated or discernible on this resource. None of the eleven off-channel ponds are illustrated on this resource, however three are discernible. Both reservoirs are illustrated and discernible on this resource, while the one jurisdictional pond that J&R identified in the field as having been created on a wetland is not. No other on-site aquatic features are either depicted or discernible on the aerial photograph.

In general agreement with the previously-referenced resource, the 1963, Royce City, Texas, and the 1962 Terrell North, Texas USGS Quadrangles illustrate the Site as mostly open with a thin wooded riparian corridor being illustrated along Berry Creek. Topography is shown to be rolling and generally slopes west-southwest. Inconsistent with the above resource, but consistent with J&R's assessment, is the fact that only the three drainages (Eph-1, Eph-2 and Eph-3) that J&R identified in the field in the drainage area of the Site 11 Reservoir are illustrated on this resource. However, the drainages are illustrated as being intermittent and continuous and during the Site visit Eph-1 and Eph-3 were not identified as such (PJF Map). Also, inconsistent with J&R's Site visit is that this resource illustrates two channels where J&R identified the one channel of Eph-2 (PJF Map). Consistent with the above resource, a drainage is illustrated as being intermittent in nature just northwest of Wallace Road. This drainage area was identified by J&R as being a grassy swale and drains into a woodlot that contains FW-1 (PJF Map). On-site, adjacent to and upstream of the Berry Creek Site 13 Reservoir, this resource illustrates three intermittent streams to the north of what was identified in the field as Eph-5 and 6 (Berry Creek). J&R identified one of these in the field (Eph-4) while the others appeared to have no OHWM or bed or bank and/or had been farmed across in previous years (PJF Map). As with the above resource, the identified Eph-5 and 6 are illustrated as a continuous stream on this resource where in the field it drained into EW-2 and then into a wooded swale where it then headcut back into a Eph-6 just before dumping into the aforementioned reservoir. Inconsistent with the above resource is that a small portion of a drainage is also illustrated near the southwestern boundary and just south of Wallace Road. As with numerous other illustrated drainages on-site, J&R identified a grassy swale in this location. Consistent with the above resource, a stream is illustrated as being intermittent in nature where J&R identified Eph-7. Consistent with the above resource, this resource illustrates the stream meandering across the Site; however, J&R identified a grassy swale that appeared to have no OHWM or bed or bank during the Site visit in the vicinity where this is illustrated (PJF Map). Also consistent with the above resource, an intermittent stream is illustrated along the eastern Site boundary; however, J&R did not identify this feature in the field. Also, consistent with the above resource, none of wetland types identified during the Site visits are illustrated on this resource. Seven of the eleven off-channel ponds are illustrated on this resource and all are illustrated to be

off-channel. Inconsistent with the above, neither SCS Reservoir is illustrated on this resource. Consistent with the above resource, the one jurisdictional pond that J&R identified in the field as having been created on wetlands is not illustrated. No other aquatic features are illustrated as being located on-site on this resource.

Conclusions:

Based on the physical natures of Berry Creek, the five reaches of unnamed ephemeral drains, the two SCS Reservoirs, the jurisdictional pond (created on wetlands), the scrub-shrub wetland (Wetland Data Form), the three, forested wetlands (Wetland Data Forms), and the two, emergent wetlands (Wetland Data Forms) scattered across the Site (PJF Map), these on-site features do appear to be of the types that would fall under the jurisdiction of the USACE as Other Waters of the United States and Wetlands that are Waters of the United States, respectively. It is the current policy of the Fort Worth District of the USACE that they do claim jurisdiction over aquatic features of these types.

With regard to the eleven, upland, off-channel ponds identified across the Site, these ponds do not appear to have been constructed on-channel, or on wetlands, but appear to have been created in uplands, by way of excavation. As such, it appears unlikely that these ponds would be considered jurisdictional by the USACE at this time.

Based on review of readily available, published information and Site investigation, J&R did not identify any additional on-site areas exhibiting characteristics or features indicative of Wetlands that are Waters of the United States or Other Waters of the United States.

Developmental options typically consist of avoidance (where no correspondence with the USACE would be required), minimization of impacts (where, for a few, specific activities, no correspondence with the USACE would be required), or permitting (most often including the requirement for compensatory mitigation).

In exercising avoidance to identified, potentially jurisdictional Other Waters of the United States and identified, potentially jurisdictional Wetlands that are Waters of the United States, impacts (e.g. grading, filling, ditching) would need to occur outside the associated, jurisdictional boundaries. These lines would be OHWMs along Berry Creek, the other ephemeral drainages, the SCS Reservoirs (Sites 11 and 13) and the jurisdictional pond (created on wetlands) and wetland boundaries of the scrub-shrub wetland, emergent wetlands and forested wetlands on-site. If completed, a delineation of potentially jurisdictional aquatic features and subsequent surveying of the same could be utilized to help ensure avoidance and regulatory compliance. The use of silt fences also often helps prohibit impacts to jurisdictional areas and/or adjoining buffers.

Nationwide Permit 12 (for Utility Line Activities) was created for activities required for the construction, maintenance, repair, and removal of utility lines and associated facilities in Waters of the United States, provided the activity does not result in the loss of greater than one-half acre of Waters of the United States for each single and complete project. Nationwide Permit 12 authorizes the construction, maintenance, or repair of utility lines, including outfall and intake structures, and the associated excavation, backfill, or bedding for the utility lines, in all Waters of the United States, provided there is no change in preconstruction contours. A “utility line” is defined as any pipe or pipeline for the transportation of any gaseous, liquid, liquescent, or slurry substance, for any purpose, and any cable, line, or wire for the transmission for any purpose of electrical energy, telephone, and telegraph messages, and radio and television communication. The term “utility line” does not include activities that drain a Water of the United States, such as drainage tile or french drains, but it does apply to pipes conveying drainage from another area.

Material resulting from trench excavation may be temporarily sidecast into Waters of the United States for no more than three months, provided the material is not placed in such a manner that it is dispersed by currents or other forces. The USACE District Engineer may extend the period of temporary side casting for no more than a total of 180 days, where appropriate. In wetlands, the top six to 12 inches of the trench should normally be backfilled with topsoil from the trench. The trench cannot be constructed or backfilled in such a manner as to drain Waters of the United States (e.g. backfilling with extensive gravel layers, creating a french drain effect). Any exposed slopes and stream banks must be stabilized immediately upon completion of the utility line crossing of each waterbody.

Nationwide Permit 12 also authorizes temporary structures, fills, and work necessary to conduct the utility line activity. Appropriate measures must be taken to maintain normal downstream flows and minimize flooding to the maximum extent practicable, when temporary structures, work, and discharges, including cofferdams, are necessary for construction activities, access fills, or dewatering of construction sites. Temporary fills must consist of materials, and be placed in a manner, that will not be eroded by expected high flows. Temporary fills must be removed in their entirety and the affected areas returned to preconstruction elevations. The areas affected by temporary fills must be revegetated, as appropriate.

With regard to the requirement for submitting a Preconstruction Notification (PCN) to the USACE under this Nationwide Permit, the prospective permittee must submit PCN to the USACE (and subsequently acquire USACE Verification) prior to commencing the activity if any of the following criteria are met: (1) the activity involves mechanized land clearing in a forested wetland for the utility line right-of-way; additionally, a new Regional Condition for this activity states “For all activities proposed for authorization under Nationwide Permit (NWP) 12 that involve a discharge of fill material associated with mechanized land clearing of wetlands dominated by native woody shrubs, the applicant shall notify the appropriate District Engineer in accordance with the NWP General Condition 32 – Preconstruction Notification prior to commencing the

activity. For the purpose of this Regional Condition, a shrub dominated wetland is characterized by woody vegetation less than 3.0 inches in diameter at breast height but greater than 3.2 feet in height, which covers 20% or more of the area. Woody vines are not included.” (2) a Section 10 Permit (for impacts to Navigable Waters) is required; (3) the utility line in Waters of the United States, excluding overhead lines, exceeds 500 feet; (4) the utility line is placed within a jurisdictional area (i.e. Water of the United States), and it runs parallel to or along a stream bed that is within that jurisdictional area; (5) discharges that result in the loss of greater than one-tenth acre of Waters of the United States; (6) permanent access roads are constructed above grade in Waters of the United States for a distance of more than 500 feet; or (7) permanent access roads are constructed in Waters of the United States with impervious materials. As a condition of the Permit, compensatory mitigation (i.e. creation, enhancement, restoration, and/or preservation of Wetlands that are Waters of the United States / Other Waters of the United States) is often required. To clarify, if none of the above criteria are met, and Nationwide Permit General Conditions (which include the protection of endangered species and historic properties and the management of water flows) are met, the project may “qualify” under Nationwide Permit 12, whereby no correspondence with the USACE is required.

Under Nationwide Permit 14 (designed for linear transportation projects), in some cases, impacts which are less than one-tenth of an acre may qualify under Nationwide Permit 14, where no PCN to the USACE would be required. Certain criteria (such as that there are no impacts to Special Aquatic Sites (e.g. wetlands)), conditions (e.g. that the width of the fill is limited to the minimum necessary for the crossing), and Nationwide Permit General Conditions (which include the protection of endangered species and historic properties and the management of water flows) must be met. Regarding the width of the fill being limited to the minimum necessary for the crossing, this is typically achieved by crossing the aquatic feature in a more-or-less perpendicular manner. Additionally, “appropriate measures must be taken to maintain normal downstream flows and minimize flooding to the maximum extent practicable, when temporary structures, work, and discharges, including cofferdams, are necessary for construction activities, access fills, or dewatering of construction sites. Temporary fills must consist of materials, and be placed in a manner, that will not be eroded by expected high flows. Temporary fills must be removed in their entirety and the affected areas returned to preconstruction elevations. The areas affected by temporary fills must be revegetated, as appropriate.”

Applicable impact(s) to greater than one-tenth of an acre, yet less than or equal to one-half of an acre, of on-site, jurisdictional aquatic features, and/or impact(s) which do not meet the required criteria, may qualify for permitting under Nationwide Permit 14. In this case, a PCN (and the subsequent acquisition of USACE Verification) is required prior to impact(s) that might affect jurisdictional area(s). As a condition of the Verification, compensatory mitigation is often required.

Also of note another new Nationwide Permit Regional Condition states that for all activities proposed for authorization under Nationwide Permits NWP 12 and 14 that involve a temporary discharge of fill material into 1/2 acre or more of emergent wetland OR 1/10 acre of scrub-shrub/forested wetland, the applicant shall notify the Fort Worth District Engineer in accordance with the NWP General Condition 32 - PCN prior to commencing the activity.

Nationwide Permit 29 (designed to sometimes allow for residential development) authorizes the construction of building foundations and building pads and attendant features that are necessary for the use of the residence or residential development. Attendant features may include, but are not limited to, roads, parking lots, garages, yards, utility lines, stormwater management facilities, septic fields, and recreation facilities such as playgrounds, playing fields, and golf courses (provided the golf course is an integral part of the residential development). Under Nationwide Permit 29, cumulative impacts to not greater than one-half acre of non-tidal Waters of the United States, including the loss of no more than 300 linear feet of stream bed, unless for intermittent and ephemeral stream beds this 300 linear feet limit is waived in writing by the USACE District Engineer, may be authorized by this Permit. This includes any loss of Waters of the United States associated with development of individual subdivision lots. Under Nationwide Permit 29, the Permittee must submit a PCN to the USACE prior to commencing the activity. Therefore, and to reiterate, when utilizing Nationwide Permit 29, a PCN (and the subsequent acquisition of USACE Verification) will be required prior to impacts that might affect jurisdictional areas. As a condition of the Verification, and depending on variables such as the type of impact, extent of the impact, the nature of the aquatic feature being impacted, in addition to other factors, compensatory mitigation may, and likely will, be required. Additionally, as with all Nationwide Permits, certain criteria and associated Nationwide Permit General Conditions (which, again, include the protection of endangered species and historic properties and the management of water flows) must be met.

In order to comply with Texas Commission on Environmental Quality (TCEQ) 401 Water Quality Certification Conditions for Nationwide Permits, when utilizing a Nationwide Permit, the contractor should utilize at least one Best Management Practice from each of the applicable categories of on-site water quality management. For Nationwide Permits 12, 14 and 29, this consists of all three categories - erosion control, sedimentation control, and post-construction total suspended solids control. Attached, for your convenience, is a copy of the TCEQ 401 Water Quality Certification Conditions for Nationwide Permits.

Impacts resulting in fill, and which do not meet the conditions of one of the many Nationwide Permits, typically require the more involved Individual Permitting process. In this case, a Permit application package to, and subsequent acquisition of a Permit from, the USACE is required prior to impacts that might affect jurisdictional areas. As a condition of the Permit, compensatory mitigation is most often required. Additionally, certain criteria and Special Conditions must be met. Individual Permits routinely require approximately one year or more to secure, and include a public notice and commenting period.

Jones & Ridenour, Inc. appreciates the opportunity to have been able to provide environmental consulting services to DR Horton – Texas Ltd. Partnership. If you have any questions regarding the above, or if Jones & Ridenour, Inc. may be of further assistance, please feel free to call the undersigned at 903.464.9055.

Sincerely,
Jones & Ridenour, Inc.



Lance C. Jones
President / Ecologist

Attachment: Potential Jurisdictional Features Map
 Potential Jurisdictional Features Map Legend
 USACE Wetland Determination Data Forms-Great Plains Region (SPL 1-7)
 TCEQ 401 Water Quality Certification Conditions for Nationwide Permits

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Koch 1237 City/County: Rockwall County Sampling Date: 9/11/19
 Applicant/Owner: DR Horton State: TX Sampling Point: SPL 3
 Investigator(s): Lance C. Jones & Doug Ridenour Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): Overflow depression Local relief (concave, convex, none): Concave Slope (%): 1
 Subregion (LRR): LRR J Lat: 32.87159 Long: -96.35229 Datum: NAD 83
 Soil Map Unit Name: Heiden clay, 3 to 5 percent slopes NWI classification: R4SBC

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | |
|--|--|
| Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____ Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____ | Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____ |
| Remarks: <u>Sampling Point is outside the OHWM that is around the upper (northeast) end of SCS Site 11 Reservoir, and is just northwest of the associated, wooded, ripraian corridor.</u> | |

VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: <u>30'</u>) | Absolute % Cover | Dominant Species? | Indicator Status | |
|--|------------------|-------------------|------------------|--|
| 1. _____ | _____ | _____ | _____ | |
| 2. _____ | _____ | _____ | _____ | |
| 3. _____ | _____ | _____ | _____ | |
| 4. _____ | _____ | _____ | _____ | |
| _____ = Total Cover | | | | |
| Sapling/Shrub Stratum (Plot size: <u>15'</u>) | | | | |
| 1. _____ | | | | |
| 2. _____ | | | | |
| 3. _____ | | | | |
| 4. _____ | | | | |
| 5. _____ | | | | |
| _____ = Total Cover | | | | |
| Herb Stratum (Plot size: <u>5'</u>) | | | | |
| 1. <u>Carex crus-corvi</u> | <u>75</u> | <u>Yes</u> | <u>Obl</u> | |
| 2. <u>Ambrosia trifida</u> | <u>25</u> | <u>Yes</u> | <u>Fac</u> | |
| 3. <u>Eleocharis montevidensis</u> | <u>15</u> | <u>No</u> | <u>FacW</u> | |
| 4. <u>Aster dumosus</u> | <u>5</u> | <u>No</u> | <u>Fac</u> | |
| 5. <u>Cardiospermum halicacabum</u> | <u>5</u> | <u>No</u> | <u>Fac</u> | |
| 6. _____ | | | | |
| 7. _____ | | | | |
| 8. _____ | | | | |
| 9. _____ | | | | |
| 10. _____ | | | | |
| <u>125</u> = Total Cover | | | | |
| Woody Vine Stratum (Plot size: <u>30'</u>) | | | | |
| 1. _____ | | | | |
| 2. _____ | | | | |
| _____ = Total Cover | | | | |
| % Bare Ground in Herb Stratum <u>2</u> | | | | |
| Remarks: | | | | |

Dominance Test worksheet:
 Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): 2 (A)
 Total Number of Dominant Species Across All Strata: 2 (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:
 Total % Cover of: _____ Multiply by: _____
 OBL species _____ x 1 = _____
 FACW species _____ x 2 = _____
 FAC species _____ x 3 = _____
 FACU species _____ x 4 = _____
 UPL species _____ x 5 = _____
 Column Totals: _____ (A) _____ (B)
 Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:
 ___ 1 - Rapid Test for Hydrophytic Vegetation
 2 - Dominance Test is >50%
 ___ 3 - Prevalence Index is ≤3.0¹
 ___ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 ___ Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No _____

SOIL

Sampling Point: SPL 3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

| Depth (inches) | Matrix | | Redox Features | | | Texture | Remarks |
|----------------|---------------|----|----------------|----|-------------------|---------|---------|
| | Color (moist) | % | Color (moist) | % | Type ¹ | | |
| 0-18 | 10YR 3/1 | 70 | 7.5YR 4/6 | 15 | | M | Clay |
| | | | 7.5YR 4/6 | 15 | | PL | Clay |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

| | | |
|--|---|---|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Sandy Gleyed Matrix (S4) | <input type="checkbox"/> 1 cm Muck (A9) (LRR I, J) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Sandy Redox (S5) | <input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Stripped Matrix (S6) | <input type="checkbox"/> Dark Surface (S7) (LRR G) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Mucky Mineral (F1) | <input type="checkbox"/> High Plains Depressions (F16) |
| <input type="checkbox"/> Stratified Layers (A5) (LRR F) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) | (LRR H outside of MLRA 72 & 73) |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H) | <input type="checkbox"/> Depleted Matrix (F3) | <input type="checkbox"/> Reduced Vertic (F18) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input checked="" type="checkbox"/> Redox Dark Surface (F6) | <input type="checkbox"/> Red Parent Material (TF2) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Depleted Dark Surface (F7) | <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Redox Depressions (F8) | <input type="checkbox"/> Other (Explain in Remarks) |
| <input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) | <input type="checkbox"/> High Plains Depressions (F16) | ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F) | (MLRA 72 & 73 of LRR H) | |

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes No _____

Remarks: Oxidized root channels are abundant.

HYDROLOGY

Wetland Hydrology Indicators:

| | | |
|---|--|---|
| <u>Primary Indicators (minimum of one required; check all that apply)</u> | | <u>Secondary Indicators (minimum of two required)</u> |
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Salt Crust (B11) | <input type="checkbox"/> Surface Soil Cracks (B6) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Aquatic Invertebrates (B13) | <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) |
| <input type="checkbox"/> Saturation (A3) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) | <input checked="" type="checkbox"/> Drainage Patterns (B10) |
| <input type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Dry-Season Water Table (C2) | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) | (where tilled) |
| <input type="checkbox"/> Drift Deposits (B3) | (where not tilled) | <input checked="" type="checkbox"/> Crayfish Burrows (C8) |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Presence of Reduced Iron (C4) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Thin Muck Surface (C7) | <input checked="" type="checkbox"/> Geomorphic Position (D2) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Other (Explain in Remarks) | <input type="checkbox"/> FAC-Neutral Test (D5) |
| <input type="checkbox"/> Water-Stained Leaves (B9) | | <input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F) |

Field Observations:

| | | | |
|---|--|-----------------------|--|
| Surface Water Present? | Yes _____ No <input checked="" type="checkbox"/> | Depth (inches): _____ | Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____ |
| Water Table Present? | Yes _____ No <input checked="" type="checkbox"/> | Depth (inches): _____ | |
| Saturation Present? (includes capillary fringe) | Yes _____ No <input checked="" type="checkbox"/> | Depth (inches): _____ | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Koch 1237 City/County: Rockwall County Sampling Date: 9/19/19

Applicant/Owner: DR Horton State: TX Sampling Point: SPL 4

Investigator(s): Lance C. Jones & Doug Ridenour Section, Township, Range: _____

Landform (hillslope, terrace, etc.): Swale Local relief (concave, convex, none): Concave Slope (%): 2

Subregion (LRR): LRR J Lat: 32.86238 Long: -96.34866 Datum: NAD 83

Soil Map Unit Name: Houston Black clay, 1 to 3 percent slopes NWI classification: R4SBC

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|----------|--|
| Hydrophytic Vegetation Present? | Yes <input checked="" type="checkbox"/> | No _____ | Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____ |
| Hydric Soil Present? | Yes <input checked="" type="checkbox"/> | No _____ | |
| Wetland Hydrology Present? | Yes <input checked="" type="checkbox"/> | No _____ | |
| Remarks: <u>Sampling Point is in a wooded swale, in a block of woods, along the southwest Site boundary, northwest of Wallace Road.</u> | | | |

VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: <u>30'</u>) | Absolute % Cover | Dominant Species? | Indicator Status | | | | | | | | | | | | | | | | | |
|--|------------------|-------------------|------------------|---|-------------------|--------------|-------------------|-------------|--------------------|-------------|-------------------|-------------|--------------------|-------------|-------------------|-------------|--------------------------|-----------|--------------------------------|--|
| 1. <u>Celtis laevigata</u> | 40 | Yes | Fac | Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>4</u> (A) Total Number of Dominant Species Across All Strata: <u>7</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>57</u> (A/B) | | | | | | | | | | | | | | | | |
| 2. _____ | | | | | | | | | | | | | | | | | | | | |
| 3. _____ | | | | | | | | | | | | | | | | | | | | |
| 4. _____ | | | | | | | | | | | | | | | | | | | | |
| <u>40</u> = Total Cover | | | | Prevalence Index worksheet: <table style="width: 100%; border: none;"> <tr> <td style="width: 50%;">Total % Cover of:</td> <td style="width: 50%;">Multiply by:</td> </tr> <tr> <td>OBL species _____</td> <td>x 1 = _____</td> </tr> <tr> <td>FACW species _____</td> <td>x 2 = _____</td> </tr> <tr> <td>FAC species _____</td> <td>x 3 = _____</td> </tr> <tr> <td>FACU species _____</td> <td>x 4 = _____</td> </tr> <tr> <td>UPL species _____</td> <td>x 5 = _____</td> </tr> <tr> <td>Column Totals: _____ (A)</td> <td>_____ (B)</td> </tr> <tr> <td colspan="2" style="text-align: center;">Prevalence Index = B/A = _____</td> </tr> </table> | Total % Cover of: | Multiply by: | OBL species _____ | x 1 = _____ | FACW species _____ | x 2 = _____ | FAC species _____ | x 3 = _____ | FACU species _____ | x 4 = _____ | UPL species _____ | x 5 = _____ | Column Totals: _____ (A) | _____ (B) | Prevalence Index = B/A = _____ | |
| Total % Cover of: | Multiply by: | | | | | | | | | | | | | | | | | | | |
| OBL species _____ | x 1 = _____ | | | | | | | | | | | | | | | | | | | |
| FACW species _____ | x 2 = _____ | | | | | | | | | | | | | | | | | | | |
| FAC species _____ | x 3 = _____ | | | | | | | | | | | | | | | | | | | |
| FACU species _____ | x 4 = _____ | | | | | | | | | | | | | | | | | | | |
| UPL species _____ | x 5 = _____ | | | | | | | | | | | | | | | | | | | |
| Column Totals: _____ (A) | _____ (B) | | | | | | | | | | | | | | | | | | | |
| Prevalence Index = B/A = _____ | | | | | | | | | | | | | | | | | | | | |
| Sapling/Shrub Stratum (Plot size: <u>15'</u>) | | | | | | | | | | | | | | | | | | | | |
| 1. <u>Celtis laevigata</u> | 5 | Yes | Fac | | | | | | | | | | | | | | | | | |
| 2. <u>Gleditsia triacanthos</u> | 2 | Yes | FacU | | | | | | | | | | | | | | | | | |
| 3. _____ | | | | | | | | | | | | | | | | | | | | |
| 4. _____ | | | | | | | | | | | | | | | | | | | | |
| 5. _____ | | | | | | | | | | | | | | | | | | | | |
| <u>7</u> = Total Cover | | | | | | | | | | | | | | | | | | | | |
| Herb Stratum (Plot size: <u>5'</u>) | | | | | | | | | | | | | | | | | | | | |
| 1. <u>Cardiospermum halicacabum</u> | 25 | Yes | Fac | | | | | | | | | | | | | | | | | |
| 2. <u>Rumex altissimus</u> | 15 | Yes | Fac | | | | | | | | | | | | | | | | | |
| 3. <u>Sorghum halepense</u> | 15 | Yes | FacU | | | | | | | | | | | | | | | | | |
| 4. <u>Ammannia coccinea</u> | 5 | No | Obl | | | | | | | | | | | | | | | | | |
| 5. <u>Echinochloa crus-galli</u> | 2 | No | Fac | | | | | | | | | | | | | | | | | |
| 6. _____ | | | | | | | | | | | | | | | | | | | | |
| 7. _____ | | | | | | | | | | | | | | | | | | | | |
| 8. _____ | | | | | | | | | | | | | | | | | | | | |
| 9. _____ | | | | | | | | | | | | | | | | | | | | |
| 10. _____ | | | | | | | | | | | | | | | | | | | | |
| <u>62</u> = Total Cover | | | | | | | | | | | | | | | | | | | | |
| Woody Vine Stratum (Plot size: <u>30'</u>) | | | | | | | | | | | | | | | | | | | | |
| 1. <u>Toxicodendron radicans</u> | 20 | Yes | FacU | | | | | | | | | | | | | | | | | |
| 2. _____ | | | | | | | | | | | | | | | | | | | | |
| <u>20</u> = Total Cover | | | | | | | | | | | | | | | | | | | | |
| % Bare Ground in Herb Stratum <u>25</u> | | | | | | | | | | | | | | | | | | | | |
| Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) | | | | | | | | | | | | | | | | | | | | |
| ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. | | | | | | | | | | | | | | | | | | | | |
| Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____ | | | | | | | | | | | | | | | | | | | | |
| Remarks: _____ | | | | | | | | | | | | | | | | | | | | |

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Koch 1237 City/County: Rockwall County Sampling Date: 10/2/19
 Applicant/Owner: DR Horton State: TX Sampling Point: SPL 5
 Investigator(s): Lance C. Jones & Doug Ridenour Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 1
 Subregion (LRR): LRR J Lat: 32.85975 Long: -96.33031 Datum: NAD 83
 Soil Map Unit Name: Kaufman clay, frequently flooded NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | |
|--|--|
| Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____ Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____ | Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____ |
| Remarks: <u>Sampling Point is in a forested wetland, in a wooded riparian corridor, near the northeast Site boundary.</u> | |

VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: <u>30'</u>) | Absolute % Cover | Dominant Species? | Indicator Status | | |
|--|------------------|-------------------|------------------|---|--|
| 1. <u>Celtis laevigata</u> | <u>30</u> | Yes | Fac | Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>67</u> (A/B) | |
| 2. <u>Gleditsia triacanthos</u> | <u>10</u> | Yes | FacU | | |
| 3. _____ | _____ | _____ | _____ | | |
| 4. _____ | _____ | _____ | _____ | | |
| <u>40</u> = Total Cover | | | | | |
| Sapling/Shrub Stratum (Plot size: <u>15'</u>) | | | | | |
| 1. <u>Celtis laevigata</u> | <u>10</u> | Yes | Fac | Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____ | |
| 2. _____ | _____ | _____ | _____ | | |
| 3. _____ | _____ | _____ | _____ | | |
| 4. _____ | _____ | _____ | _____ | | |
| 5. _____ | _____ | _____ | _____ | | |
| <u>10</u> = Total Cover | | | | | |
| Herb Stratum (Plot size: <u>5'</u>) | | | | | |
| 1. <u>Cardiospermum halicacabum</u> | <u>1</u> | No | Fac | | |
| 2. <u>Carex sp.</u> | <u>1</u> | No | _____ | | |
| 3. _____ | _____ | _____ | _____ | | |
| 4. _____ | _____ | _____ | _____ | | |
| 5. _____ | _____ | _____ | _____ | | |
| 6. _____ | _____ | _____ | _____ | | |
| 7. _____ | _____ | _____ | _____ | | |
| 8. _____ | _____ | _____ | _____ | | |
| 9. _____ | _____ | _____ | _____ | | |
| 10. _____ | _____ | _____ | _____ | | |
| <u>2</u> = Total Cover | | | | | |
| Woody Vine Stratum (Plot size: <u>30'</u>) | | | | | |
| 1. <u>Toxicodendron radicans</u> | <u>2</u> | No | FacU | | |
| 2. _____ | _____ | _____ | _____ | | |
| <u>2</u> = Total Cover | | | | | |
| % Bare Ground in Herb Stratum <u>98</u> | | | | | |
| Remarks: _____ | | | | | |
| Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____ | | | | | |

SOIL

Sampling Point: SPL 5

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

| Depth (inches) | Matrix | | Redox Features | | | | Texture | Remarks |
|----------------|---------------|----|----------------|----|-------------------|------------------|---------|---------|
| | Color (moist) | % | Color (moist) | % | Type ¹ | Loc ² | | |
| 0-18 | 10YR 2/1 | 70 | 10YR 5/8 | 30 | | PL | Clay | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydic Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

| | |
|--|---|
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Sandy Gleyed Matrix (S4) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Sandy Redox (S5) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Stripped Matrix (S6) |
| <input type="checkbox"/> Stratified Layers (A5) (LRR F) | <input type="checkbox"/> Loamy Mucky Mineral (F1) |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input checked="" type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input checked="" type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) | <input type="checkbox"/> Redox Depressions (F8) |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F) | <input type="checkbox"/> High Plains Depressions (F16) |

(MLRA 72 & 73 of LRR H)

Indicators for Problematic Hydric Soils³:

| |
|--|
| <input type="checkbox"/> 1 cm Muck (A9) (LRR I, J) |
| <input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H) |
| <input type="checkbox"/> Dark Surface (S7) (LRR G) |
| <input type="checkbox"/> High Plains Depressions (F16) |
| (LRR H outside of MLRA 72 & 73) |
| <input type="checkbox"/> Reduced Vertic (F18) |
| <input type="checkbox"/> Red Parent Material (TF2) |
| <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Other (Explain in Remarks) |

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydic Soil Present? Yes No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

| | | |
|---|--|---|
| <u>Primary Indicators (minimum of one required; check all that apply)</u> | | <u>Secondary Indicators (minimum of two required)</u> |
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Salt Crust (B11) | <input type="checkbox"/> Surface Soil Cracks (B6) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Aquatic Invertebrates (B13) | <input checked="" type="checkbox"/> Sparsely Vegetated Concave Surface (B8) |
| <input type="checkbox"/> Saturation (A3) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) | <input checked="" type="checkbox"/> Drainage Patterns (B10) |
| <input checked="" type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Dry-Season Water Table (C2) | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) | (where tilled) |
| <input checked="" type="checkbox"/> Drift Deposits (B3) | (where not tilled) | <input type="checkbox"/> Crayfish Burrows (C8) |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Presence of Reduced Iron (C4) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Thin Muck Surface (C7) | <input checked="" type="checkbox"/> Geomorphic Position (D2) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Other (Explain in Remarks) | <input type="checkbox"/> FAC-Neutral Test (D5) |
| <input type="checkbox"/> Water-Stained Leaves (B9) | | <input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F) |

Field Observations:

| | | |
|--|-----------------------|---|
| Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | Depth (inches): _____ | Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> |
| Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | Depth (inches): _____ | |
| Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | Depth (inches): _____ | |

(includes capillary fringe)

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Koch 1237 City/County: Rockwall County Sampling Date: 10/2/19

Applicant/Owner: DR Horton State: TX Sampling Point: SPL 6

Investigator(s): Lance C. Jones & Doug Ridenour Section, Township, Range: _____

Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): None Slope (%): 0

Subregion (LRR): LRR J Lat: 32.85806 Long: -96.33191 Datum: NAD 83

Soil Map Unit Name: Kaufman clay, frequently flooded NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | |
|--|--|
| Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____ | Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____ |
| Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____ | |
| Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____ | |

Remarks: Sampling Point is in a forested wetland, in a wooded riparian corridor, near a southeast Site boundary.

VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: <u>30'</u>) | Absolute % Cover | Dominant Species? | Indicator Status | Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>7</u> (A) |
|--|------------------|-------------------|------------------|--|
| 1. <u>Celtis laevigata</u> | <u>30</u> | <u>Yes</u> | <u>Fac</u> | |
| 2. <u>Ulmus crassifolia</u> | <u>12</u> | <u>Yes</u> | <u>Fac</u> | Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B) |
| 3. <u>Ulmus americana</u> | <u>8</u> | <u>No</u> | <u>Fac</u> | |
| 4. _____ | _____ | _____ | _____ | Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 ¹ ___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain) |
| <u>50</u> = Total Cover | | | | |
| Sapling/Shrub Stratum (Plot size: <u>15'</u>) | | | | |
| 1. <u>Celtis laevigata</u> | <u>2</u> | <u>Yes</u> | <u>Fac</u> | Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____ |
| 2. <u>Ulmus crassifolia</u> | <u>2</u> | <u>Yes</u> | <u>Fac</u> | |
| 3. <u>Ulmus americana</u> | <u>1</u> | <u>Yes</u> | <u>Fac</u> | _____ = Total Cover |
| 4. _____ | _____ | _____ | _____ | |
| Herb Stratum (Plot size: <u>5'</u>) | | | | |
| 1. <u>Carex cherokeensis</u> | <u>15</u> | <u>Yes</u> | <u>FacW</u> | _____ = Total Cover |
| 2. <u>Elymus virginicus</u> | <u>10</u> | <u>Yes</u> | <u>Fac</u> | |
| 3. <u>Carex crus-corvi</u> | <u>2</u> | <u>No</u> | <u>Obl</u> | _____ = Total Cover |
| 4. _____ | _____ | _____ | _____ | |
| Woody Vine Stratum (Plot size: <u>30'</u>) | | | | |
| 1. _____ | _____ | _____ | _____ | _____ = Total Cover |
| 2. _____ | _____ | _____ | _____ | |
| % Bare Ground in Herb Stratum <u>75</u> | | | | |

Remarks: _____

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Koch 1237 City/County: Rockwall County Sampling Date: 10/2/19
 Applicant/Owner: DR Horton State: TX Sampling Point: SPL 7
 Investigator(s): Lance C. Jones & Doug Ridenour Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): Swale Local relief (concave, convex, none): Concave Slope (%): 1
 Subregion (LRR): LRR J Lat: 32.85770 Long: -96.33270 Datum: NAD 83
 Soil Map Unit Name: Kaufman clay, frequently flooded NWI classification: R4SBC

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|--|---|----------|--|
| Hydrophytic Vegetation Present? | Yes <input checked="" type="checkbox"/> | No _____ | Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____ |
| Hydric Soil Present? | Yes <input checked="" type="checkbox"/> | No _____ | |
| Wetland Hydrology Present? | Yes <input checked="" type="checkbox"/> | No _____ | |
| Remarks: <u>Sampling Point is in an emergent wetland, near a wooded riparian corridor and a pipeline right-of-way.</u> | | | |

VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: <u>30'</u>) | Absolute % Cover | Dominant Species? | Indicator Status | |
|--|---------------------|-------------------|------------------|--|
| 1. _____ | _____ | _____ | _____ | |
| 2. _____ | _____ | _____ | _____ | |
| 3. _____ | _____ | _____ | _____ | |
| 4. _____ | _____ | _____ | _____ | |
| _____ = Total Cover | | | | |
| Sapling/Shrub Stratum (Plot size: <u>15'</u>) | | | | |
| 1. _____ | _____ | _____ | _____ | |
| 2. _____ | _____ | _____ | _____ | |
| 3. _____ | _____ | _____ | _____ | |
| 4. _____ | _____ | _____ | _____ | |
| 5. _____ | _____ | _____ | _____ | |
| _____ = Total Cover | | | | |
| Herb Stratum (Plot size: <u>5'</u>) | | | | |
| 1. <u>Ludwigia peploides</u> | <u>60</u> | <u>Yes</u> | <u>Obl</u> | |
| 2. <u>Cardiospermum halicacabum</u> | <u>30</u> | <u>Yes</u> | <u>Fac</u> | |
| 3. <u>Carex crus-corvi</u> | <u>30</u> | <u>Yes</u> | <u>Obl</u> | |
| 4. <u>Polygonum pensylvanicum</u> | <u>15</u> | <u>No</u> | <u>FacW</u> | |
| 5. <u>Iva annua</u> | <u>5</u> | <u>No</u> | <u>Fac</u> | |
| 6. _____ | _____ | _____ | _____ | |
| 7. _____ | _____ | _____ | _____ | |
| 8. _____ | _____ | _____ | _____ | |
| 9. _____ | _____ | _____ | _____ | |
| 10. _____ | _____ | _____ | _____ | |
| _____ = Total Cover | | | | |
| Woody Vine Stratum (Plot size: <u>30'</u>) | | | | |
| 1. _____ | _____ | _____ | _____ | |
| 2. _____ | _____ | _____ | _____ | |
| _____ = Total Cover | | | | |
| % Bare Ground in Herb Stratum <u>5</u> | _____ = Total Cover | | | |
| Remarks: _____ | | | | |

Dominance Test worksheet:
 Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): 3 (A)
 Total Number of Dominant Species Across All Strata: 3 (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:
 Total % Cover of: _____ Multiply by: _____
 OBL species _____ x 1 = _____
 FACW species _____ x 2 = _____
 FAC species _____ x 3 = _____
 FACU species _____ x 4 = _____
 UPL species _____ x 5 = _____
 Column Totals: _____ (A) _____ (B)
 Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:
 1 - Rapid Test for Hydrophytic Vegetation
 2 - Dominance Test is >50%
 3 - Prevalence Index is ≤3.0¹
 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No _____



Attachment 2

401 Water Quality Certification Best Management Practices (BMPs) for Nationwide Permits

Below are the 401 water quality certification conditions the Texas Commission on Environmental Quality (TCEQ) added to the January 6, 2017 issuance of Nationwide Permits (NWP), as described in the Federal Register (Vol. 82, No. 4, pages 1860-2008).

Additional information regarding these conditions, including descriptions of the best management practices (BMPs), can be obtained from the TCEQ by contacting the 401 Coordinator, MC-150, P.O. Box 13087, Austin, Texas 78711-3087 or from the appropriate U.S. Army Corps of Engineers district office.

I. Erosion Control

Disturbed areas must be stabilized to prevent the introduction of sediment to adjacent wetlands or water bodies during wet weather conditions (erosion). *At least one* of the following BMPs must be maintained and remain in place until the area has been stabilized for NWPs 3, 6, 7, 12, 13, 14, 15, 17, 18, 19, 21, 22, 25, 27, 29, 30, 31, 32, 33, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 49, 50, 51, 52, and 53. If the applicant does not choose one of the BMPs listed, an individual 401 certification is required. BMPs for NWP 52 apply only to land-based impacts from attendant features.

- o Temporary Vegetation
- o Blankets/Matting
- o Mulch
- o Sod
- o Interceptor Swale
- o Diversion Dike
- o Erosion Control Compost
- o Mulch Filter Socks
- o Compost Filter Socks

II. Sedimentation Control

Prior to project initiation, the project area must be isolated from adjacent wetlands and water bodies by the use of BMPs to confine sediment. Dredged material shall be placed in such a manner that prevents sediment runoff into water in the state, including wetlands. Water bodies can be isolated by the use of one or more of the required BMPs identified for sedimentation control. These BMP's must be maintained and remain in place until the dredged material is stabilized. *At least one* of the following BMPs must be maintained and remain in place until the area has been stabilized for NWPs 3, 6, 7, 12, 13, 14, 15, 17, 18, 19, 21, 22, 25, 27, 29, 30, 31, 32, 33, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 49, 50, 51, 52, 53, and 54. If the applicant does not choose one of the BMPs listed, an individual 401 certification is required. BMPs for NWP 52 apply only to land-based impacts from attendant features.

- o Sand Bag Berm
- o Rock Berm



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- o Silt Fence
- o Triangular Filter Dike
- o Stone Outlet Sediment Traps
- o Erosion Control Compost
- o Compost Filter Socks
- o Hay Bale Dike
- o Brush Berms
- o Sediment Basins
- o Mulch Filter Socks

III. Post-Construction TSS Control

After construction has been completed and the site is stabilized, total suspended solids (TSS) loadings shall be controlled by *at least one* of the following BMPs for NWP 12, 14, 17, 18, 21, 29, 31, 36, 39, 40, 41, 42, 44, 45, 49, 50, 51, and 52. If the applicant does not choose one of the BMPs listed, an individual 401 certification is required. BMPs for NWP 52 apply only to land-based impacts from attendant features. Runoff from bridge decks has been exempted from the requirement for post construction TSS controls.

- o Retention/Irrigation Systems
- o Extended Detention Basin
- o Vegetative Filter Strips
- o Grassy Swales
- o Erosion Control Compost
- o Compost Filter Socks
- o Constructed Wetlands
- o Wet Basins
- o Vegetation lined drainage ditches
- o Sand Filter Systems
- o Mulch Filter Socks
- o Sedimentation Chambers*

* Only to be used when there is no space available for other approved BMPs.

IV. NWP 16: Return Water from Upland Contained Disposal Areas

Effluent from an upland contained disposal area shall not exceed a TSS concentration of 300 mg/L unless a site-specific TSS limit, or a site specific correlation curve for turbidity (nephelometric turbidity units (NTU)) versus TSS has been approved by TCEQ.

V. NWP 29, 39, 40, 42, 43, 44, 50, 51, and 52

The Corps will copy the TCEQ on all authorizations for impacts of greater than 300



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linear feet of intermittent and ephemeral streams.

VI. NWP 13

The Corps will copy the TCEQ on all authorizations for impacts greater than 500 linear feet in length of ephemeral, intermittent, perennial streams or drainage ditches.

VII. NWP 36

The Corps will copy the TCEQ on all authorizations for discharges greater than the 50 cubic yard limit or boat ramps greater than 20 feet in width.

VIII. All NWPs except NWP 3

These NWPs are not authorized for use in coastal dune swales, mangrove marshes, and Columbia bottomlands in the Galveston District, Texas.