



## Harambe 2920

### 304.c.(6): Transportation Plan

Weld County does not require a traffic plan, but the below information is provided to Weld County as part of the WOGLA required information.

Total Annual Truck Trips for the location are listed below

Construction: 728 Trips

Drilling: 2230 Trips

Completions: 2689 Trips

Interim reclamation: 96 Trips

Production: 3831 Trips for the first year of production

1) The estimated duration at this oil and gas location will be 14 days for pad construction, 49 days for drilling operations and 59 days for completion operations.

**Average traffic during construction:**

5-20 belly dumps making 3-4 round trips per day. Initial move in to include loaders and other heavy equipment.

**Average traffic during drilling:**

During the first two days and last two days of Drilling Operations, the expected number of per day roundtrips will be approximately 20-25 Passenger Cars/Pickups and 30-35 Semi- Truck/Trailer. For the remaining 45 days, Passenger Car/Pickup vehicles will be reduced to 10-15 trips per day and Tandem Truck trips will be approximately 15-20 trips per day.

**Average traffic during completion:**

During the first two days and last two days of Completions Operations, the expected number of per day roundtrips will be approximately 30 Passenger Cars/Pickups and 17 Semi- Truck/Trailer.

During the actual hydraulic fracturing activity which will begin after the initial two days described above and consist of the next 28 days, there will be approximately 30 Passenger Cars/Pickups and 17 Semi-Truck/Trailer roundtrips per day.



During the drill-out phase which will begin after the hydraulic fracturing activity described above and consist of the next 27 days, there will be approximately 15 Passenger Cars/Pickups and 8 Semi- Truck/Trailer roundtrips per day.

**Average traffic during production operations:**

One pumper visit per day, pickup truck. Water and Oil Haulers to be called as needed. Water production decreases significantly after the first year and truck traffic will be reduced over time.

- 2) The expected travel routes or haul routes for the site traffic.

Begin at the intersection of HWY 52 and WCR 51; travel North on WCR 51 for 2 miles. Turn east on WCR 16 and travel for 540 feet. Turn south on existing gravel access road to the Harambe 2920 location.

- 3) The travel distribution along the routes (e.g. 50% of traffic will come from the north, 20% from the south, 30% from the east, etc.).

Roughly 100% of the traffic will come from the North and East on WCR 51 and WCR 16.

- 4) The time of day when the highest traffic volumes are expected.

The first 2 days and the last 2 days of both drilling and completions operations traffic is expected to be the highest. On a daily schedule 5:00 am and 5:00 pm will have the highest volumes. As these times are typically shift change for the Vendors on location.

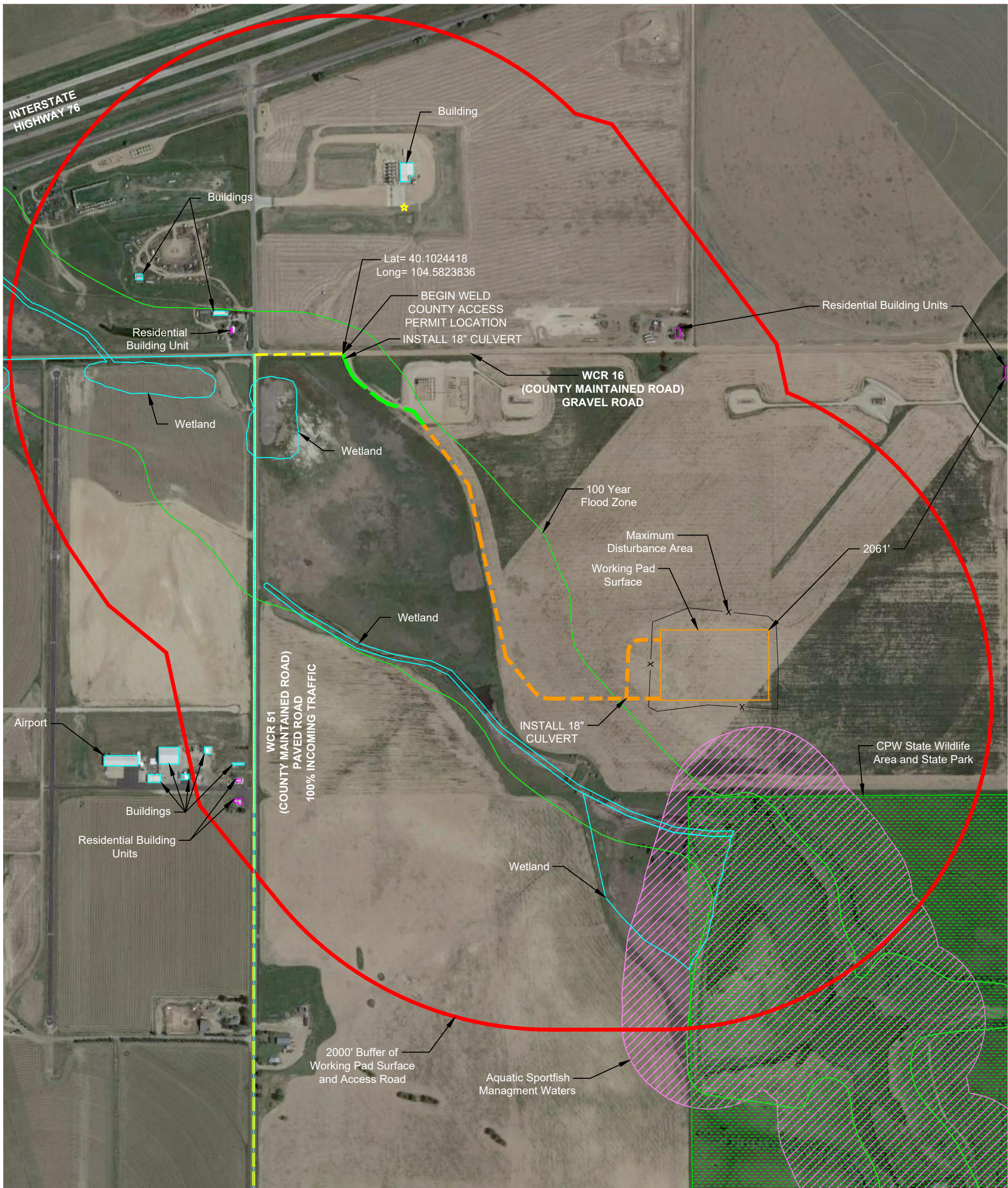
- 5) Describe site specific traffic reduction measures that will be utilized.

Verdad has committed to a fresh water pipeline at the Harambe location. Typical fresh water truck traffic is approximately 1783 trucks per mile of lateral of well. The Harambe 2920 is a 9 well pad with (4) 2-mile laterals and (5) 1-mile laterals, resulting in a reduction of 23,179 trucks.

Verdad has committed to a crude oil pipeline by the time production begins. The following is a breakdown of truck traffic reduction over the course of a 10-year life of the wells on the Harambe location. Over 10 years these 9 wells are in service a crude oil pipeline will reduce truck traffic by 8937 trucks.

- 1<sup>st</sup> Year: 4436 Trucks
- 2<sup>nd</sup> -3<sup>rd</sup> Years: 2378 Trucks
- 4<sup>th</sup> -5<sup>th</sup> Years: 966 Trucks
- 6<sup>th</sup>-10<sup>th</sup> Years: 1157 Trucks





LEGEND

- PROPOSED ACCESS ROAD
- EXISTING ACCESS ROAD
- COUNTY MAINTAINED ROAD
- 2000' BUFFER OF WORKING PAD SURFACE AND ACCESS ROAD
- WORKING PAD SURFACE
- MAXIMUM DISTURBANCE AREA
- CITY LIMITS HUDSON
- 100 YEAR FLOODPLAIN
- BUILDING/ BARN
- RESIDENTIAL BUILDING UNIT
- WETLAND
- AQUATIC SPORTFISH MANAGEMENT WATERS
- CPW STATE WILDLIFE AREA'S & STATE PARKS
- FACILITY/ TANK BATTERY

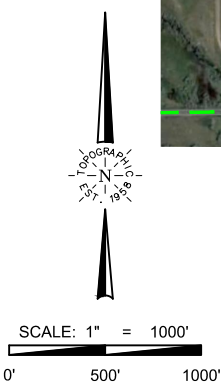
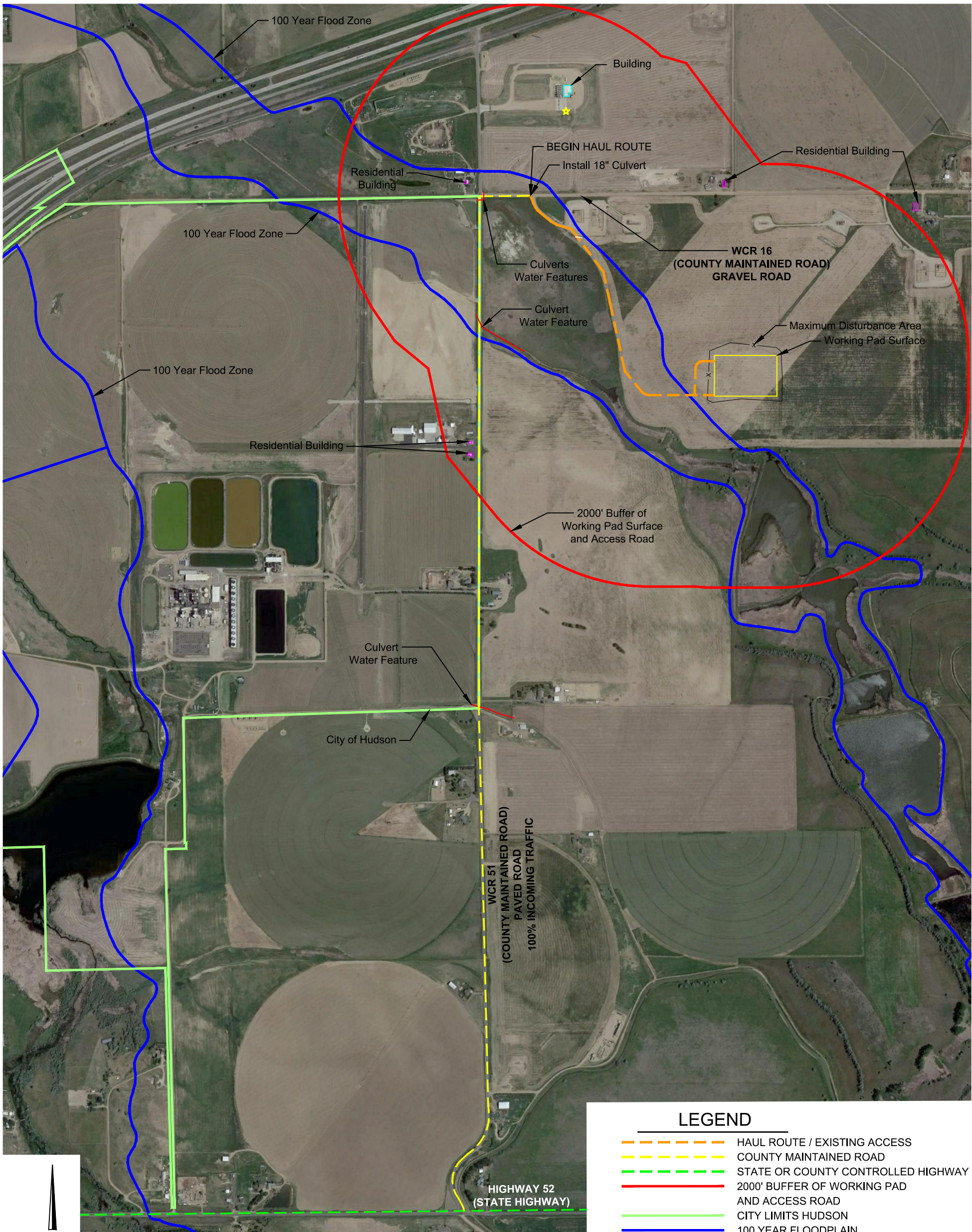
**BEGIN WELD COUNTY ACCESS PERMIT LOCATION:**  
TURN SOUTH (RIGHT) ON THE EXISTING GRAVEL ACCESS ROAD FROM WELD COUNTY ROAD 16; CONTINUE SOUTH 0.83 MILES TO THE SITE PASSING THE 100 YEAR FLOOD PLAIN AT 0.6 MILES.

EXISTING GRAVEL ACCESS ROAD: 641' 0.368 ACRES  
NORTHERLY PROPOSED ACCESS ROAD: 2560' 1.476 ACRES  
SOUTHERLY PROPOSED ACCESS ROAD: 518' 0.290 ACRES  
TOTAL PROPOSED ACCESS ROAD: 3078' 1.766 ACRES

**NOTES:**  
1. THE DEPICTED WELD COUNTY ACCESS DOES NOT PASS ANY SCHOOL FACILITY, FUTURE SCHOOL FACILITY CHILD CARE CENTERS, RULE 411A SURFACE WATER SUPPLY AREA BUFFER ZONES.  
2. THERE ARE NO TRAFFIC CONTROL FEATURES OR TRUCK STAGING AREAS.  
3. ALL FLOODPLAIN, WETLAND, HIGH PRIORITY HABITAT, RULE 411A, CITY BOUNDARY, FACILITY/TANK BATTERY, SCHOOL FACILITY, OR CHILD CARE CENTER INFORMATION SHOWN ON THIS PAGE ARE COGCC DATA ONLY (LAST ACCESSED 2/15/2022)

ACCESS ROAD MAP  
TO A LOCATION IN  
S/2 N/2, SECTION 32 T2N R64W 6TH PM  
WELD COUNTY, COLORADO







**TOPOGRAPHIC**  
LOYALTY INNOVATION LEGACY  
520 Stacy Court Ste B, Lafayette, CO 80026  
303.666.0379 www.topographic.com

**DRIVING DIRECTIONS:**  
FROM THE INTERSECTION OF WELD COUNTY ROAD 51 AND STATE HIGHWAY 52 IN WELD, COUNTY COLORADO;  
THEN NORTH ON SAID WELD COUNTY ROAD 51 FOR 2.0 MILES TO THE INTERSECTION OF WELD COUNTY ROAD 51 AND WELD COUNTY ROAD 16 (PASSING AN APPROXIMATE CULVERT LOCATION AT 1.0 MILE, PASSING A 100 YEAR FLOOD PLANE AT 1.8 MILES, APPROXIMATE CULVERT LOCATION AT 1.8 MILES, PASSING AN APPROXIMATE CULVERT LOCATION AT 2.0 MILES). EAST ON WELD COUNTY ROAD 16 APPROXIMATELY 540 FEET TO THE GRAVEL ACCESS ROAD ON THE RIGHT (PASSING A CULVERT LOCATION 30 FEET EAST OF INTERSECTION OF WELD COUNTY ROAD 51 AND WELD COUNTY ROAD 16).

**BEGIN HAUL ROUTE:**  
THEN TURN SOUTH (RIGHT) ON THE EXISTING GRAVEL ACCESS ROAD; CONTINUE SOUTH 0.83 MILES TO THE SITE PASSING THE 100 YEAR FLOOD PLAIN AT 0.6 MILES.

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LEGEND

- HAUL ROUTE / EXISTING ACCESS
- COUNTY MAINTAINED ROAD
- STATE OR COUNTY CONTROLLED HIGHWAY
- 2000' BUFFER OF WORKING PAD AND ACCESS ROAD
- CITY LIMITS HUDSON
- 100 YEAR FLOODPLAIN
- CULVERT/ WATER FEATURE
- BUILDING/ BARN
- RESIDENTIAL HOUSE
- FENCE / MAXIMUM DISTURBANCE AREA
- WORKING PAD SURFACE
- FACILITY/ TANK BATTERY

**NOTES:**  
1. THE DEPICTED HAUL ROUTE DOES NOT PASS ANY SCHOOL FACILITY, FUTURE SCHOOL FACILITY, NOR CHILD CARE CENTERS.  
2. ALL FLOODPLAIN, CITY BOUNDARY, FACILITY/TANK BATTERY, SCHOOL FACILITY, OR CHILD CARE CENTER INFORMATION SHOWN ON THIS PAGE ARE COGCC DATA ONLY (LAST ACCESSED 2/15/2022)

HAUL ROUTE MAP  
TO A LOCATION IN  
SW/4 NE/4, SECTION 32 T2N R64W 6TH PM  
WELD COUNTY, COLORADO