

# STATE OF COLORADO

## Traffic & Safety

Region 1

2829 W. Howard Place

Denver, Colorado 80204



COLORADO  
Department of Transportation

Project Name: **Rose Hill**

Print Date:

Highway:

Mile Marker:

### Drainage Comments:

**07 26 2021 JK** No comments on the Uplands Filing 1 development plan. This parcel drains away from CDOT right-of-way.

**05 04 2021 JK** No comments on the Uplands Parcel A development. This parcel drains away from CDOT right-of-way.

12 22 2020 JK No further comments at this time.

10 13 2020 JK

As the master planning for the Uplands continues, the drainage design development for each parcel continues at a conceptual level. Storm runoff generally flows away from CDOT right-of-way along SH 287 resulting in minimal impact to CDOT right-of-way.

02 05 2019 JK

This project consists of various disconnected parcels. Drainage design development for each parcel is at the conceptual level. Generally it appears that storm runoff from these parcels is flowing away from SH 287 (Federal Boulevard) resulting in minimal impact to CDOT right-of-way. Additionally, on-site detention is being proposed for each project site to attenuate developed peak flow back to historic levels.

CDOT will need to review the drainage designs as design development proceeds for each parcel to determine impacts to CDOT right-of-way.

### Environmental Comments:

From Planning: There are two projects in the 2050 plan in this area. They are the Federal Blvd multimodal and safety improvements as well as the Federal Blvd BRT. Neither of these projects is fully developed as far as ROW needed. Planning will defer to the Residency as to whether or not this development restricts future ROW that could impact those projects.

Future Access applications will need to:

#### Arch/History:

Complete a file search for Arch and History is required. If the file search identifies anything, a more extensive report will be required. If nothing is identified, then the file search should be sufficient. For the file search contact:

Cultural File Search: <http://www.historycolorado.org/oaahp/file-search>

email: [hc\\_filesearch@state.co.us](mailto:hc_filesearch@state.co.us)

The ECIS will be used to support HazMat requirements.

The applicant is required to review the ECIS to determine the level of Paleo requirements/technical reports needed.

Non-historic 4f does not apply.

If any non-historic 6f properties will be impacted or disturbed applicant shall coordinate with Veronica McCall veronica.mccall@state.co.us

The Permittee shall complete a stormwater management plan (SWMP) which must be prepared with good engineering, hydrologic, and pollution control practices and include at a minimum the following components: qualified stormwater manager; spill prevention and response plan; materials handling; potential sources of pollution; implementation of control measures; site description; and site map.

In addition, the Permittee shall comply with all local/state/federal regulations and obtain all necessary permits. Permittee shall comply with CDOT's MS4 Permit. When working within a local MS4 jurisdictional boundary, the permittee shall obtain concurrence from the local MS4 that the local MS4 will provide construction stormwater oversight. The local MS4 concurrence documentation shall be retained with the SWMP.

Traffic Comments:

I am still not sure how you distributed the traffic along the cooridor. I know we talked about this. I think creating a figure would be best. Please let me know if you need me to show you an example of this. You can use the synchro network as your base. I just want to see a percentage amount that is using 84th, Lowell, Federal.

CDOT would like to evaluate the signal at 86th after we have seen the development patterns. We want to verify that this is a location that we are willing to not go with the standard spacing for signals. CDOT current plan is to go with the HAWK at this location for pedestrians. No assurances that a regular signal will be placed at 86th.

Jason Igo 7/30/2021

~~Still Verify Traffic Volumes. BKG SB Thru for AM 2023 is 2073 vehicles at 86th Ave. Figure 7 Shows this movement as 2384 vehicles. The sight generated trips is supposedly on 109 vehicles. Where is the extra 252 vehicles coming from? This was one of the examples given last time and it looks like there was an effort to fix it but still not right. I did not check other volumes but highly suggest checking all your volumes.~~

~~Please explain the deriving of counts at PA3-1 aned PA3-3.~~

~~I still have questions about trip Distrubtion. The amount making a EB right on to Federal from PA3-1, PA3-2, and PA3-3 is 322. This is not 70% of 856 even if you add in the 70 vehicles making a EB right at 84th and 88th. PA3 exits add up to 868 and not 856.~~

~~CDOT will not accept LOS F signalized intersections along . This should be D or better.~~

~~CDOT does not warrant signals based on projected volumes.~~

~~Several of the previous TIS comments still need ot be addressed. If it is crossed out then it is good.~~

~~Existing lane widths is one 12' lane and one 11' lane. We should keep one 12' wide lane. The rest can be 11 feet.~~

~~The Federal Supplemental Exhibit shows three lanes on federal and turn lane. This was not used for analysis. When is this being put in? North and south of this location Federal is only 2 lanes. The TIS does not have this modeled.~~

CDOT is planning on double SB lefts at 84th.

Jason Igo 5/17/2021

~~Verify Traffic Volumes. Looking at AM 2023 the traffic volumes at 86th do not add up for SB movement. The left is 11 in SG senario but 111 in background. The SB thru is 2511 in SG scenario but the Background scenario has 2073 and site generated trips is only 109. I only looked at this movment.~~

~~If we are not balancing trips across all of Federal how are you deriving the counts at Federal&PA3-1 and Federal&PA3-3 since those do not have any existing counts.~~

~~Please provide graphic on the trip distribution. From the narative it sounds like everying is going north or south. This seems unlikely with some trips going east and west and the distribution even shows some going east and west.~~

~~The queues do change slightly with the 3% trucks versus 2% trucks. I am surprised that you went through the effort to check this LOS and did not just put the correct amount of trucks in the report.~~

~~The existing peak hour factor provided in the existing counts is close enough to the default Synchro that I agree that this probably doesn't need further evaluation.~~

~~How are we preventing more than a 3/4 movmenet along Federal. Is this going to be a median or are the intersections designed with islands in them?~~

~~CDOT traffic current position is to not have 86th signalized. This does not meet CDOT spacing requirements for a signal due to the proximity to 88th and 84th. A HAWK single is currently being planned to provide signalization for pedestrians. CDOT will need signal progression analysis to prove that it would work.~~

~~The Existing signal timing for the two intersections along Federal are 3 seconds for yellow and 2 seconds for all red for east and west movements. It is 4 seconds yellow and 2 seconds all red for north and south movements. This is not shown in the analysis and will impact the LOS. This would be applies to 86th if it is proven needed.~~

Jason Igo 1/4/2021

~~Comments in July 2019 were not addressed. Need to see proper Signal phasing clearance times, Peak hour factors before we can assess what kinda of impact this will have on the roadway.~~

~~Additional table such as queue lengths and deceleration lengths should be provided.~~

Jason Igo 10/21/2020

~~No updated traffic impact study was provided with this permit review. The previous~~

comments need to be addressed:

Jason Igo 3/30/2020

~~Truck percentage in Otis is 3% for Federal Blvd. Please update in analysis.~~

~~Queue and Blocking report. Queue several queues exceed turn bay lengths. This would affect overall queueing. Please adjust turn bays to proper lengths. This is for all intersections~~

~~Please provide signal phasing and clearance times.~~

~~Use existing peak hour factors for existing analysis. Peak hour factors need to be thought out for future conditions too. The School at 86<sup>th</sup> and Federal will have a significant peak hour factor in the AM. This will be reflected across all scenarios.~~

~~Provide a Trip Distribution figure to help explain how much is going on Lowell Blvd and how much on Federal. From the description is there really nothing that is going to be going East West?~~

~~For all improvements that you believe will fix issues please provide analysis to prove that it will fix the issues.~~

--Jason Igo 7/15/19

~~The trip generated traffic is not showing at all intersections. The trips need to be carried through the intersection to determine impacts. There should not be zeros for all movements at every major Federal intersection.~~

~~88th and Federal needs to be realigned to correct the offset. Is the development prepared to dedicate land to correct? The eastbound approach would need approximately 20' to correct the misalignment. We have a project in design that will address.~~

~~Figure 7 is not balanced. Please check and revise all figures.~~

Ronnie 7/15/19

~~I would like to see the 95% percentile queue lengths on the Federal intersections for existing, 2023 total, and 2038 total. The HCM report only has 50th percentile.~~

~~Please provide a graphic similar to figure 6 for existing.~~

~~The worst case scenario should be analyzed. If a possible 2350 units are to be entitlement, then the analysis should include those trips. If a permit is issued for this report, only 1982 residential units can be built. We are at an over-saturated condition at some signals. Adding 20% more than reported is significant.~~

~~Parcel A 820: Use the fitted curve, 2651 trips, instead of the average~~

~~How did you come to your distribution conclusion?~~

~~I found the growth rates to be slightly higher than in the study. 1.04 for five year and 1.14 for 20 year are used on OTIS.~~

~~---Ronnie Roybal 4-5-19~~

Right of Way Comments:

1 - Page 13 of 45 Master Official Development Plan calls for a 6' sidewalk west of a 10' sidewalk - on the west side of Federal between 84th and 86 - Federal is shown as a 6 lane street - all sidewalks are shown on the west side of existing ROW - is there sufficient room to accommodate future Federal Roadway configuration with possibly turn lane on east and west side in addition to 6 lanes shown and drainage

2 - Sheet 25 of 45 MODP - shows three travel lanes and one turn lane at 86th and 85th

3 - Page 27 of 45 MODP shows three travel lanes, a 12' tree lawn in and a 10' walk in ROW on west side of Federal Blvd. Will the tree lawn be converted to a turn lane in areas near intersections? The page shows 50' perimeter setback to primary building - will surface parking and structure parking (garages ect) be allowed in this 50' setback area?

4 - 135' ROW shown on page 36 of 45 MODP - is this sufficient for turn lane, 3 travel lanes, 10' sidewalk, 12' Tree lawn - ect?

5 - 135' ROW would indicate a approximately 17.5' ROW tract on the east and west side of Federal to accommodate Drainage from federal?

6 - Is the Proposed Right of way at 16' sufficient to cover all CDOT transportation infrastructure and still accommodate 10' wide walk way and 12' tree line?Page 41 of 45

Resident Engineer Comments:

A scheduled CDOT traffic signal replacement on Federal Boulevard at 84th Avenue will require ROW acquisition in 2022 for roadway widening for an additional (2nd) southbound left turn lane. Construction is anticipated in 2023 as part of project #23780 Federal Resurfacing. 30% design and ROW impacts will be shared with the City when available in late 2021.

This additional southbound left turn lane should be shown on the supplemental exhibit.

-AMP 5/3/21

11 ft wide thru lanes are acceptable for US-287 in this stretch, as is present elsewhere in the corridor.

-AMP 10/16/20

3/4 movements at the 83rd Ave. intersection as shown is acceptable from my perspective; the western leg of this intersection should not require modification, as it is low-volume and alternative routes are available during peak periods. R1 Traffic will need to confirm the desired configuration at 83rd based on projected traffic volumes.

- AMP 3/24/20

Utilities Comments:

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Permits Comments:

I continue to express concerns with less than 12-ft wide through lanes of traffic being proposed for Federal (SH ) Please reduce/narrow the tree lawn rather than through lanes of traffic ! This comment bears repeating again. Sheet 24 needs to show the FULL RoW profile for Federal. Only half is shown.

My previous comments still applies:

*The RoW "127-ft Ultimate" proposed for Federal is insufficient. Federal Blvd is shown as a Major arterial in both the Adams County and City of Westminster Comprehensive Plans and roadway standards. The current Adams County Comprehensive Plans call for Major Arterials to be a Minimum of 140-ft. The City of Westminster Standards & Specifications for a 6-lane Major Arterial street is 155-ft minimum. The Adams County cross section would call for a 14-ft center median width and a 10-ft detached sidewalk. City of Westminster standards (section 6.14) would even call for a 130-ft min. RoW width for a "4-lane" major arterial. What is shown within the PDP favors landscaping over the primary function of traffic and utility accommodation.*

Examining the cross section on sheet 24, shows no changes to the previous instructions.

I also wish to express that sheets 40 & 41 showing even a narrower RoW profile for Federal between 84th & 86<sup>th</sup> is also problematic. It is a matter of form & function. A 12-ft travel lane has far greater purpose & need than a 12-ft tree lawn!

Previous concerns expressed about sufficient space for Utility accommodation in CDOT RoW are still relevant. Attached are 6 pages from the ODP I see ongoing issues appearing and where corrections or better wording is needed.

RS 07-29-21

The RoW "127-ft Ultimate" proposed for Federal is insufficient. Federal Blvd is shown as a Major arterial in both the Adams County and City of Westminster Comprehensive Plans and roadway standards. The current Adams County Comprehensive Plans call for Major Arterials to be a Minimum of 140-ft. The City of Westminster Standards & Specifications for a 6-lane Major Arterial street is 155-ft minimum. The Adams County cross section would call for a 14-ft center median width and a 10-ft detached sidewalk. City of Westminster standards (section 6.14) would even call for a 130-ft min. RoW width for a "4-lane" major arterial. What is shown within the PDP favors landscaping over the primary function of traffic and utility accommodation.

As the PDP shows, in order to create 3 through lanes of traffic in each direction, all lanes of traffic are narrowed to 11-ft. (sheets 23-33 of the PDP) This is extremely problematic – Busses which use the outside lane will create "blind" passing, and in-turn, effect the pass-through capacity of the highway. Lanes of traffic on Federal should be wider, beginning with the outside lanes. On-road bicycle use should be discouraged.

Sheet 14 of the PDP shows PSCO and possibly other easement flanking the existing 100-ft RoW of Federal Blvd, and it is not clear where utilities are located – or relocated, or if they would be within the CDOT RoW and subject to the Utility Accommodation Code. If these easements (and buried lines?) are to remain in the RoW, a Common Use Agreement will be necessary to address maintenance and meeting CDOT standards. CDOT generally discourages manholes in the CDOT roadway as routine maintenance and access into them will result in further traffic congestion. We advocate a form & function approach by reducing the proposed (12') tree lawn width to increase each of the 6 lanes of traffic to 12-ft. Utilities when in the RoW, should be strategically located under the tree lawn & sidewalk outside of the lanes of traffic.

It is also recommended that the cross section for Federal and address the accomodation of storm drainage. Generally speaking, the proposed ROW for Federal is undersized to accomodate all that is expected to occupy the ROW.

RS 05-04-21

No Comments at this time. TA 10-12-20

Utility work isn't included with the access permit and will require a utility permit. Any utility / pothole information will need to entered into the pointman app. I have included memo for reference. TA 7-27-21

**I have numerous concerns - and see the need to clean up the plan set as it pertains to Federal Blvd, a State highway. Rather than spell this out, I have attached 8 sheets of red-lines from the plan set showing where issues lie. CDOT is not obligated to access by plan vesting ! See attachment.**

Sheet 26-27 of the plan set shows different ROW and lane profiles for Federal. Must be acceptable to our Residency, Traffic & RoW specialties. Will 11-ft lanes accomodate significant through-traffic at medium to high speeds as the highway is classified for?

RS 03-24-20

Something is disconnected. CDOT provided comments to the revised submittal on 7/17 to the City. The response letter dated 8/30 states CDOT did not send in anything. Previous comments therefore remain. Unable to ID if-how previous concerns have been addressed.

RS 09-09-19

I do not agree with the consultant's written response that our Access Code section 3.10 allows for a signalized full-

turn movement at 86th Ave. In fact, a 3/4 left turn movement may be allowed if it improves operation at the up & downstream intersections of 84th & 88th. The TIS does not demonstrate this, rather remaining quiet to the impacts these intersections will have. Federal is intended to accommodate a capacity for medium to high speeds, for handling traffic volumes over medium to long distances. Adding a mid-block full-movement access here, and to state it may warrant signalization, compromises the functional integrity of this corridor at this location.

Furthermore, the vicinity of 86th is not ID as a "school zone". While CDOT does not generally comment on Land Use, the Town would be advised to refrain from locating these type of private or public facilities (Crown Point Academy) along/abutting major corridors intended to handle significant traffic volumes at medium to high speeds.

- RS 07-02-19

~~This plan amendment is mostly focused on land use changes. CDOT does not generally comment on land use however we do make comment on the traffic that land use will generate and how the mitigation measures offered affect the highway system. We also offer comments relative to multi-modal as pertinent. The original proposal we reviewed was mostly pertaining to what is identified as "parcel D" and we pointed out that Federal Blvd / US 121 is of concern. State highways by definition are limited access corridors and carry the most traffic blended of local and through-traffic of tourist, commerce, commuters and residents. We stated that the RoW for Federal appears inadequate to accommodate all that is anticipated to locate there, including landscaping, utilities, storm drainage, lanes for traffic, pedestrians and bicycles. We also pointed out that the TIS prepared by A.T.C. (6/30/18) was not in accordance to State Access code relative to the proposed spacing of signalized intersections and would likely create bottlenecks. CDOT utilizes a permit process to determine both the spacing and type of connections and which connections (access) warrant signalization. In short, we recommend this plan amendment address the appropriate balance of land use & transportation to ensure mobility and circulation are optimized. We don't see this in the revisions or narrative provided.~~

~~-RS-06-25-19~~

~~City of Westminster Comprehensive Plans Identifies Federal Blvd (US 287) as an arterial. The City's plan for such roadways are to handle +36,000 vehicles ADT.~~

~~Chapter 6 of the City of Westminster's roadway specifications (section 6.14) shows a recommended minimum RoW of 130-ft. for arterial streets, sheet 11 of the PDP only shows 113.5-ft of RoW. There is no indication on sheet 11 of the PDP / cross sections where utilities would be located. Per our Utility Accommodation code, if they are intended to go in the RoW, they need to stay out of the travel lanes (avoid new manholes on highway) We anticipate issues of conflict south of 84th as proposed in the master utility report. CDOT would recommend that a full 130-ft or wider RoW be required through the length of this project abutting US 287, to accommodate median enhancements that the City's Comprehensive plan also calls for as well as utilities. A break in the existing center median is not a median enhancement as suggested by the PDP plan graphics. Center median enhancements would be difficult at best to accommodate in a 113-ft RoW as proposed.~~

~~This segment of 287 is classified as NRA, a limited access highway under the State Access Code and posted at 40 mph to accommodate through-traffic at moderate speeds. Per the access code, right-in/out access may be considered, but not the full or ¾ movements as suggested by the PDP & TIS. On this corridor, minimum signal spacing is ½ mile intervals which currently exist at 84<sup>th</sup> & 88<sup>th</sup>. The suggested signal and full turn movement at 86<sup>th</sup> is not currently acceptable. Only 88<sup>th</sup> Avenue has an access permit (#603054) issued from CDOT. New access permits will be required from the City for the west side of Federal at 87<sup>th</sup>, 86<sup>th</sup>, and 85<sup>th</sup>. 84<sup>th</sup> has no access permits on record and two are needed, one for the east and west approach to at minimum, establish a baseline of traffic count. The internal circulation within that portion of development west of Federal suggest that safe access (left turn movement) via the signalized intersections of 84<sup>th</sup> and 88<sup>th</sup> would be best. The proposed access south of 84<sup>th</sup> to the east requires yet another access permit and should be restricted to right in/out. I will defer to our Traffic and RE review if the ¾ movements proposed are acceptable per their analytics. As of this time, no permit applications associated with this~~



~~development have been submitted to CDOT for review.~~

~~Curb, gutter, and sidewalks per CDOT's current standards will be expected for Federal Blvd. Pedestrian landings and additional crosswalks could be required at both 88<sup>th</sup> & 84<sup>th</sup>. All work in CDOT RoW such as landscaping & utilities are by separate permits.~~

~~Noted that this PDP speaks of "vested rights". Please note that per state code, this does not apply to CDOT and access is only by permit.~~

~~R Solomon 10-29-19~~

~~The materials and plans with this latest review submission did not include anything about roadway infrastructure. We are unable to offer remarks without understanding if/how/where our previous concerns have been addressed.~~

~~R Solomon 06-21-19~~

**As previously stated, I will defer to the Traffic & RE relative to the mid-point access and 3/4 turn movements proposed. The TIS and letter from ATC dated 5-28 does not in my opinion demonstrate that such allowance improves operations on Federal. (3.10 (5)) Rather, the consultant is hanging thier hat on an assumption of no additional impact. By nature, turn movements, especially left turns, create more points of safety-conflict.**

**RS 07-16-19**

CDOT would be willing to meet with the developer/applicant to discuss requirements of access permits. Please contact Steve Loeffler to schedule this meeting.

**Steve Loeffler**, Assistant Access Manager, [steven.loeffler@state.co.us](mailto:steven.loeffler@state.co.us) 303.757.9891

--- M Cross 2-10-19

A plan and profile for any utility work will need to be created through the pointman app. Any installations for utilites will need to be documented through the pointman app. Utilites, landscaping and survey will require additional CDOT special use / uility permits. Any work within CDOT Right of way will need to follow CDOT's standards and specificatins. TA 5-3-21

#### Materials Comments:

7/28/21 TR

- Has a soils report been completed or is one planned to be?

If the project will be adding new asphalt pavement (turn lane/shoulder, etc.) a geotechnical exploration will be required. In the area of the proposed new pavement, geotechnical borings should be spaced no further than 500 feet apart. Assuming that the final grade is within 2 feet of the existing grade, borings should be drilled to a depth of 10 feet. If large cuts or fills are anticipated, deeper borings will be required. Soil samples should be tested in the laboratory. Laboratory testing should include classification tests, swell consolidation tests, and chemistry tests, in accordance with the CDOT's M-E Pavement Design Manual, 2021.

Pavement boring locations, soil survey sampling methods, and test requirements are all described in Chapter 4 of CDOT's Design Manual.

Typically, when adding a lane or shoulder to a State Highway, we match the existing pavement section, unless it is significantly under designed. Therefore, in addition to the geotechnical borings in the area of the new pavement, we recommend that pavement cores/borings be performed through the existing pavement to determine the thickness of the existing asphalt pavement, the type and thickness of the existing base course, and to determine if there is any special subgrade treatment below the base course. The computer program Pavement ME Design (PMED) should be

run to determine if the existing pavement section is adequate for the new lane. If the existing pavement section is significantly under designed, PMED should also be run to determine an adequate pavement section, per CDOT's 2021 M-E Pavement Design Manual.

The report should include the results of the field and laboratory testing, subgrade preparation recommendations, a recommendation for the concrete Class based on severity of sulfate exposure, and the results of PMED. Pavement recommendations based on the results of PMED should also be included.

- Once construction plans are in production, please include a typical section. For the typical section of US 287C, please show the proposed pavement section, existing pavement section, and the subbase. Please include a lift detail that shows the number of lifts (with appropriate hatching, the thickness of each lift, and the type of asphalt.)

(Grading)(Gyrations)(PG\_\_ - \_\_).

- Please add MP of Federal BLVD to the title page of construction plans. (287C at appx 290.2-290.8).
- A CDOT resurfacing job is scheduled for 2023 on this stretch of Federal BLVD. When is the project scheduled to be constructed? If it is prior to the resurfacing job, the project can utilize one HMA mix for all asphalt lifts. Further guidance will be given after reviewing the pavement/geotechnical report. General Notes and specifications will also be provided at a later date.

#### Other Comments:

BTS-7-28-21- They are showing 11 foot lanes. We will want 12 foot lanes. There is no reason 12 feet can not be provided on Federal Blvd.

BTS, 2/4/19, No Const plans are prepared yet. I would like to note that we will want cross sections provided for Federal Blvd every 50 feet.

BTS-3/30/2020- I believe the accesses have been decided on. If this is the case, I will stand by for const plans.

BTS 1/5/2021- It appears the access requests are being accepted. I have no objection to the accesses. No construction plans have been submitted at this review.

BTS-5-5-2021- I have no comments at this time

10-22-2020, A meeting is requested with the developer to discuss the allowed turn movements at the proposed accesses to Federal. Concerns have been raised in prior review cycles that I am not sure have been addressed.

--Steve Loeffler, 10-22-2020

1-4-2020 Previous comment regarding a meeting has been acknowledged in the comment response. As of this time, no meeting has been scheduled.

--Steve Loeffler, 1-5-2021