

DATE: March 16, 2024
TO: Greg Clarke, PE
FROM: Jim Buckman, PE
SUBJECT: Coors/St. Josephs Intersection Review
CC: Nancy Perea, PE; Margaret Haynes, PE

Introduction

Parametrix reviewed the preliminary design of improvements to the NM 45 (Coors Boulevard) and St. Josephs Drive intersection in Albuquerque. The project will include improvements to the Coors/St. Josephs intersection and to St. Josephs Drive from Atrisco Drive to Coors. These improvements are necessary to accommodate increased traffic from proposed development west of Coors to the north and south of St. Josephs. The exhibits in the file, "24-02-02 Updated Roadway Exhibits.pdf" (Roadway Exhibits) by RESPEC Community Design Solutions were used for the detailed review. The design is approximately 30% complete, so not all details were available at this stage. The "Oxbow Development/Coors Pavilion (St. Josephs Dr./Coors Blvd.) Final Traffic Impact Study" (TIS), December 20, 2020, by Terry O. Brown, P.E. was also used for the analysis. The review focused on the improvements that would affect NMDOT facilities and traffic along Coors.

Coors Boulevard is a pedestrian-involved high crash corridor, and NMDOT has identified it as a "corridor in most need of improvement." St. Pius X High School is at the northeast corner of the Coors/St. Josephs intersection, and students frequently use the intersection crosswalks. The review objective was to check elements of the proposed design for conformance with NMDOT standards and policies. Elements included the roadway geometry, pedestrian and bicycle facilities, and traffic signals. The review was done in two phases. First, the proposed plan exhibits and TIS were reviewed. Second, opportunities for additional safety improvements were analyzed.

Design Review

The following documents were referenced during the review.

- *A Policy on Geometric Design of Highways and Streets* by the American Association of State Highway and Transportation Officials (AASHTO), 7th Edition, 2018.
- *Urban Street Design Guide* by the National Association of City Transportation Officials (NACTO), 2013.
- *State Access Management Manual* (SAMM) by the New Mexico State Highway and Transportation Department, 2001.
- *Manual on Uniform Traffic Control Devices* by the Federal Highway Administration, 11th Edition, 2023.
- *Guide for the Planning, Operation, and Design of Pedestrian Facilities* by AASHTO, 2nd Edition, December 2021.
- *New Mexico Department of Transportation Design Manual*, March 2020, Revision 1.
- *NMDOT Vulnerable Road User Safety Assessment*, November 6, 2023.



- *Public Right-of-Way Accessibility Guidelines* by the U.S. Access Board, <https://www.access-board.gov/prowag/>
- *Guide for the Development of Bicycle Facilities* by AASHTO, Fourth Edition, 2012.
- *NMDOT Pedestrian Safety Action Plan*, August 2021.
- *Crash Modification Factors Clearinghouse* by the Federal Highway Administration, <https://www.cmfclearinghouse.org/>

The criteria considered during this review are numbered in the attached checklist. These were grouped by intersection geometry, pedestrian facilities, and bicycle facilities. Where the proposed design appears to differ from the review criteria, comment key notes are shown with blue circles on the Roadway Exhibits.

While traffic signal improvements are not detailed in the preliminary plans, potential impacts to the existing signals were considered.

Safety Options

Because safety for multi-modal users is a key concern at this intersection, Parametrix considered several design options. The *Urban Street Design Guide* states:

“Redesigning major intersections requires designers to critically evaluate the tools and trade-offs available to make an intersection work better for everyone. While shorter cycle lengths, compact design, and pedestrian safety islands are all desirable components of a multi-modal intersection, the tradeoffs inherent in each make these difficult to achieve simultaneously. Weigh intersection geometry, signal timing, and traffic volumes to formulate a design that clarifies the hierarchy of street users, while enhancing the safety and legibility of the intersection.” (Page 94)

Several options are discussed below, along with their pros and cons. The options are conceptual, and further investigation would be needed before final recommendations are made. To illustrate some of the options, a conceptual plan and typical cross sections are attached. The conceptual layout assumes widening on both sides of Coors. This is per NMDOT standard practice, and it was helpful in identifying potential constraints and impacts. Note the preliminary design holds the existing curb on the east side of Coors. Other innovative design options also may be considered.

1. Reduce St. Josephs proposed eastbound to northbound left-turn lanes from triple to dual lefts

- Pros
 - Eliminating the third left would allow for a median refuge on the west leg, improving safety and comfort for pedestrians. Also, the wider medians should increase traffic calming.
 - Reduces the number of potential conflict points and improves visibility of pedestrians in and near the crosswalks.
 - Reduces the possibility of larger turning vehicles encroaching on the adjacent lanes, which could result in sideswipe crashes.
 - Improves sight distance for opposing westbound traffic.
 - Provides flexibility for the dual lefts to have protected-permissive signal phasing, compared to the triple lefts that would always require a protected phase.
 - The proposed third left turn lane does not provide adequate storage length. Traffic that queues past the third lane is less likely to fully utilize the theoretical lane capacity.

- Eliminates back-to-back lefts with the next intersection to the west of Coors. Eliminating the third left could allow for future extension of the westbound to southbound left turn lane at the next intersection without major changes to the Coors intersection. If this left-turn lane could be extended by shortening the eastbound inside left lane at Coors, it could cause traffic to back up into the Coors intersection.
 - Triple lefts are uncommon and may not meet driver expectations. Most existing instances of triple lefts have longer radius, lower angle turns (I-25/US-550, I-40/Louisiana, Coors Blvd./Coors Bypass), and opposing traffic is limited.
 - Few safety studies for triple lefts are available.
 - Preliminary analysis by Parametrix shows the intersection with dual lefts would function similarly to triple lefts if the signal is phased so the left turns lag the eastbound through movement.
- Cons
- Eliminating the third left lane may increase backups during peak periods, particularly if a lagging left turn phase is not used.
 - Backups at Coors may increase the likelihood of traffic diverting around the intersection.
 - Because the proposed lane geometry limits the ability to narrow the width of the St. Josephs roadway, the pedestrian access route and crosswalk lengths would remain essentially the same.

2. Reduce proposed Coors southbound to eastbound left-turn lanes from dual lefts to a single left

Reconstruct the Coors median north of St. Josephs to provide a single left-turn lane instead of dual lefts. If providing wider medians on Coors is impractical due to site constraints or other concerns, this would at least allow space for a median refuge on the north leg of the intersection. Note the existing message board sign north of the intersection may limit the practical length of the left turn lanes.

- Pros
- Eliminating the second left would allow for a median refuge on the north leg, improving safety and comfort for pedestrians. Also, the wider median should increase traffic calming effects.
 - Eliminating the second left reduces the number of potential conflict points and improves visibility of pedestrians in and near the crosswalks.
 - Preliminary traffic analysis by Parametrix shows the storage length for a single left would be 575', which is close to the proposed storage length of 547'. Note the proposed lane would be slightly shorter if the reverse curve radii required by the SAMM are used (600'/300'), but a single left would require a shorter transition.
 - The single left would operate similarly to existing conditions, and there have not been many complaints of traffic backups at this location reported.
 - Reducing the southbound left-turn lanes would reduce or eliminate the need to widen St. Josephs eastbound to accommodate the proposed bike lane.
 - Provides flexibility for the southbound to eastbound left turn to operate as permissive more of the time, improving operations.

- Cons

- School traffic volumes may be more condensed than assumed by the traffic model. This could lead to traffic backups, increased delays, driver frustration, and reduced safety.
- St. Pius is reportedly adding 6th and 7th grades, so traffic may increase more than anticipated, increasing backups.
- Sight distance for the single left could be limited by the intersection geometry with the northbound dual lefts. This could eliminate the signal phasing option of permissive lefts.

3. Build pedestrian crosswalk median refuges on Coors

Widen the roadway slightly to provide median refuge on the north and south legs of the intersection.

- Pros

- Pedestrian refuge islands limit pedestrian exposure in the intersection, improving safety and comfort for users.
- Proven safety countermeasure.

- Cons

- Overhead and underground utilities run along both sides of Coors in the area. The utility poles along the west side north of St. Josephs could conflict with the proposed sidewalk. Underground utilities would need further investigation.
- Additional removal and replacement of existing curb and gutter, sidewalk, and landscaping would be required.

4. Eliminate existing free right-turns and tighten intersection curb radii

Extend curbs on the east leg to eliminate free right-turns, with curb radii of 10' to 15' +/- . At the northwest corner, provide a 40' +/- radius for semi-truck access. At the southwest corner, provide a 25' radius.

Note the 15' radius at the southeast corner was in part to help avoid impacts to the existing traffic signal. Semi-trucks making the northbound to eastbound right-turn could encroach into the Coors outside through lane to make the turn. St. Josephs east of Coors serves the high school and residential neighborhoods, so the truck turning volume is expected to be negligible, but it would need to be investigated further.

- Pros

- Eliminating free rights and tightening radii would slow down traffic at the pedestrian crossings, improve pedestrian visibility, and reduce the number of potential conflict points.
- Smaller radii shorten overall crossing lengths and would reduce the number of pedestrian decision points, decreasing pedestrian exposure risk and improving safety.
- Improves pedestrian ramp alignment and expands pedestrian-use areas within the intersection.
- Westbound to northbound right-turn volumes are low enough (134 AM/54 PM) that it would not affect traffic operations.
- Large vehicles are still able to turn by using the available roadway width.
- Allows space for perpendicular curb ramps, improving crossing alignment for visually impaired pedestrians.

- Potential use of overlapping right-turn signal phases to increase capacity of right turns on red.
- Eliminates the existing entrance from westbound St. Josephs to northbound Coors, which is too short to allow vehicles to adequately accelerate and merge with traffic.
- Cons
 - Potential added delays for right-turning vehicles.
 - Tight radius at the southeast corner could require large trucks to encroach into the thru lane to make the turn, though the demand for this maneuver has not been determined.

Other Recommendations

Lane Widths

The preliminary design shows lane widths on Coors being reduced from 12' to 11'. This is a proven safety measure and should be retained in the proposed design.

Bicycle Facilities

The City of Albuquerque Interactive Bike and Multi-Use Trail Map, <https://www.cabq.gov/municipaldevelopment/maps/interactive-bike-map>, includes existing and proposed bicycle facilities. The City is currently updating the Map. The proposed Map is not expected to show facilities along Coors south of St. Josephs, because bikes will be able to turn east or west at the intersection to access parallel north-south facilities on both sides of Coors. Southbound bikes still would have the option of crossing the intersection and turning east on St. Josephs. Therefore, the bike lane width should be retained on the south side of the intersection, so bikes are not forced to merge into the traffic lane.

Currently there is a gap in bicycle facilities at the Coors/St. Josephs intersection, with an existing buffered lane to the west of Coors and a paved trail to the east. The proposed design provides bike lanes west of Coors, but nothing is shown on the east leg. Since traffic volumes are low in that area, there may be an opportunity to reduce St. Josephs east of Coors to one vehicle lane with a bike lane in each direction.

Traffic Signal Improvements

Existing traffic signal poles and mastarms will be impacted by the proposed roadway improvements. Design details were not available in the preliminary plans, but it appears the mastarms on the west side of the intersection would need to be relocated due to the widening of St. Josephs. For mastarms that are to be relocated, the use of longer arms should be considered. This would eliminate the need for Type 1 poles in the medians, which are prone to being hit by errant vehicles.

The signal head for the St. Josephs eastbound left turn lane, which is currently located on a Type 1 pole in the east leg median, would be over 180' away from the new stop bar. Per the MUTCD, this would require the use of a near side signal head for the left turn movement. Alternatively, a mastarm with a longer arm could be installed to house the indications for the left turn phase.

Lighting Relocations

Adequate lighting is vital to pedestrian safety. Existing lighting will be impacted by the proposed roadway widening. Relocation of light standards and new standards, if needed, must be incorporated into the proposed design.

Pedestrian Fencing

Consider installing pedestrian fencing along the median to redirect pedestrians to the intersection crosswalks. This is a proven countermeasure to reduce crashes. Note the proposed fence would need to be designed to minimize risks to errant vehicles during impact, such as the risk of horizontal rails detaching and penetrating the vehicle compartment.

Attachments

- Roadway Exhibits with review comments

- Plan review checklist

- Proposed 30% design plotted on 2020 aerials

- Intersection concept plan and typical sections



1. ROADWAY STRIPING AND MARKERS ARE SHOWN FOR INFORMATION ONLY. FINAL LAYOUT WILL BE SHOWN ON CONSTRUCTION PLANS.
2. SIDEWALK AND ADA RAMPS ARE SHOWN FOR INFORMATION ONLY. FINAL LAYOUT WILL BE SHOWN ON CONSTRUCTION PLANS.

CROSS SECTION NUMBER

SHEET NUMBER CONTAINING THE CROSS SECTION

SECTION LABEL LEGEND

RED LINES INDICATE NEW CURB

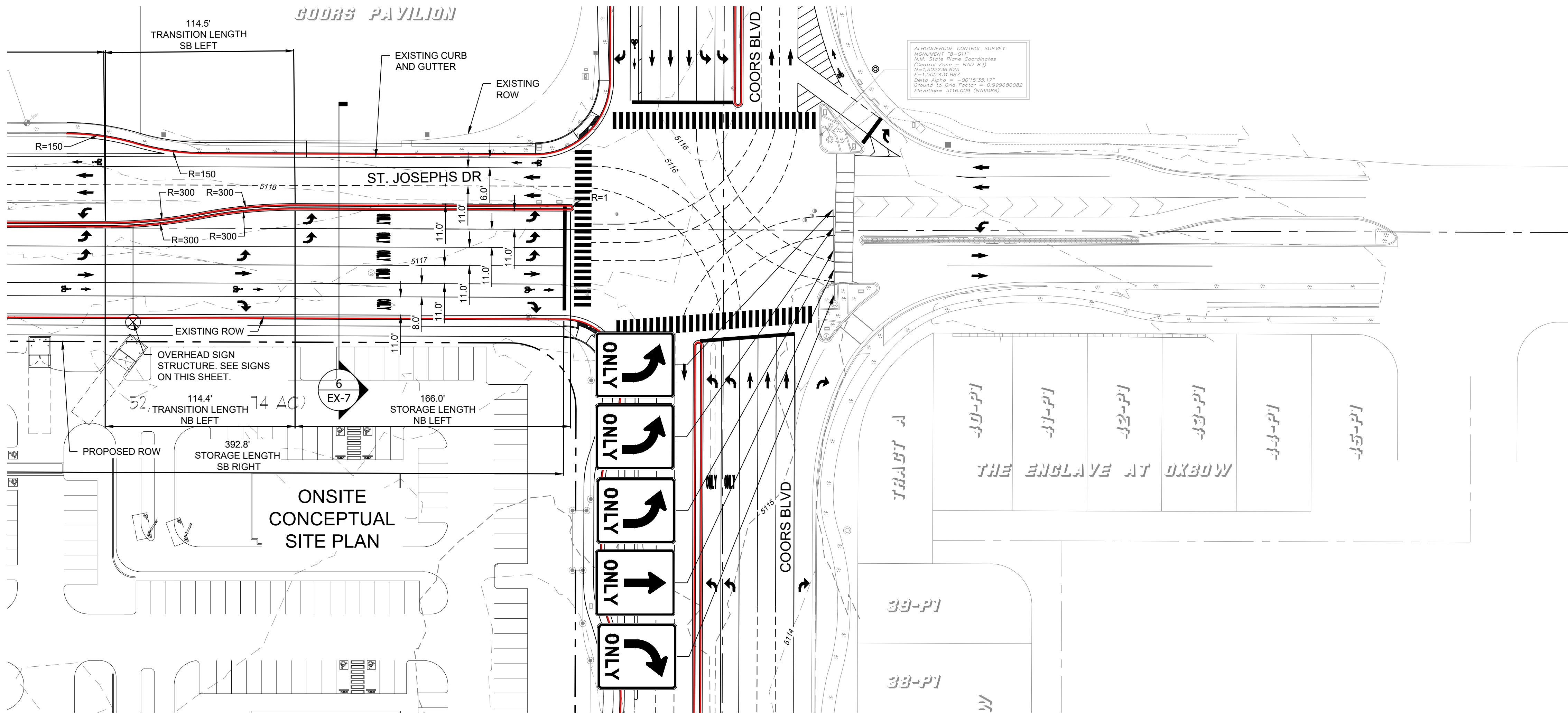
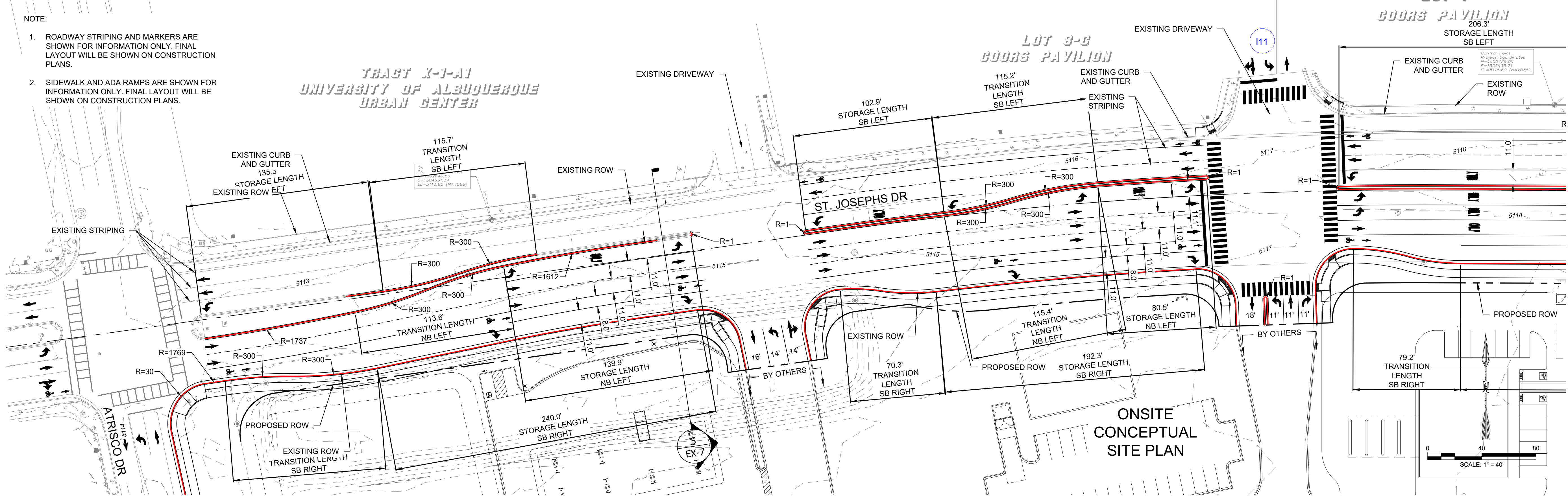
DESIGNED SEG		DRAWN JDV	
CHECKED SEG		DATE 2.02.2024	
 RESPEC COMMUNITY DESIGN SOLUTIONS 7770 JEFFERSON STREET SUITE 200 DENVER, CO 80231 WWW.RESPEC.COM PHONE (303) 933-9718			
STAMP		REVISION	
30% REVIEW			
PRELIMINARY NOT FOR CONSTRUCTION 2/2024			
THIS DRAWING IS INCOMPLETE AND NOT TO BE USED FOR CONSTRUCTION UNLESS IT IS STAMPED, SIGNED AND DATED			
 Know what's below. Call before you dig.			
PROJECT NAME:		OXBOW CENTER	
SHEET TITLE:		NEW WORK COORS BLVD	
SUBMITTED FOR:		30% REVIEW	
SHEET NUMBER:		EX-2	

NAME: N:\Projects\W0007 Skansgard\W0007 0004 Skansgard Oxbow Center\3. CAD\Exhibits\ROAD GEOMETRY EXHIBIT REVISED 08222023.dwg PLOT DATE: Feb 02, 2024 3:44pm

NOTE:

1. ROADWAY STRIPING AND MARKERS ARE SHOWN FOR INFORMATION ONLY. FINAL LAYOUT WILL BE SHOWN ON CONSTRUCTION PLANS.
2. SIDEWALK AND ADA RAMP ARE SHOWN FOR INFORMATION ONLY. FINAL LAYOUT WILL BE SHOWN ON CONSTRUCTION PLANS.

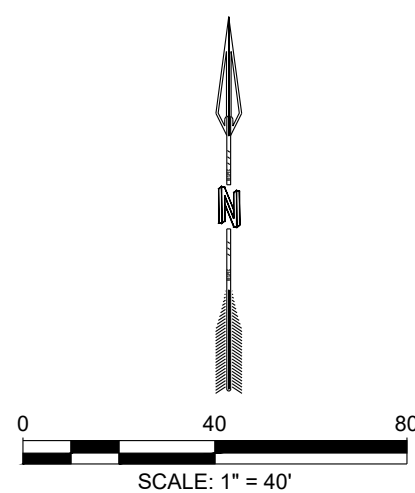
TRACT X-1-A1
UNIVERSITY OF ALBUQUERQUE
URBAN CENTER



CROSS SECTION NUMBER
SHEET NUMBER CONTAINING
THE CROSS SECTION

SECTION LABEL LEGEND

RED LINES INDICATE
NEW CURB



REVISION			
DESIGNED SEG	DRAWN	CHECKED	DATE
RESPEC	RESPEC	RESPEC	2.02.2024
STAMP			
30% REVIEW			
PRELIMINARY NOT FOR CONSTRUCTION 2/2024			
THIS DRAWING IS INCOMPLETE AND NOT TO BE USED FOR CONSTRUCTION UNLESS IT IS STAMPED, SIGNED AND DATED			
nm811 Know what's below. Call before you dig. PROJ. #: #####			
PROJECT NAME:		OXBOW CENTER	
SHEET TITLE:		NEW WORK ST JOSEPHS	
SUBMITTED FOR:		30% REVIEW	
SHEET NUMBER:		EX-3	

1. ROADWAY STRIPING AND MARKERS ARE SHOWN FOR INFORMATION ONLY. FINAL LAYOUT WILL BE SHOWN ON CONSTRUCTION PLANS.
2. SIDEWALK AND ADA RAMP ARE SHOWN FOR INFORMATION ONLY. FINAL LAYOUT WILL BE SHOWN ON CONSTRUCTION PLANS.

NOTES AND REPORT
1-1-68 JGWH

EXISTING DRIVEWAY

— EXISTING ROW

7
EX-7

Control Point
Project Coordinator
Tel: 501847.38
Fax: 504607.01
E: 512163 (NAYD)

112.7'
TRANSITION LENGTH
SB RIGHT

ST. JOSEPHS DR

SCALE: 1" = 40'

— CROSS SECTION NUMBER
— SHEET NUMBER CONTAINING
THE CROSS SECTION

SECTION LABEL LEGEND




RED LINES INDICATE
NEW CURB

MONUMENT "8-G17"
N.M. State Plane Coordinates
(Central Zone - NAD 83)
N=1,502,236.625
E=1,505,431.887
Delta Alpha = -00°15'35.17"
Ground to Grid Factor = 0.99968008
Elevation = 5116.009 (NAVD88)

124.6'
LANE TRANSITION

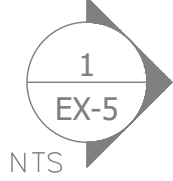
ONSITE CONCEPTUAL SITE PLAN

ST. JOSEPHS DR

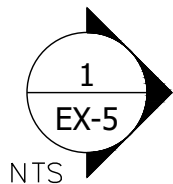
DESIGNED SEG		REVISION	
DRAWN JDV			
CHECKED SEG			
DATE 2.02.2024			
<div>RESPEC COMMUNITY DESIGN SOLUTIONS 7770 JEFFERSON STREET SUITE 200 ALBUQUERQUE NEW MEXICO 87109 WWW.RESPEC.COM PHONE (505) 733-9718</div>			
<div>RESPEC</div>			
STAMP <div>30% REVIEW</div>			
<div>PRELIMINARY NOT FOR CONSTRUCTION 2/2/2024</div>			
THIS DRAWING IS INCOMPLETE AND NOT TO BE USED FOR CONSTRUCTION UNLESS IT IS STAMPED, SIGNED AND DATED			
<div>nm811 Know what's below. Call before you dig.</div>			
PROJ. #: #####			
SUBMITTED FOR:		PROJECT NAME:	
SHEET NUMBER:		SHEET TITLE:	
30% REVIEW		NEW WORK ATRISCO DRIVE / INTERSECTION OF COORS AND ST JOSEPH	
EX-4		OXBOW CENTER	

NAME: N:\Projects\W0007 Starsgard\W0007 0004 Starsgard Oxbow Center\3. CAD\Exhibits\ROAD GEOMETRY EXHIBIT REVISED 08222023.dwg PLOT DATE: Feb 02, 2024 3:44pm

EXISTING COORS BLVD
NW - STA.
310+53.00 - 316+00



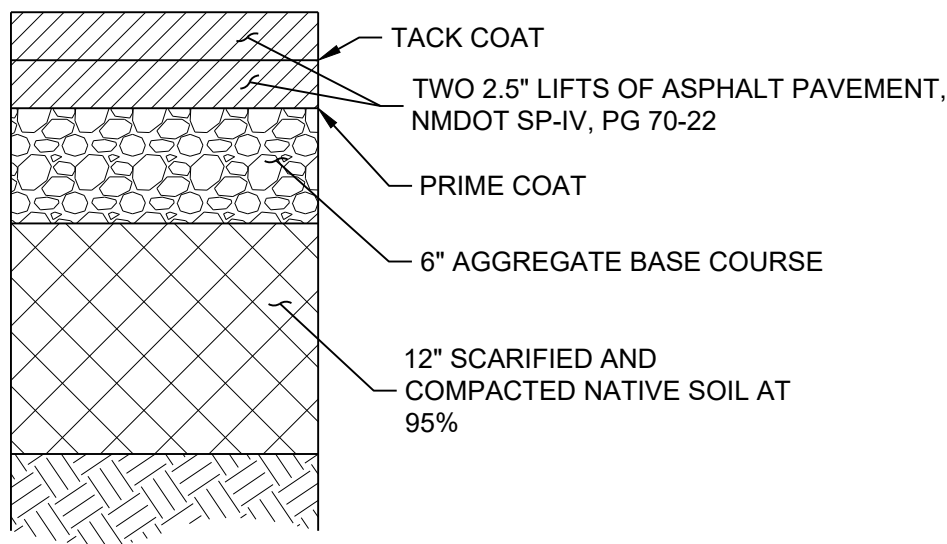
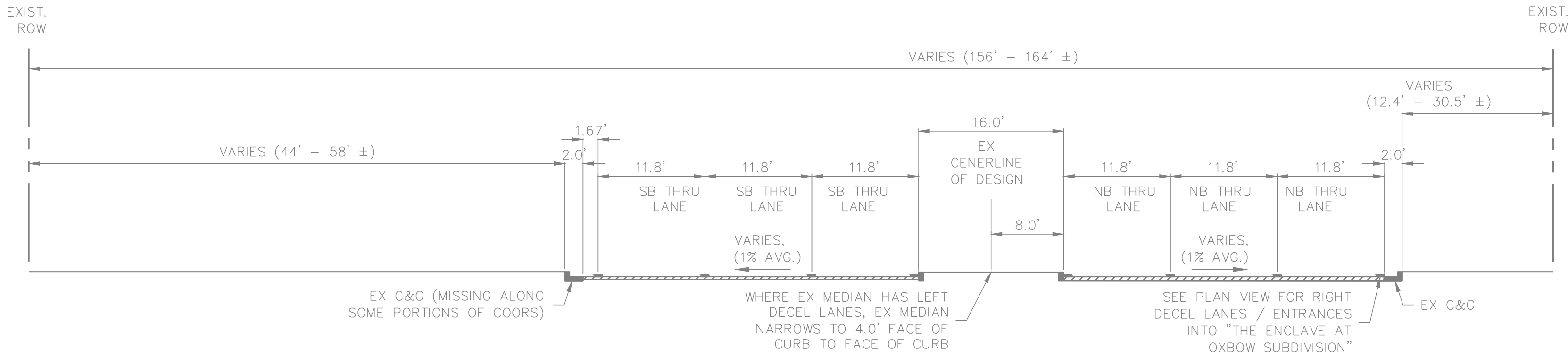
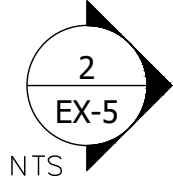
PROPOSED COORS
BLVD NW - STA.
310+53.00 - 312+00



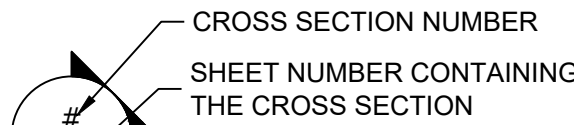
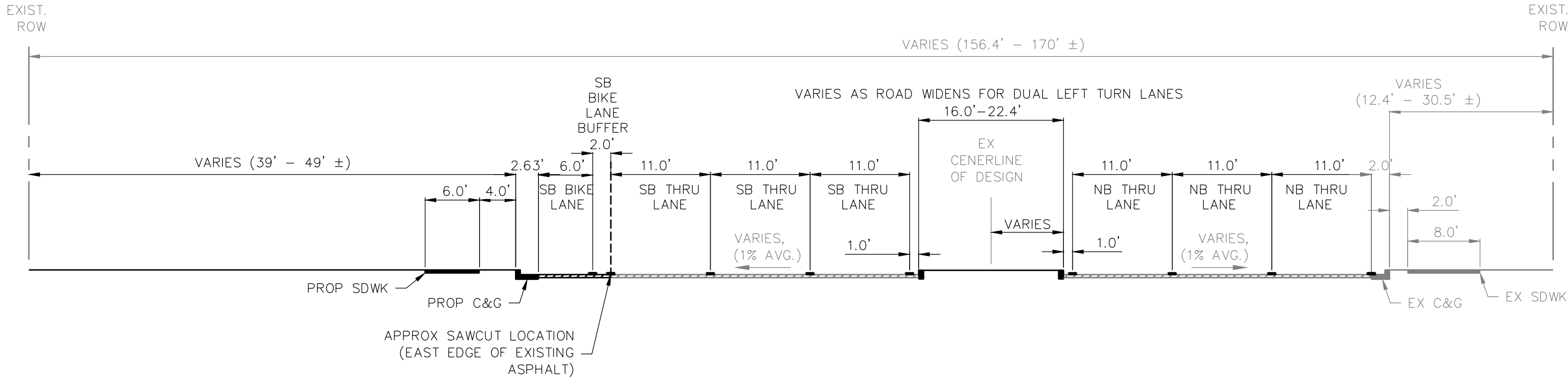
EXISTING COORS BLVD
NW - STA.
316+00 - 319+80.00



PROPOSED COORS BLVD
NW - STA.
316+00 - 319+80.00



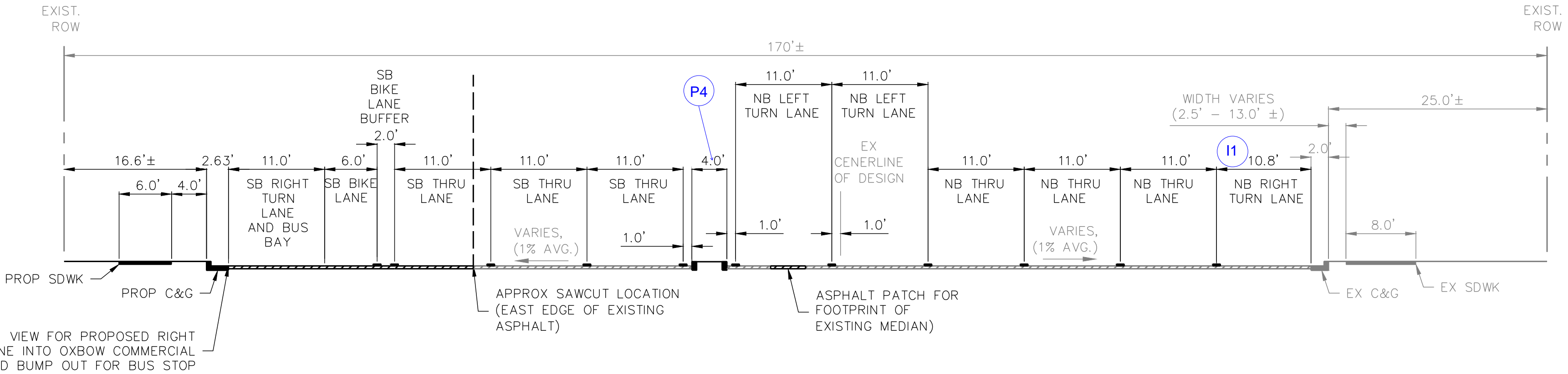
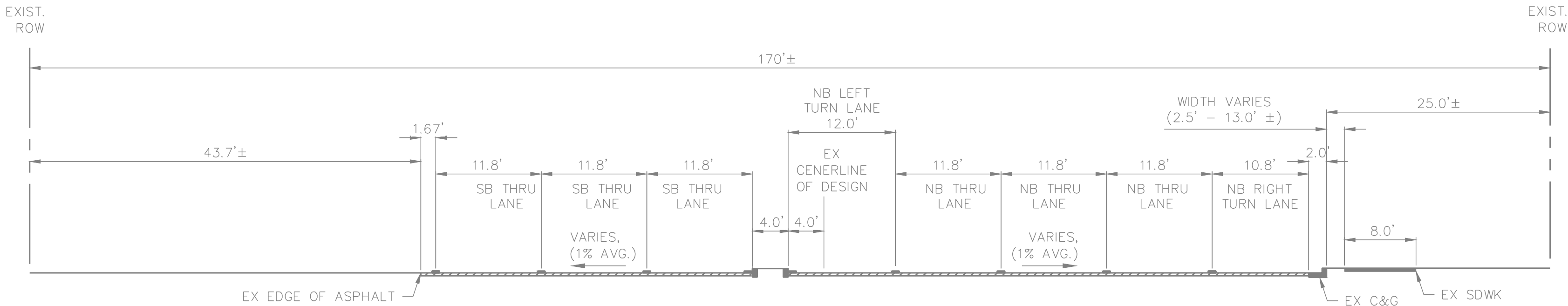
PROPOSED PAVEMENT SECTION
Scale: NTS



SECTION LABEL LEGEND

NOTE REGARDING ROADWAY SECTIONS:

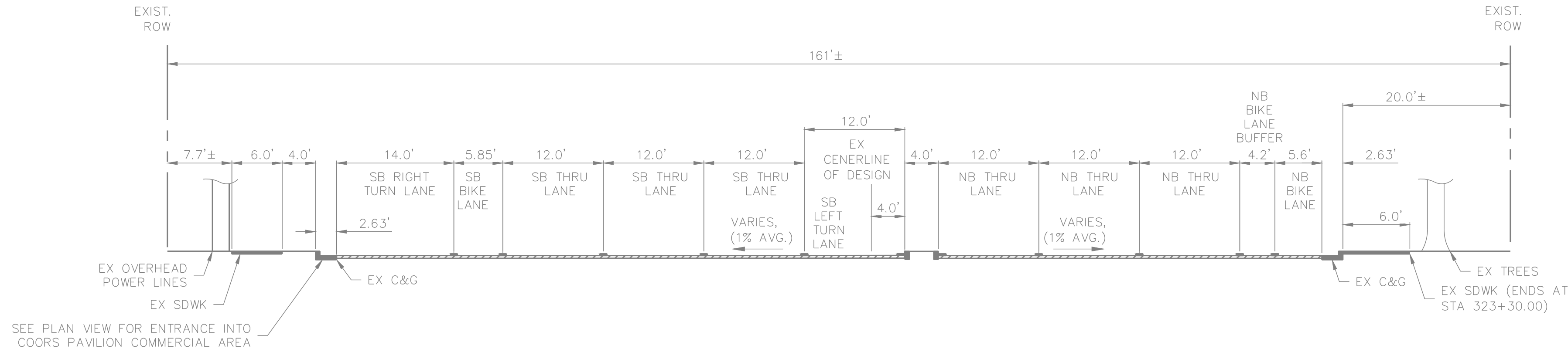
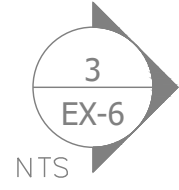
ROADWAY SECTIONS ARE TYPICAL AND ARE FOR USE IN CONJUNCTION WITH THE PLAN VIEW, ESPECIALLY IN REGIONS THAT ARE TRANSITIONING BETWEEN SECTIONS OR HAVE CONSTANTLY VARYING DIMENSIONS (E.G. GRADUAL NARROWING OF THE RIGHT OF WAY). ALSO, THE PLAN VIEW DISPLAYS DEVIATIONS FROM EXISTING AND PROPOSED SECTIONS THAT ARE NOT REPRESENTED IN THE SECTIONS (E.G. DRIVEWAY ACCESS LOCATIONS).



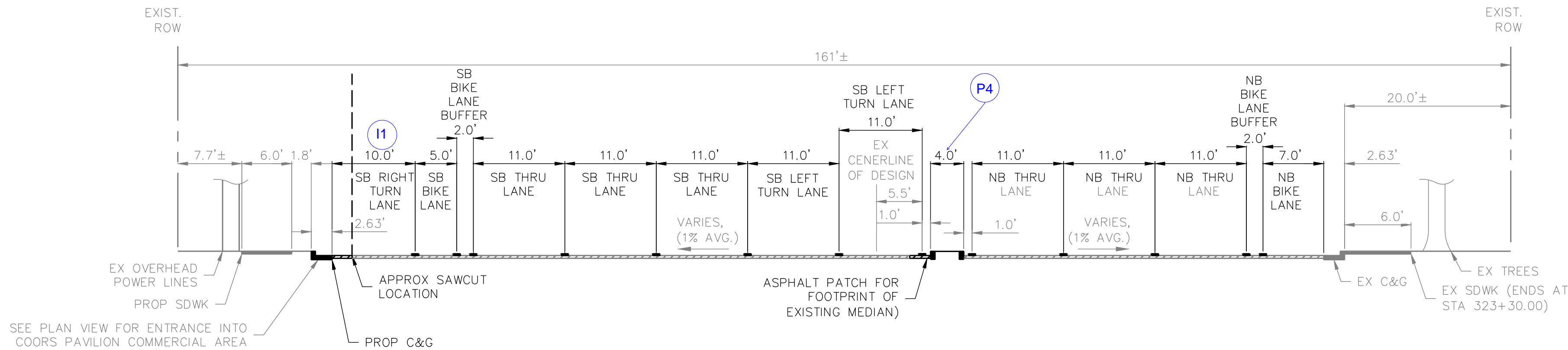
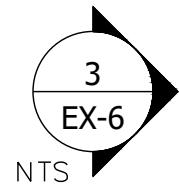
DESIGNED SEG				REVISION	
DESIGNED SEG	DRAWN	CHECKED	DATE		
RESPEC	RESPEC	RESPEC	2/02/2024		
COMMUNITY DESIGN SOLUTIONS 7770 JEFFERSON STREET SUITE 200 WWW.RESPEC.COM PHONE (855) 253-9718					
STAMP				30% REVIEW	
				PRELIMINARY NOT FOR CONSTRUCTION 2/2024	
				THIS DRAWING IS INCOMPLETE AND NOT TO BE USED FOR CONSTRUCTION UNLESS IT IS STAMPED, SIGNED AND DATED	
				nm811 Know what's below. Call before you dig. PROJ. #: #####	
PROJECT NAME:				OXBOW CENTER	
SHEET TITLE:				COORS ROAD CROSS SECTIONS	
SUBMITTED FOR:				30% REVIEW	
SHEET NUMBER:				EX-5	

NAME: N:\Projects\W0007 Starsgard\W0007 0004 Starsgard Oxbow Center\3_CAD\Exhibits\ROAD GEOMETRY EXHIBIT REVISED 08222023.dwg PLOT DATE: Feb 02, 2024 3:44pm

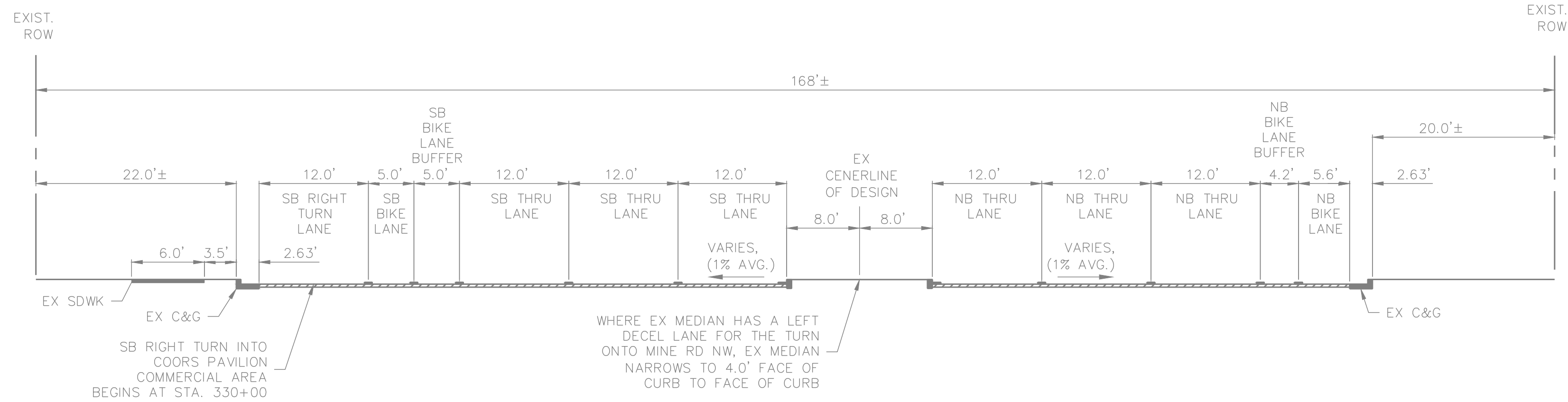
EXISTING COORS BLVD
NW - STA.
322+50.00 - 327+00



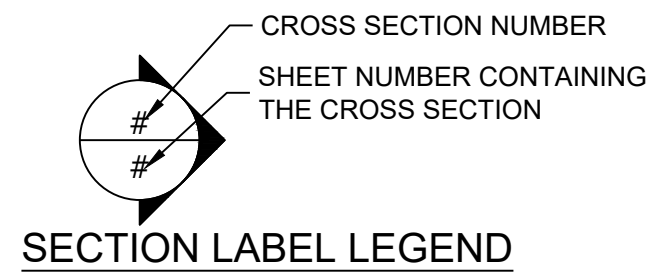
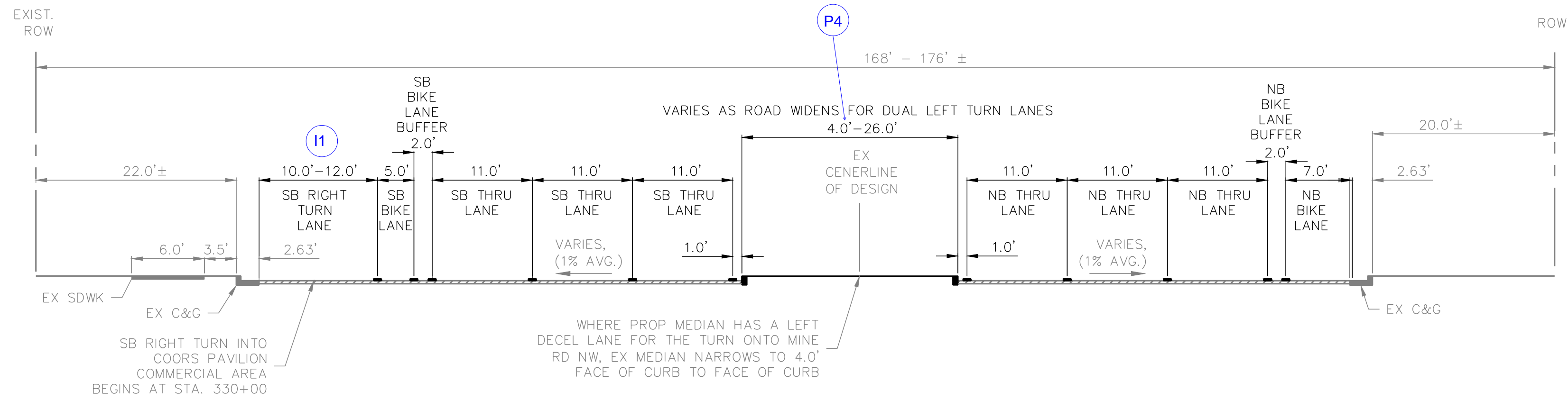
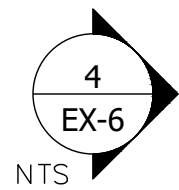
PROPOSED COORS BLVD
NW - STA.
322+50.00 - 327+00



EXISTING COORS BLVD
NW - STA.
328+00 - 333+00



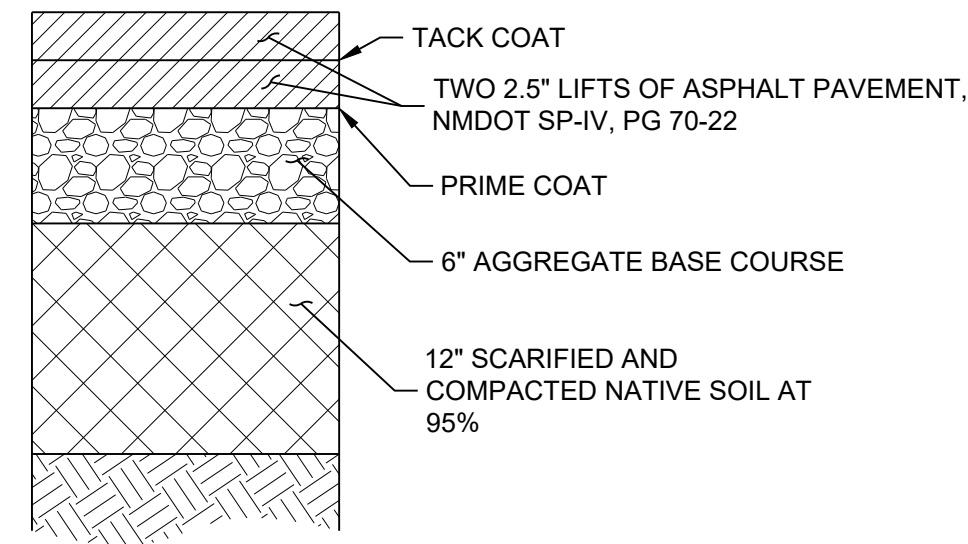
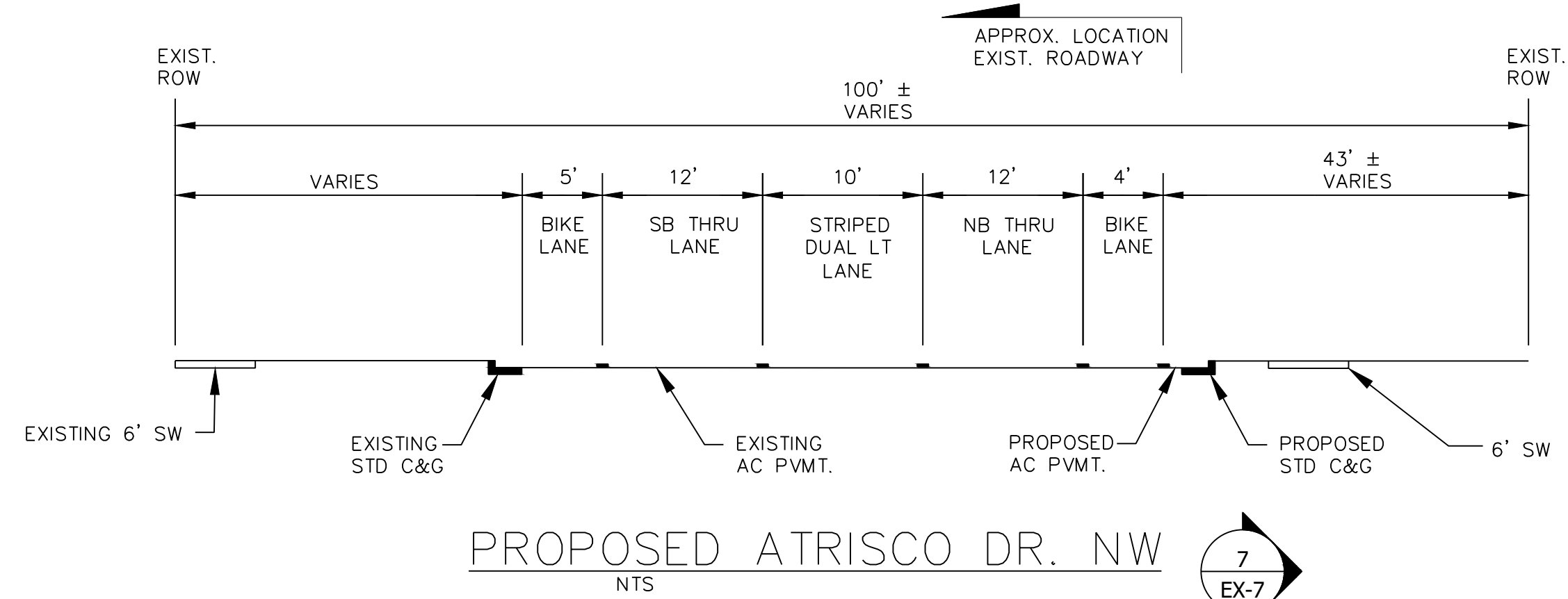
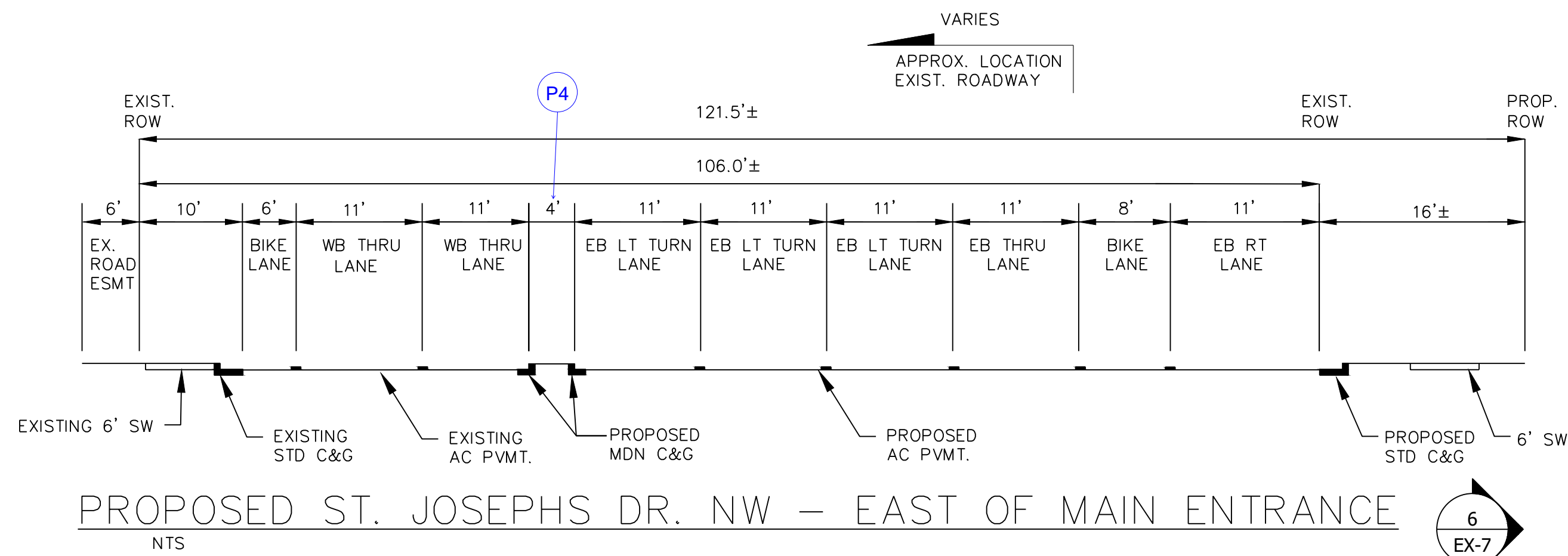
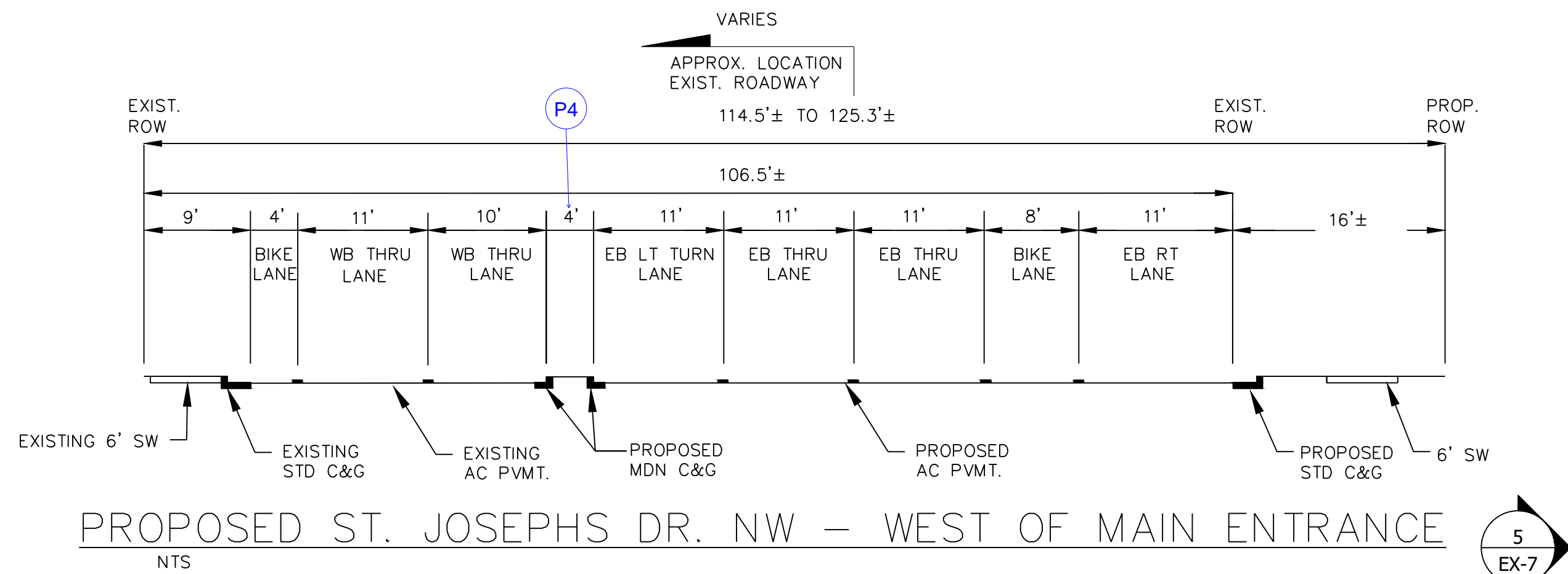
PROPOSED COORS BLVD
NW - STA.
328+00 - 333+00



NOTE REGARDING ROADWAY SECTIONS:
ROADWAY SECTIONS ARE TYPICAL AND ARE FOR USE IN CONJUNCTION WITH THE PLAN VIEW, ESPECIALLY IN REGIONS THAT ARE TRANSITIONING BETWEEN SECTIONS OR HAVE CONSTANTLY VARYING DIMENSIONS (E.G. GRADUAL NARROWING OF THE RIGHT OF WAY). ALSO, THE PLAN VIEW DISPLAYS DEVIATIONS FROM EXISTING AND PROPOSED SECTIONS THAT ARE NOT REPRESENTED IN THE SECTIONS (E.G. DRIVEWAY ACCESS LOCATIONS).

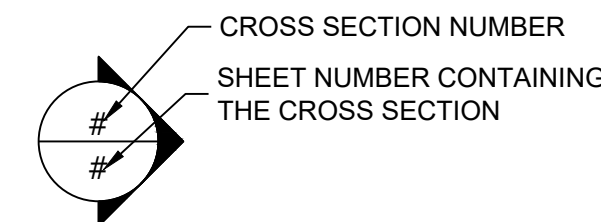
DESIGNED SEG	DRAWN	CHECKED	DATE	REVISION
RESPEC	JDV	SEG	2/02/2024	
COMMUNITY DESIGN SOLUTIONS 7770 JEFFERSON STREET SUITE 200 WWW.RESPEC.COM PHONE (855) 253-9718				
STAMP 30% REVIEW				
PRELIMINARY NOT FOR CONSTRUCTION 2/2024				
THIS DRAWING IS INCOMPLETE AND NOT TO BE USED FOR CONSTRUCTION UNLESS IT IS STAMPED, SIGNED AND DATED				
nm811 Know what's below. Call before you dig.				
PROJ. # : #####				
PROJECT NAME: OXBOW CENTER				
SHEET TITLE: COORS ROAD CROSS SECTIONS				
SUBMITTED FOR: 30% REVIEW				
SHEET NUMBER: EX-6				

N:\Projects\W0007 Skarsgard\W0007 0004 Skarsgard Oxbow Center\3. CAD\Exhibits\ROAD GEOMETRY EXHIBIT REVISED 08222023.dwg PLOT DATE: Feb 02, 2024 3:44pm



PROPOSED PAVEMENT SECTION

Scale: NTS



SECTION LABEL LEGEND

NOTE REGARDING ROADWAY SECTIONS:

ROADWAY SECTIONS ARE TYPICAL AND ARE FOR USE IN CONJUNCTION WITH THE PLAN VIEW, ESPECIALLY IN REGIONS THAT ARE TRANSITIONING BETWEEN SECTIONS OR HAVE CONSTANTLY VARYING DIMENSIONS (E.G. GRADUAL NARROWING OF THE RIGHT OF WAY). ALSO, THE PLAN VIEW DISPLAYS DEVIATIONS FROM EXISTING AND PROPOSED SECTIONS THAT ARE NOT REPRESENTED IN THE SECTIONS (E.G. DRIVEWAY ACCESS LOCATIONS).

DESIGNED SEG	JDV	REVISION
DRAWN	JDV	
CHECKED	SEG	
DATE	2.02.2024	
RESPEC COMMUNITY DESIGN SOLUTIONS 7770 JEFFERSON STREET SUITE 200 DALLAS, TEXAS 75203-9718 WWW.RESPEC.COM PHONE (959) 253-9718		
STAMP 30% REVIEW		
PRELIMINARY NOT FOR CONSTRUCTION 2/2024		
THIS DRAWING IS INCOMPLETE AND NOT TO BE USED FOR CONSTRUCTION UNLESS IT IS STAMPED, SIGNED AND DATED.		
nm811 Know what's below. Call before you dig.		
PROJ. #: #####		
PROJECT NAME: OXBOW CENTER		
SHEET TITLE: CITY OF ALBUQUERQUE ROAD CROSS SECTIONS		
SUBMITTED FOR: 30% REVIEW		
SHEET NUMBER: EX-7		

**Coors/St Josephs Intersection Review
Plan Review Checklist**

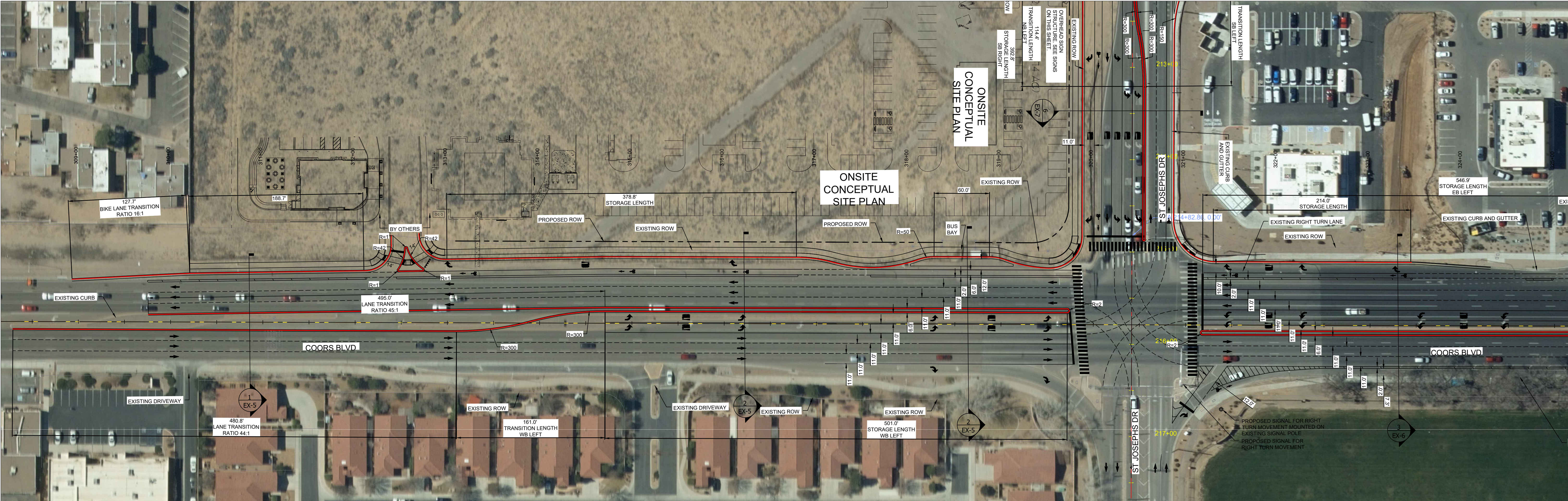
3/14/2024

General Information

Roadway classification	Coors: Regional Principal Arterial	MRMPO Long Range Roadway System
Posted speed	St. Josephs W. of Coors: Minor Arterial	(https://mrmmpo.maps.arcgis.com/apps/webappviewer/index.html?id=9d3876c8b09f4e22aacd3e900892c381)
Design vehicle	E. of Coors: Local	
	45 mph	
	N, S, W legs: WB-62	
	E leg: WB-50, also check S-Bus-36	

Comment Key Notes	Description	Criteria	Source	Comments
Intersection Geometry				
I1	Lane width	Coors: 11'-12' St. Josephs: 10' min. (speeds less than 35 mph)	AASHTO Green Book, 7.3.3.2	Coors SB right-turn lane does not meet lane width requirement.
I2	Shoulders	May be desirable on high-speed roadway (check for consistency with corridor) Width = 8'	AASHTO Green Book, 7.3.3.3, Table 7-3	
I3	Curb	Vertical curb not recommended along high-speed arterials. However, vertical curbs have safety benefits for pedestrians and are consistent with the existing corridor.	AASHTO Green Book, 4.7.3	
I4	Lanes aligned across intersection	Minimize offsets	NACTO, Major Intersections, Recommendations	St Josephs WB lanes do not align across Coors.
I5	Lane transitions	R = 300'/600' asymmetric reverse curve tapers at turn lanes Lane shift transition ratio =45:1	SAMM, 18.K.1.a.i MUTCD 3.B.13	Left lane reverse curve tapers on the Coors medians do not meet criterion. Tapers on the south leg are close to meeting criterion (44:1).
I6	Corner curb radii	St. Josephs: 25' Other: 15' Note these are commonly used values and do not reflect effective radii. Design should be checked using turning templates.	AASHTO Green Book, 9.6.1.4	Curb radii at intersection appear larger than needed for design vehicles.
I7	Left-turn radii	Single left: 75' for SU truck, bus, occasional WB-62 Double or triple left: 90', 12' swept path width	AASHTO Green Book, 9.7.3.6	
I8	Vehicle left turn separation	10' minimum	AASHTO Green Book, 9.7.3.5	Preliminary striping for left-turn lanes are closer than 10'.
I9	Left-turn lane offset	Provide positive offset	AASHTO Green Book, 9.7.3.4	
I10	Channelized right turn lanes	Appropriate for right-turn lanes. Refer to GPF for design guidance.	AASHTO GPF 3.6.2.6	
I11	Intersection spacing	St. Josephs: 2,640' (signalized) Coors RI/RO driveways: 500'	SAMM, Table 18.C-1	St. Josephs intersection spacing does not meet criterion.
I12	Stopping sight distance (SSD)	15 mph turns: 80'; also see crosswalk criteria	AASHTO 9.6.5.1	
I13	Driveways	20'-30', 30' simple curve radius (assumes Passenger Car/Pickup with separate truck access)	SAMM, Table 18.I-1	

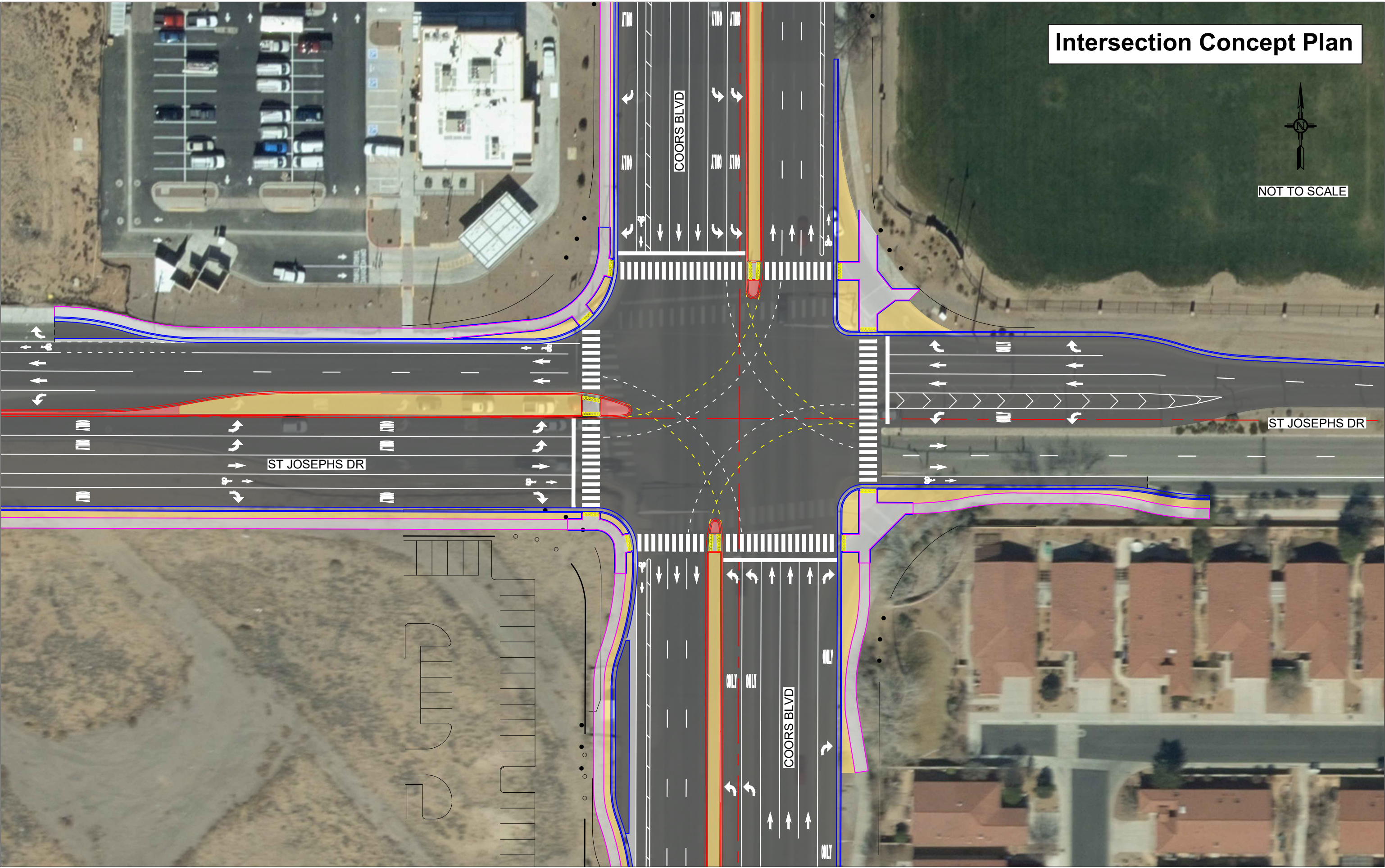
Comment Key Notes	Description	Criteria	Source	Comments
I14	Deceleration length and tapers	Coors: 400' (stop condition/at signal), 370' (slow to 15 mph/at driveways), or queue storage length, whichever is greater. Tapers: 12.5 L to 1 W	SAMM, Table 18.K-1	Coors SB right-turn lane does not meet decel length requirement.
Pedestrian Facilities				
	<i>Crosswalks</i>			
P1	All legs have crosswalks	Provide crosswalks on all 4 legs	NMDOT DM 1200.10.2	
P2	Alignment	Crosswalks should be aligned as closely as possible with the pedestrian through zone.	NACTO, Intersection Design Elements, Conventional Crosswalks	
P3	Width	10' recommended	AASHTO GPF 3.6.2.3	
P4	Median refuge	<p>Appropriate for the following conditions:</p> <ul style="list-style-type: none"> • Two-way arterials with intermediate to high speeds (35 mph or greater), moderate to high average daily traffic (9,000 AADT or higher), and high pedestrian volumes. • Significant pedestrian collision history, according to crash data. • Near a school or other community center. <p>Provide refuge when crossing distance exceeds 60'; width = 6' min., 8' to 10' preferred. Cut through should match width of crosswalk (10'). Nose should extend past crosswalk.</p>	<p>NMDOT DM 1200.11</p> <p>NMDOT VRU Safety Assessment, Table 5-4; AASHTO Green Book, 9.6.1.4; NACTO, Intersection Design Elements, Pedestrian Safety Islands</p>	Median refuge not provided. Existing channelizing island cut throughs do not match crosswalk widths.
P5	Curb ramps	Diagonal ramps not permitted unless physically constrained.	NMDOT DM 1200.9.1	
P6	Channelized right turn lanes	Crosswalks shall provide a pedestrian signal head, hybrid beacon, rapid flashing beacon, or raised crossing.	PROWAG (https://www.access-board.gov/prowag/), R306.5	No mitigation shown at SE corner.
P7	Separation	Where crossing is not intended, separate the pedestrian path from the curb, crosswalk to crosswalk with a 2' wide buffer	PROWAG, R306.4.1.1	
	<i>Sidewalks</i>			
P8	Width	4' to 8', 2' wider than minimum when adjacent to a curb 5' or more preferred	<p>AASHTO Green Book 4.17.1</p> <p>NMDOT DM 1200.8.1</p>	
P9	Buffers (between roadway and sidewalk)	2' min., 4' recommended	AASHTO GPF 3.3.5	
Bicycle Facilities				
B1	Lane width	5' preferred, wider may be appropriate for high-speed roadways	AASHTO GBF 4.6.4	St Josephs EB bike lane should continue across Coors intersection. Existing driveway island on Coors SB north of St Josephs blocks bike lane.
B2	Buffers (between through and right turn lanes)	4', 5' desirable	SAMM, 18.K.5	
B3	Locations	Per City Bike Trail Map	https://www.cabq.gov/municipaldevelopment/maps/interactive-bike-map	



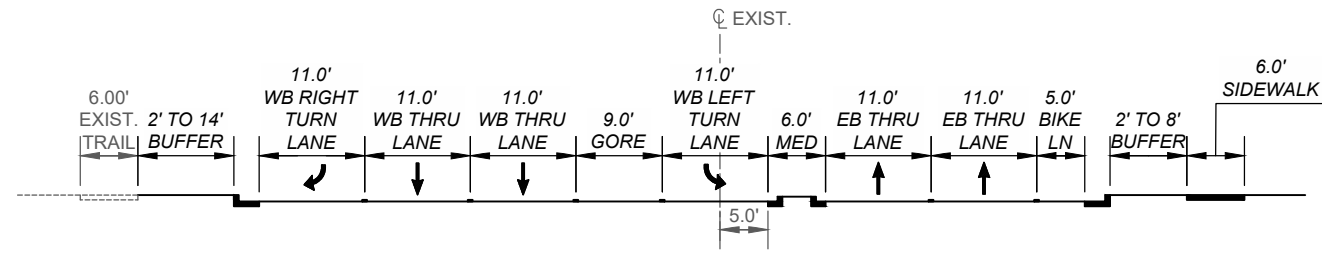
Intersection Concept Plan



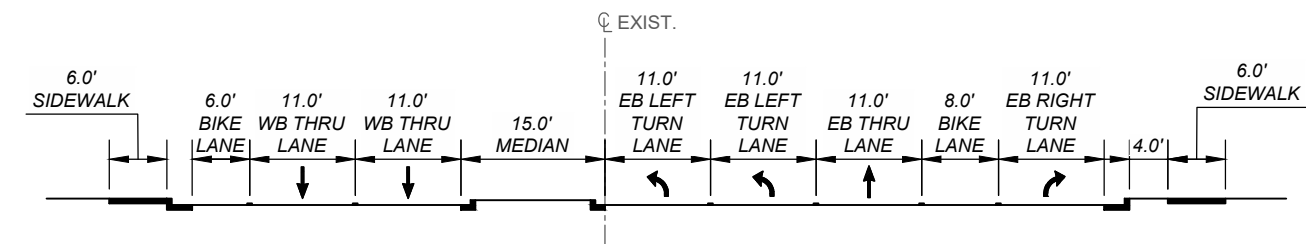
NOT TO SCALE



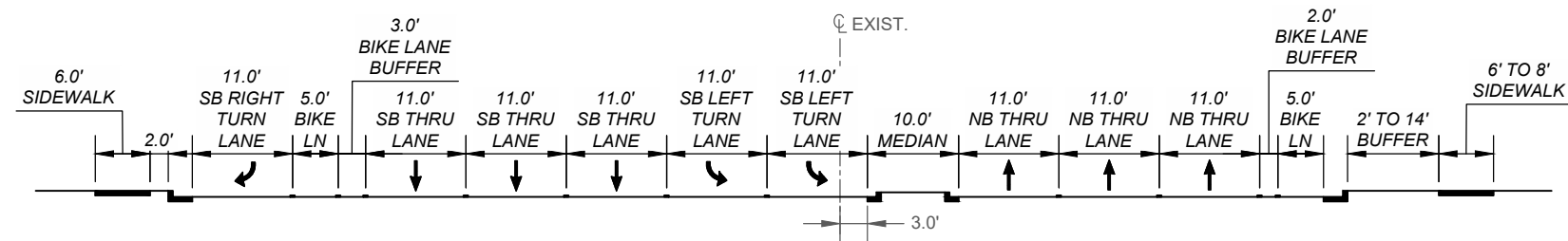
Intersection Concept Typical Sections



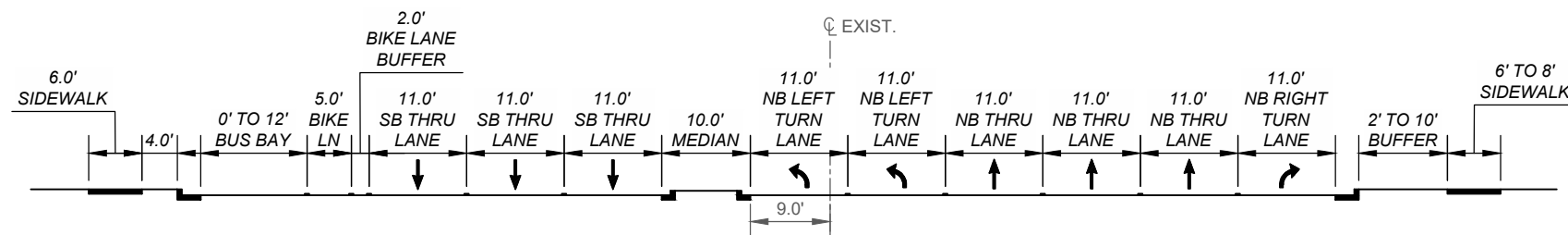
PROPOSED TYPICAL SECTION - ST. JOSEPHS DR
(EAST OF INTERSECTION)



PROPOSED TYPICAL SECTION - ST. JOSEPHS DR
(WEST OF INTERSECTION)



PROPOSED TYPICAL SECTION - COORS BLVD
(NORTH OF INTERSECTION)



PROPOSED TYPICAL SECTION - COORS BLVD
(SOUTH OF INTERSECTION)