

Responses to comments are provided in blue.

Second Submission Review

SUMMARY OF KEY COMMENTS FROM ALL DEPARTMENTS

- A resubmittal will not be accepted without the plat
The Plat is included in this resubmittal packet.
- Submit a letter to the Director of Public Works to request a deferral (Public Works)
Deputy Director of Public Works Victor Rachael confirmed on October 21, 2021 in meeting with City of Aurora City Attorney's office that this is not required.
- Provide ramps along the accessible route (Life/Safety)
Completed
- Revise the lanes to support the ultimate roadway section (Traffic)
Deputy Director of Public Works Victor Rachael confirmed on October 21, 2021 in meeting with City of Aurora City Attorney's office that this is not required.
- Add pond maintenance access (Public Works Engineering)
Completed
- Mix up plant material and adjust landscape tables (Landscaping)
Completed

PLANNING DEPARTMENT COMMENTS

1. Zoning and Land Use Comments

1A. Revise the Letter of Introduction to describe the proposed Site Plan and how it meets the approval criteria in Section 146-5.4.3.B.2.c. Also include an operations plan that outlines, at a minimum, the use(s) within the building, number of pumps, number of employees, and hours of operation.

Letter of introduction has been revised.

1B. The Avigation Easement previously recorded did not include a legal description and illustration of the site. Please complete the attached form, provide a legal description and illustration and return to the case manager. The City will record the avigation easement.

The Avigation Easement has been revised to include the legal description per the direction of City Staff (in coordination with Maurice Brooks).

1C. It is customary for a convenience store, especially one with a restaurant, to provide an outdoor seating area. Staff encourages the applicant to consider adding this amenity.

A patio has been added to the south side of the building.

2. Completeness and Clarity of the Application

2A. Numerous comments from the last review were not addressed. The comments in this letter are a summary, however, all comments can be found in the redlines. Please ensure all are addressed.

Comment noted. Responses have been provided to all comments and redlines.

2B. Expand the area shown in the Vicinity Map to provide greater context for the site location.

Completed.

2C. Remove adjacent property owner names. Only show the zoning district and subdivision plat name/lot if applicable.

Completed.

2D. Remove contractor and construction related notes. These plans are not for construction.

Completed.

2E. Building area needs to be consistent on all sheets.

Completed.

2F. Show the location of the air pump on the plans.

Completed.

Parking and Access

2G. There are 69 parking spaces proposed when only 19 are required. That is more than 3.5 times greater than needed. Please reduce the number of parking spaces or provide a justification to support the request.

Parking spaces along the eastern property line have been eliminated.

2H. Identify where the tanker truck will park while filling the fuel tanks.

Completed.

2I. Move the bike rack so the accessible route is not impacted.

Completed.

2J. Add a sidewalk between the parking lot and Smith Road sidewalk to accommodate the accessible route.

Completed.

2K. It appears accessory equipment, such as an ice machine and/or a propane tank rack, etc. are proposed on the sidewalks surrounding the building. The sidewalk must maintain a minimum clear width of ## feet.

Comment noted.

Photometric Plan

2L. Fixture labels are floating and don't relate to fixtures. Fixture symbols should be more readable, and each should be labeled. Simple labels like A, B, C... will be acceptable.

Completed.

2M. "Dots" are too large and obscure data. Revise.

Completed.

2N. Add a description for each fixture type in the luminaire schedule.

Completed.

2O. Identify the maximum height of pole lights, including the height of the base.

Completed.

3. Architecture and Urban Design

3A. Provide a materials board with actual samples with the next submittal.

The material board will be delivered to the City after the electronic upload takes place.

3B. Building elevations appear to be labeled incorrectly. Please revise.

Revised accordingly.

3C. Show the outline of the fuel canopy and dimension. Show any proposed color banding on the canopies. Show for all 4 sides. Accent colors may be used as decorative elements on the canopy fascia, but they shall be limited to horizontal bands of a total area not to exceed 40 percent of the area of the canopy fascia.

Completed. The color of the canopy fascia and any associated banding will be provided with the Sign Permit.

3D. Four-sided architecture is required. Add variations in the building façades and/or materials to enhance all building elevations. See Table 4.8-8 for the architectural requirements for primary, secondary and minor facades and ensure that each façade meets the requirements. The rear façade specifically needs enhancement.

Four-sided architecture provided. Added notches, height changes, architectural detailing, material changes, and off-sets.

3D. Label the material of the fueling canopies, add the color and clarify if it is opaque.

The color of the canopy fascia and any associated banding will be provided with the Sign Permit.

3E. Add a note to Sheet 9 stating: "Accent colors may be used as decorative elements on the canopy fascia, but they shall be limited to horizontal bands of a total area not to exceed 40 percent of the area of the canopy fascia."

Completed.

3F. Provide black and white elevations with the next submittal and upload the color elevations separately. The colored elevations are too dark to read well when printed to mylar.

The black and white version is included in the Site Plan set. The color elevations are included as a separate document.

3G. Remove all signage from the elevations. You may show a light, dashed line and indicate that is the location of future signage.

Revised accordingly.

3H. Mechanical equipment shall be screened. The mechanical boxes on the building wall must be screened with landscape or some other material.

Revised accordingly.

4. Signage

4A. Add the maximum permitted sign area and number of signs to the Site Data. The calculation for frontage on an arterial street is two square feet of sign area for each linear foot of longest side of the canopy for the first 100 feet, then one-half square feet of sign area for each linear foot of building frontage thereafter as measured along the building frontage. The canopy is 136 feet long, therefore, 100' x 2 plus 36' x 0.5 would give you a total of 218 square feet of signage for the site. The maximum number of signs is 5.

Completed.

4B. Proposed monument sign locations have not been shown on the Site Plan. Show and label all proposed monument signage on the Site Plan and landscape plans or a minor amendment will be required to add them in the future.

The proposed location of the monument signs has been added to the Site Plan and Landscape Plan as requested.

4C. Show all colors and/or accents on the canopy fascia.

The color of the canopy fascia and any associated banding will be provided with the Sign Permit.

5. Landscaping Issues

5A. Curbside landscape areas between 6-10' in width should not include cool season grasses per Section 146-4.7.5.C.2.a.iii. Native seed can be used, and other landscape could consist of a mix of shrubs and decorative grasses.

Cool season grasses have been removed from these areas and replaced with native seed or shrubs and ornamental grasses.

5B. List surface materials in the Landscape Notes and identify any free-standing lights.

Surface materials (concrete) is shown at the end of the plant legend. Lights are shown on the plan as a typical symbol & "to be determined" (TBD)

5C. Only show the buffer width that is to be provided. Incentives used should be noted under the buffer table, rather than on the plans. Landscape should be distributed in planting beds throughout the buffer.

Buffer width has been corrected. Incentives are only listed in the table. Plants are distributed throughout the buffers.

5D. Provide a landscape island at the terminus of the row of parking, adjacent to the trash enclosure.

Planter added.

5E. Tall landscape screens shall consist of a *mixture* of shrubs. More than one plant species is required.

Multiple plant species are provided.

5F. Identify 5 and 1-gallon plant material separately in the landscape tables. Add a note for the tree and shrub equivalents per Section 146-4.7.3.B.7.

These have been identified in the buffer section. Note is shown under buffer section.

5G. No more than 20 percent of the street buffer plant material shall be ornamental grasses. Differentiate shrubs and grasses separately in the buffer tables.

15% of plants in street buffer are ornamental grasses. Note added.

5H. Parking lots shall be screened by shrub species that will reach a minimum height of three feet at maturity. The material along the east property line

Taller shrubs have been substituted for the shorter shrubs.

5I. Make sure all existing and proposed easements are labeled on the landscape plan.

Easements are shown and labeled.

5J. Add concrete and edger to the Legend. Edger is required between all shrub beds and turf.

Concrete added to end of plant legend. Edging note added to City of Aurora General Landscape Notes.

5K. Reference the UDO instead of the old code.

References revised.

5L. Only show the Plant Schedule once.

Only one Plant schedule.

5M. Specify mulch material.

Note added.

5N. Repeat comments:

- Vary landscape material. Continuous rows of 30-45 of the shrubs is not acceptable.
- Add "NOT FOR CONSTRUCTION" on landscape sheet.
- Show the 100-year water elevation in the detention area.
- Show the general location(s) of all proposed monument signage.

Shrub masses have been broken up. NOT FOR CONSTRUCTION note added. 100-yr water elev. provided.

Monument sign is shown and labeled.

6. Addressing (Phil Turner / 303-739-7357 / pturner@auroragov.org)

6A. Please provide a digital .shp or .dwg file for addressing and other GIS mapping purposes. Include the parcel, street line, easement and building footprint layers at a minimum. Please ensure that the digital file provided in a NAD 83 feet, Stateplane, Central Colorado projection so it will display correctly within our GIS system. Please eliminate any line work outside of the target area. Please contact me if you need additional information about this digital file.

An AutoCAD file at State Plane coordinates has been included in this resubmittal packet.

REFERRAL COMMENTS FROM OTHER DEPARTMENTS AND AGENCIES

7. Civil Engineering (Kristin Tanabe / 303-739-7306 / KTanabe@auroragov.org / Comments in green)

Site Plan

7A. A plat is required. Additional reviews may be required as the first review of the plat will be with the 3rd submittal of the site plan.

The plat has included in this resubmittal packet.

7B. Show and label pond maintenance access, spillway, 100-year water surface elevation

The Drainage Easement for the pond is on the Plat and the Site Plan.

7C. Show and label all proposed and existing easements on all plans.

All easements are shown and labeled on the Plat and the Site Plan.

7D. A 5.5' sidewalk is required on Andes Way.

Provided.

7E. Additional lights are required on Tower Road and Andes Way.

Currently have 2 at 150' apart, but Aurora Engineering Standards specify only every 160' for a 6-lane arterial.

7F. Label pavement material(s).

Completed.

7G. Add a note that street light locations are conceptual. Final street light locations will be determined by photometric analysis submitted with the street lighting plans in the civil plan submittal.

Completed.

7H. Include fixtures for streetlights. They should be identified as SL-4 for arterials and SL-1 for local streets.

Completed.

7I. A License Agreement is required for the "pork chop" at the Smith Road entry.

Comment noted.

7J. With no proposed storm sewer on site or curb cuts to the pond, how do flows get to the pond? Where is the outlet structure for the pond?

This has been addressed on the revised plan.

7K. The minimum slope at the pond bottom is 2%. Indicate the direction of emergency overflow from the detention pond.

Completed.

7M. The maximum slope is 6% for 75-feet when sloping down into a site from an arterial roadway.

Comment noted.

7N. A railing is required for sidewalks adjacent to 3:1 slopes.

Comment noted.

7O. Label street slopes and slopes in landscape areas.

Completed.

7P. The maximum slope in the right-of-way is 4:1 and 3:1 on-site. The minimum slope away from the building is 5% for 10-feet for landscape areas, and 2% for impervious surfaces.

Comment noted.

7Q. If there is storm sewer proposed on the site, add a note indicating if the storm sewer system is public or private and who will maintain it.

Completed.

7R. Do not cut and paste roadway sections from the manual. Please draft the proposed street sections.

Completed.

7S. Pavement sections are not required on site plans, only on civil plans. Please remove. Only the type of pavement is required to be identified on the site plan

Comment noted.

7T. Increase the size of the symbols Legend. The text and symbols are too small to read.

Completed.

7U. The Site Plan will not be approved the Public Works until the Preliminary Drainage Report is approved.
Comment noted.

Future Roadway Build-out Exhibit

7V. This Exhibit needs to be part of the recorded site plan. Full design for deferred improvements needs to be included with a deferral agreement including grading. Additionally, a letter addressed to the Director of Public Works needs to be submitted requesting the deferral, describing the deferred improvements and providing a justification for the deferral

Deputy Director of Public Works Victor Rachael confirmed on October 21, 2021 in meeting with City of Aurora City Attorney's office that this is not required.

7W. The sidewalk at the intersection is incorrect.
Revised accordingly.

7X. The sidewalk on Tower Road should be detached.

This plan is designed to function efficiently within the existing geometry of the approach and receiving lanes at the intersection. This future roadway buildout exhibit has been provided to show coordination with future improvements unrelated to the impacts of our project. Existing improvement have been coordinated with the future roadway buildout to the maximum extent feasible, while being mindful that these improvements far exceed the impacts of Cadence's proposed project. This was discussed during the October 21, 2021 in meeting with City of Aurora City Attorney's office.

7Y. Remove "Future" from the title and "For Reference Only" from the sheet.

This plan has been provided to show coordination with future improvements unrelated to the impacts of our project. This was discussed during October 21, 2021 in meeting with City of Aurora City Attorney's office.

7Z. The diagram does not show the ultimate section for Smith Road.

This plan is designed to function efficiently within the existing geometry of the approach and receiving lanes at the intersection. This future roadway buildout exhibit has been provided to show coordination with future improvements unrelated to the impacts of our project. Existing improvement have been coordinated with the future roadway buildout to the maximum extent feasible, while being mindful that these improvements far exceed the impacts of Cadence's proposed project. This was discussed during the October 21, 2021 in meeting with City of Aurora City Attorney's office.

7AA. There is no tree lawn in the ultimate condition on Smith Road. Provide an 8' attached sidewalk.

The improvements along Smith Road have been designed to provide the best engineering fit with existing cross sections to the east and west. The impact of the project has been addressed. To the extent feasible, these improvements have been coordinated with potential future City projects on Smith Road. This was discussed during October 21, 2021 in meeting with City of Aurora City Attorney's office.

7BB. Remove the AutoCad SHX text items in the comment section. Flatten the document to reduce the select-ability of the items.
Completed.

8. Traffic Engineering (Carl Harline / 303-739-7584 / charline@auroragov.org / Comments in amber)

Site Plan

Traffic Impact Study

8A. The section of Tower Road is a 3-through lane roadway, so additional auxiliary lanes (right turn lanes) are applicable to this development. Add additional right-of-way width to the section.

Deputy Director of Public Works Victor Rachael confirmed on October 21, 2021 in meeting with City of Aurora City Attorney's office that this is not required.

8B. Previous comments were not addressed. Please add.

Deputy Director of Public Works Victor Rachael confirmed on October 21, 2021 in meeting with City of Aurora City Attorney's office that an additional lane on Tower Road is not required.

8C. Include signal timing sheets in the appendix.

Completed.

8D. See comments throughout the report.

Comment noted.

Site Plan

8E. Section of Tower Road should be 3-through-lanes (in each direction) at full build out. The proposed eastern flowline does not support the ultimate build condition. In order to provide necessary northbound left/right turn lanes (per TIS analysis), the entire northbound approach needs to shift at least 6' to the east, and the curbline needs to be adjusted to allow for a future 3-thru-lane northbound configuration. With the northbound curbline in place, added pavement may be hatched out via pavement markings.

Deputy Director of Public Works Victor Rachael confirmed on October 21, 2021 in meeting with City of Aurora City Attorney's office that an additional lane on Tower Road is not required and that the traffic signal may remain in its current place within an island. Victor Rachael provided a new island detail that the City prefers. This has been incorporated into the site design.

8F. Provide the taper rate into the site.

Completed.

8G. The right lane must turn right (R3-7R).

Completed.

8H. The curbline on Smith needs to be adjusted to accommodate the needed right turn lane onto Andes Way to match the future build scenario exhibit.

Right turn lane onto Andes Way has been provided. It is not feasible to provide an additional lane to accommodate a future widening project that is unrelated to the impacts of this project. This was discussed on October 21, 2021 in meeting with Public Works staff and the City of Aurora City Attorney's office

8I. Add the sight triangle for northbound Andes Way.

Completed.

8J. Move the stop signs as noted on the redlines.

Completed.

8K. Show the sight triangles on the landscape plans per TE-13. Ensure plantings do not obstruct sight triangles per Roadway Manual Figure 4.04.2.10.1.02.1.

Site triangles are shown.

8L. Add sign dimensions on Sheet 8.

Completed.

Future Roadway Build-out Exhibit

8M. The northbound left turn lane needs to be centered on right-of-way. Space needed for 3 southbound lanes in the section. Northbound right turn lane is in addition to the standard 110' ROW.

Deputy Director of Public Works Victor Rachael confirmed on October 21, 2021 in meeting with City of Aurora City Attorney's office that an additional lane on Tower Road is not required.

8N. The eastbound right turn into Andes Way is warranted (see curbline west of access point for what is needed).

Right turn lane onto Andes Way has been provided. It is not feasible to provide an additional lane to accommodate a future widening project that is unrelated to the impacts of this project. This was discussed on October 21, 2021 in meeting with Public Works staff and the City of Aurora City Attorney's office

2. Fire / Life Safety (Mark Apodaca / 303-739-656 / mapodaca@auroragov.org / Comments in blue)

9A. Provide A Knox Box at main building entrance. Show and label the Knox Box as an X within a box symbol and

label with the following example: "Knox Box with approved hardware." Label on the Site Plan, Utility Plan, Elevations, Landscaping and Photometric Plans.

The Knox Box has been added to the plans as requested.

9B. Show the location of the Emergency Disconnect Switch per 2015 IFC section 2303. The emergency disconnect switch shall be located within 100' but not less than 20' from the fuel dispensers.

The Emergency Disconnect Switch will be included in the Fuel plans once completed.

9C. Provide a bold dashed line to show exterior accessible route throughout site to the required accessible entrances (60%), site amenities (mail, trash & similar) and transportation stops (or to edge of site near public transportation stops).

Completed.

9D. Maintain a minimum 1-foot clearance to all exterior accessible routes.

Completed.

9E. Provide accessible ramps for the accessible route.

Completed.

9F. A fire lane easement is not required for this site. Please remove fire lane signs on the plans and the details on Sheet 8.

Completed.

9G. Add the note provided on Sheet 4.

Completed.

10. Real Property (Maurice Brooks / 303-739-7294 / mbrooks@auroragov.org / Comments in magenta)

10A. Schedule a pre-application with Real Property prior to submitting the subdivision plat.

A Pre-Submittal Meeting was coordinated with Darren Akrie, in the Real Property Dept., and he has signed off on making the formal submittal with the planning package.

10B. Dedicate any easements and/or right-of-way in the plat.

The Plat is depicting all new Easements and ROW to be dedicated.

10C. Add the lot, block and subdivision information.

The Plat is showing the new Lot, Block and Subdivision information

10D. Any encroachments into easements will require a License Agreement. Please contact Grace Gray (ggray@auroragov.org) to start the process. The License Agreement must be complete prior to approval of the Site Plan.

Comment noted.

11. Xcel Energy

11A. No comments at this time, however, comments may be forthcoming during review of the subdivision plat.

Comment noted.

SITE PLAN REDLINES

City Staff Comment	Applicant Response
Page 1- Cover Sheet	
Without a plat submittal, additional reviews may be required as the first review of the plat will be with the 3rd submittal of the site plan.	Comment noted. The Plat has been included in this resubmittal packet.
Legal can't be proofed until Plat submittal. make sure legal, bearings, distances, etc. match the plat	Comment noted. The Plat has been included in this resubmittal packet.
why? this is excessive. Is there a seating capacity in the restaurant to justify this? (Regarding Parking)	Parking has been reduced to 50 spaces.
is 1 van accessible?	Neither space is van accessible.
Add	Information added to table.
Maximum Permitted Sign Area	
Max Number of Signs	
ADJUSTMENTS	Adjustment block added.
fill in	We do not believe this applies as this site is within the Buckley Airport Influence Area but not within the Noise Impact District (NID). Note removed.
Page 2- Site Plan	
Make sure southbound 3-thru-lane configuration aligns through the intersection. Show pavement markings for other approaches indicating alignment.	Alignment of the southbound lanes is not possible without construction plans for the north leg and the widening of the RR crossing. Existing lane alignment has been added to plans. In a meeting with Public Works staff and the City of Aurora's City Attorney on October 21, 2021, Public Works Deputy Director Victor Rachael confirmed that a third NB lane on Tower Rd. is not required.
Traffic pole will need to be relocated to allow for future eastbound through lane	In a meeting with Public Works staff and the City of Aurora's City Attorney on October 21, 2021, Public Works Deputy Director Victor Rachael confirmed relocation of the traffic signal is not required. Island design has been updated as request to reflect detail preferred by Public Works.
Show/label all proposed and existing easements	Completed.
Right lane must turn right (R3-7R)	This lane becomes a right turn only lane at Andes Way. R3-7R sign added here.
This curbline will also need to be adjusted to accommodate needed right turn lane onto Andes Way to match future build scenario exhibit.	Right turn lane onto Andes Way has been provided. The City is limited in its ability to impose requirements on development projects pursuant to state and federal law. Cadence has done all that it can to accommodate coordination with future widening of Smith Rd. without causing significant impacts to the development of the property.
License agreement required for pork chop	Comment noted.
Move both stop signs to closer to crosswalk	Completed.
change to the boundary of the Lot	Completed.
Need sight triangle for NB Andes Way right turn movement.	Completed.
This will need to shift east to allow for additional northbound thru lane and right turn lane geometry.	In a meeting with Public Works staff and the City of Aurora's City Attorney on October 21, 2021, Public Works Deputy Director Victor Rachael confirmed that a third NB lane on Tower Rd. is not required. Moreover, the TIS concludes that the proposed project will not generate traffic that will require even what is being proposed in order to maintain acceptable levels of service. Therefore, it is our position that this additional requirement is not related to the project and cannot be required as a condition of a development approval.
Provide accessible ramps for the accessible route.	Completed.
existing property line to be vacated (label ROW to be dedicated instead)	Completed.
line through existing property line to be vacated- label ROW to be dedicated instead	Completed.
line through existing property line to be vacated- label ROW to be dedicated instead	Completed.
Show/label pond maintenance access, drainage easement, access easement	Completed.
Indicate pavement material	Completed.
5.5' sidewalk required	Completed.
Add a note that street light locations are conceptual. Final street light locations will be determined by photometric analysis submitted with the street lighting plans in the civil plan submittal	Completed.
move bike racks away from accessible route	Completed.
The sidewalk should be constructed in the ultimate location	Cadence has done all that it can to accommodate coordination with future widening of Smith Rd. without causing significant impacts to the development of the property. Moreover, the TIS concludes that the impacts of the proposed project have been addressed with the proposed improvements order to maintain acceptable levels of service. Therefore, it is our position that this additional requirement is not related to the project and cannot be required as a condition of a development approval.
Distance: 6.05 ft	Updated.
Provide knox box at main entrance. Show and label the Knox Box as an X within a box symbol and label with the following example: "Knox Box with approved hardware." (Typical for Site, Utility, Elevations, Landscaping and Photometric Plans.)	Completed.
Include fixtures for the street lights. They should be identified as SL-4 for arterials and SL-1 for local	Completed.
and restaurant?	Completed.
Show the location of the Emergency Disconnect Switch per 2015 IFC section 2303. The emergency disconnect switch shall be located within 100' but not less than 20' from the fuel dispensers.	Completed.

Section of Tower to be 3-through-lane (in each direction) at full build out. This proposed eastern flowline does not support the ultimate build condition. In order to provide necessary northbound left/right turn lanes (per TIS analysis), the entire northbound approach needs to shift at least 6' to the east, and the curbline needs to be adjusted to allow for a future 3-thru-lane northbound configuration. With the northbound curbline in place, added pavement may be hatched out via pavement markings.	In a meeting with Public Works staff and the City of Aurora's City Attorney on October 21, 2021, Public Works Deputy Director Victor Rachael confirmed that a third NB lane on Tower Rd. is not required. The impacts of the proposed project have been addressed with the proposed improvements. Therefore, it is our position that this additional requirement is not related to the project and cannot be required as a condition of a development approval.
Additional lights are required along Andes Way	Completed.
add Lot, Block and Subdivision	Completed.
add Zone District	Completed.
dedicate the Utility easement for the water meter	Completed.
begin the dedication by separate document. Contact Andy Niquette at dedicationproperty@auroragov.org	Comment noted
add building dimensions	Completed.
Additional lights are required along Tower Road	Currently have 2 at 150' apart, but Aurora Engineering Standards specify only every 160' for a 6-lane arterial.
add landscape island	Completed.
label and dimension the outline of the canopy	Completed.
this label should be on all sheets.	Completed.
add reception number for ROW dedication	Completed.
where will trucks park when filling these tanks?	Directly on or flush with tank pad (typ.). Refer to "Site Plan - Truck Turn" in submittal package.
consider adding a patio here.	Completed.
label, TYP	Completed.
add adjacent plat info and zone district	Completed.
Distance: 25.09 ft	Updated.
Move up stop sign	Completed.
where is the loading area?	Loading area is south drive aisle which is currently shown at 40' width to have adequate room for vehicle passing.
The Fire life safety group is not requiring a fire lane easement for this site, please remove fire lane signs.	Completed.
begin the dedication by separate document. Contact Andy Niquette at dedicationproperty@auroragov.org	Comment noted.
Provide taper rate	Completed.
Provide a bold dashed line to show exterior accessible route throughout site to required accessible entrances (60%), site amenities (Mail, Trash & similar) and transportation stops (or to edge of site near public transportation stops). Maintain minimum 1 ft candle to all exterior accessible routes.	Completed.
Grading and Utility Schematic	
remove contractor notes.	Completed.
Show/label all proposed and existing easements	Completed.
Max 3:1 slope on site	Completed. 4:1 max slope
Max 6% slope for 75' when sloping down into a site from an arterial roadway	Completed.
Railing is required for sidewalks adjacent to 3:1 slopes (if the slope here is reduced to what is this pointing to?	Completed.
Max 4:1 slope in ROW	Utility layer is turned on.
Provide additional contour labels	Completed.
With no proposed storm sewer on site or curb cuts to the pond, how do flows get to the pond? Where is the outlet structure for the pond?	Completed.
Label proposed street slope	Please see updated storm system.
Show/label pond maintenance access, drainage easement, access easement. Show/label 100-year water surface elevation.	Completed.
SF doesn't match cover sheet	Completed.
Min 2% slope in pond bottom	Completed.
dedicate the Utility easement for the water meter	Completed.
add Lot, Block and Subdivision	Completed.
Indicate direction of emergency overflow	Completed.
The grading in this area appears to create a low point with no storm sewer	Please see updated storm system.
are there any existing utilities in the easement?	Not that are currently known.
Label slopes in landscape area	Completed.
If there is proposed storm sewer on site add the following note:	Storm sewer on site is private and storm sewer located in public ROW is public.
Max 4% cross slope for fire lanes, typical	No fire lanes are proposed.
Landscape Plan	
show the location(s) of any proposed monument signs	Provided
rock or organic mulch. Specify	Organic mulch specified and noted
use more than one variety of plant material. a single row of one plant type is not	Shrub massed have been broken up.
IDENTIFY CALIPER FOR ALL TREES	Done
Distance: 376.18 ft	Comment noted.
Distance: 58.40 ft	Comment noted.
Show sight triangles on landscape plans per TE-13. Ensure plantings do not obstruct sight lines per Roadway Manual Figure 4.04.2.10.1.02.1	Completed.
2.5" MIN FOR ALL STREET TREES	Noted
Show/label pond maintenance access, spillway, 100-year water surface elevation	Noted per Civil base file
SIZE	Completed.
ADD WATER USE COLUMN	Completed.
include symbol for concrete	Completed.
is area around pumps concrete?	Yes
Show new fire hydrant symbol and label.	Completed.
edger required between turf and landscape bed	Completed.
Match SF on cover sheet	Completed.
Distance: 21.60 ft	Comment noted.
SIZE	Completed.

?? ONLY SHOW PLANT SCHEDULE ONCE	Completed.
Max 30% cool season grasses	Completed.
which one is the buffer?	Completed.
landscape island required at the terminus	Completed.
edger required, typ	Completed.
note incentives under the applicable landscape table	Completed.
label and include reception numbers for existing and proposed easements	Completed.
show and label utility easement. trees can be placed behind the easement.	Provided per Civil base information. Buffer trees placed behind easement.
Shrubs species shall be chosen that will reach a minimum height of three feet at	Revised to meet this requirement
Add the following Fire Life Safety landscape note: LANDSCAPE MATERIAL SHALL NOT BE PLACED OR KEPT NEAR FIRE HYDRANTS IN A MANNER THAT WOULD PREVENT SUCH EQUIPMENT FROM BEING IMMEDIATELY DISCERNIBLE. A 5-FOOT CLEAR SPACE SHALL BE MAINTAINED AROUND THE CIRCUMFERENCE OF FIRE HYDRANTS. LANDSCAPING MATERIAL SHOWN WITHIN THE SITE PLAN CANNOT ENCROACH INTO ROADWAYS THAT ARE DEDICATED (OR DESIGNATED) AS FIRE LANE EASEMENTS (OR CORRIDORS).	Completed.
IDENTIFY TYPES OF FREE STANDING LIGHTS	Noted added TBD
south	Comment noted.
reference UDO, not old code (in Building Perimeter Landscaping box)	Revised
two widths are labeled (in Non-Street Perimeter Buffers)	Revised
match site data on cover sheet	Revised
include in high water cales	Listed as high water use plant
turf is not required. Blue grass is not permitted. See Section 146-4.7.5.C.2	Blue grass not in curbside landscape
identify number of 1 gal plant material separately from 5 gal material	Completed.
max. use of ornamental grasses in the buffer = 20% of plant material	Completed.
ADD:	Completed.
NOT FOR CONSTRUCTION	
MUST BE LISTED ON THESE PLANS	Completed.
REFERENCE UDO CODE SECTIONS	Completed.
Page 5- Landscape Details	
REMOVE ALL LANDSCAPE CONTRACTOR NOTES. THESE PLANS ARE NOT FOR CONSTRUCTION	Eliminated this sheet
Page 6- Architectural Building Elevations	
remove all signage from elevations. you can show a light, dashed line to indicate future sign location	All signage removed from elevations
add dimensions	Dimensions added
add dimensions	Dimensions added
increase label size. Must read when printed at 11 x 17	Completed
TYP	
??? On windows	Electrical doors that are painted to match material
remove. not a part of this approval. (pointing to ice freezer??)	All exterior equipment removed
remove site furniture from elevations. TYP (trash can??)	All exterior equipment removed
Please show knox box location.	Shown
labels don't match building proportions. are they accurate? Is this west?	Direction and scale verified
paint to match brick and screen. TYP	Completed
south? (over West Elevation)	Direction and scale verified
add dimensions (above East Elevations building)	Dimensions added
add dimension (under North Elevation)	Dimensions added
provide 4-sided architecture. Include features per Section 146-4.8.5. See Table 4.8-3 and Table 4.8-8	4 sided architecture provided. Added notches, faux storefront with awning, material changes, and off-sets.
?? (east elevation)	All exterior equipment removed
what is this?	All exterior equipment removed
label - to the right	All exterior equipment removed
only show what is used	Updated.
Page7- Architectural Canopy Elevations	
identify any proposed color/banding on canopy. TYP all elevations/sides	Added
dimension column width	Dimensions added
east/west?	Directions and scale verified
add dimensions. Identify materials and colors	Dimensions and material notes added
dimension column width	Dimensions added
Add a note stating: "Accent colors may be used as decorative elements on the canopy fascia, but they shall be limited to horizontal bands of a total area not to exceed 40 percent of the area of the canopy fascia."	Note added
North? and south?	Directions and scale verified
Page 8- Site Plan Details	
will bollards be painted? what color?	Sherwin Williams - Tricorn Black SW6258. Added callout.
Pavement sections not required on site plans only on civil plans. Please remove. Only the type of pavement is required to be identified on the site plan	Completed.
where is this?	Added to site plan.
Draft the proposed cross sections. Do not include COA standard details in the in the plans (green)	Completed.
Note sign dimensions (orange)	Completed.
Remove fire lane signs and notes. (blue)	Completed.
not labeled on the plans. show location	Completed.
Page 9- Photometrics Plan	
increase font size used in tables	Completed
each should have 2-3 letter abbr. too. Can be as simple as A, B, C...Symbols should be readable.	Comment noted
light type	All lighting information is on the spec sheets
Text is too small	Completed
what is total fixture height when mounted on 3' base?	General note updated. Also refer to mounting height (MH) on drawings
reduce size of dots. can't read the numbers	Completed
what are these labeling?	Wall packs and canopy lighting on the buiding. Refer to blocks for identification

labels and fixtures obscured TYP	Completed
plans would read better if scale was increased	Comment noted
remove the title block	Completed
Page 10- Photometric Details	
include light fixtures for the public street lights	Comment noted - TBD
All fixtures should be labeled to match Luminaire schedule	Completed
doesn't match Luminaire schedule	Spec sheets have been updated to match luminare schedule

FUTURE ROADWAY EXHIBIT REDLINES

City Staff Comment	Applicant Response
This needs to be part of the recorded site plan. Full design for deferred improvements needs to be included with a deferral agreement including grading. Additionally, a letter addressed to the Director of Public Works needs to be submitted requesting the deferral, describing the deferred improvements and providing a justification for the deferral.	This plan is for the purpose of review coordination with a future project that will be initiated by the City to address regional traffic needs unrelated to the Project. It is Cadence's position based on the information in the TIS that this request exceeds the limitations established within state and federal law. In a meeting on October 21, 2021, Public Works Deputy Director Victor Rachael confirmed that a deferral is not required.
Please remove AutoCad SHX text item in the comment section. Please flatten to reduce select-ability of the items.	Completed
Sidewalk at the intersection is incorrect.	This plan is designed to function efficiently within the existing geometry of the approach and receiving lanes at the intersection. Moreover, the TIS concludes that the proposed project will not generate traffic that requires these improvements to maintain acceptable levels of service. Cadence is providing public improvements that already exceed the impact of the project. Therefore, it is our position that these additional requirements are not related to the project and cannot be required as a condition of a development approval. In a meeting on October 21, 2021, Public Works Deputy Director Victor Rachael confirmed that a third northbound lane on Tower Rd. is not required.
Island would be appropriate here.	
This sidewalk is supposed to be detached.	
NB left turn lane needs to be centered on ROW, need space for 3 SB lanes in the section. NB right turn lane is in addition to the standard 110' ROW.	
There is no tree lawn in the ultimate Smith Road section. It is an attached 8' sidewalk.	Cadence has done all that it can to accommodate coordination with future widening of Smith Rd. without causing significant impacts to the development of the property. Right turn lanes on Smith Rd. have been provided to meet the needs of the project, pursuant to requirements in the City's code, as well as state and federal law.
This does not show the ultimate section for Smith Road. EB right turn into Andes Way is warranted (see curblin west of access point for what is needed).	

TRUCK TURN ANALYSIS REDLINES

City Staff Comment	Applicant Response
how will truck traffic be prevented at this entrance	7-Eleven operations will manage this at the corporate level.
show turning in too	Completed
Adjust so that turn does not begin from the entering lane.	Completed

COLOR ELEVATION REDLINES

City Staff Comment	Applicant Response
remove all signage from elevations	Completed
verify directions of elevations. TYP	Completed
identify any proposed color/banding on canopy. TYP all elevations/sides	Completed
add horizontal dimensions. Label materials	Completed

TRAFFIC IMPACT STUDY REDLINES

City Staff Comment	Applicant Response
<p>Comments 8.6.21:</p> <p>1) Section of Tower Rd is a 3-thru lane roadway, so additional auxiliary lanes (right turn lanes are applicable to this development) is an additional ROW width to the section.</p> <p>2) Previous comments not addressed with request of figures in body of report. Please add.</p> <p>3) Include Signal timing sheets in appendix,</p>	<p>The TIS concludes that the proposed project will not generate traffic that requires these improvements to maintain acceptable levels of service. Cadence is providing public improvements that exceed the impact of the project. Therefore, it is our position that these additional requirements are not related to the project and cannot be required as a condition of a development approval. Cadence is willing to dedicate right-of-way as depicted in the site plan; additional requests for right of way severely impact the development of the site.</p>
Date stamp	Comment noted and date added
Include page 1 of X	Comment noted and page number added
Second EB lane is required here.	It is an auxiliary turn lane that terminates (right lane must turn right) at Andes Way.
3-thru lanes + NB right turn lane is needed within ROW	We propose 2 through lanes and a right turn lane. This is more than necessary to mitigate the impacts of the project and will fit well into the 110' right of way. In a meeting with Public Works staff and the City of Aurora's City Attorney on October 21, 2021, Public Works Deputy Director Victor Rachael confirmed that a third NB lane on Tower Rd. is not required.
Taper to existing conditions is needed.	A transition taper will be provided as necessary.
<p>Previous comments not addressed:</p> <p>"Multiple figures are needed (vs the one provided)</p> <p>Background traffic from count data</p> <p>Include a figure with site distribution %.</p> <p>Total trips figure</p> <p>Pass by adjustment figure</p> <p>Total Traffic figure (below is almost total traffic)"</p>	<p>Comment noted and count data requested has been added.</p>
3-thru lanes +aux lanes where warranted.	In a meeting with Public Works staff and the City of Aurora's City Attorney on October 21, 2021, Public Works Deputy Director Victor Rachael confirmed that a third NB lane on Tower Rd. is not required.
Include individual movements too in this table.	Overall LOS is sufficient for signalized control. Critical movement is the worst movement and defines the LOS for unsignalized intersections. Specific movement LOS plus other evaluation measures are provided in the
Stop sign icon is covering volumes	Comment noted but icon cannot be removed or relocated.
2040 PM total?	Comment noted and heading has been corrected.

PRELIMINARY DRAINAGE PLAN REDLINES

City Staff Comment	Applicant Response
Provide all information listed in Section 2.34 of the COA SDDTC	Completed.
Address all 1st review comments	Completed.
Label existing and proposed contours, extend existing contours 50' beyond project	Completed.
Provide a summary of basin characteristics and flows - not the detailed calculations.	Completed.
Include design points and basin imperviousness in table.	
Why are 5 year flows being examined? 2 year flows should be used.	Completed.
Per 1st review comments, there needs to be an approval block on the first sheet	Completed.
Existing should be 2nd sheet - Proposed should be 1st	Completed.
There needs to be a title block on these plans - see 1st submittal as an example	Completed.
Show and label existing and proposed contours. Existing contours must extend a minimum of 50' from the project boundaries - including street improvements.	Completed.
Explain in narrative and show on drainage plan how site will tie into existing storm infrastructure,. Must demonstrate how existing infrastructure has capacity for proposed site.	Completed.
Show and label all easements	Completed.
Drainage easement must be provided for pond - extend 1' beyond perimeter	Completed.
Building FFEs and elevation of adjacent properties must be a minimum of 1' above the pond emergency overflow WSEL	Completed.
Show location and direction of emergency overflow spillway	Completed.
Provide flow direction arrows	Completed.
Provide adjacent property info - subdivision if applicable, property owner, COA civil plan approval numbers	Completed.
Show and dimension all public ROW - existing and proposed	Completed.
must provide access easement from public ROW to drainage easement	Completed.
all existing and proposed drainage facilities need to be labeled	Completed.
Why are 5 year flows being examined?	5 year flows were mistakenly reported instead of 2 year flows. Fixed.
Show Design Points on Map	Completed.
include row for total going to pond	Basins P-1, P-2, and P-3 are the total ROW going to the pond ~1.98 ac.
Must show pond outlet structure and release pipe	Completed.
Label the pond and label it as Private	Completed.
As noted in previous comments, provide building FFEs	Completed.
Must show pond contours - label slopes and bottom slope - show pond maintenance paths to outlet structure and to bottom of pond - should provide a blow-up of pond	Completed. Detailed pond exhibit to be included on CD set.
check for need for cross pans across entrances - show and label	Completed.
All retaining walls need to be shown on plan view and typical cross sections provided	N/A - standard note.
This should be called Preliminary Drainage Plan Proposed	Completed.

PRELIMINARY DRAINAGE REPORT REDLINES

City Staff Comment	Applicant Response
per 1st review comments, number all pages sequentially including cover page and all appendices	Completed
Preliminary Drainage Report must be approved prior to civil plan approval	Comment noted
Per 1st review comments, must include analysis of drainage related to roadway improvements in report and on plan - address WQ and detention for those areas.	Completed
Civil plans cannot be submitted for review until all significant comments on PD have been addressed. This report has many significant errors and omissions.	Comment noted
COA Approval Block must be on cover page	Completed
MHFD detention spreadsheets are missing	Comment noted
This is not to be included in this report	Comment noted
Drainage Plan is a separate document	Comment noted
Pond Certification is not part of this report - it is separate documentation provided after the pond is constructed	Comment noted
The information I have from the planning process is that half of each of the adjoining streets must be constructed.	Please see other comment responses and see updated storm design.
As stated in previous comments, the extended detention basin must treat runoff from the street improvements	Completed
Per previous comments, the amount of area draining offsite without treatment must be minimized	Completed
As noted in previous comments, unclear what the underlined statement is referring to. Provide a clearer explanation of where the 0.263 ac ft and elevation 5442.17 are coming from. Why are you apparently sizing the pond for something different than what the $V=KA$ equation provides, or what the Detention spreadsheet provides?	Explanation has been modified.
Will need to also provide a calculation of the 10 year release rate	10 year has been provided.
make sure you are using the most current version of this spreadsheet - MHFD Detention	Version 4.04 February 2021 has been used.
Per previous comments, explain what the 0.6 cfs is based on	Explanation has been modified.
Also discuss freeboard between Q100 emergency overflow WSEL and FFE for any structures on site. 1' freeboard is required.	Explanation has been modified.
Not seeing any storm sewer shown on Drainage Plan.	Storm has been added to drainage plan.
any software used will have to account for energy losses through system	Comment noted
You will need to minimize any untreated area - included roadways. Provide existing vs proposed flow comparison for both controlled release from the pond to existing storm drainage infrastructure and also existing vs proposed flow comparison for any untreated flows to existing infrastructure. Will need to demonstrate existing infrastructure has capacity for proposed flows from site.	Explanation has been modified.
As noted in previous comments, cannot use routed flows on page two of spreadsheet - must use approximate volumes on page 1 of spreadsheet	Updated as requested
The pond with all basic features needs to be shown in the Preliminary Drainage Plan	Completed
Per previous comments, you will have to provide on-site detention and water quality for these basins	Completed
Per previous comments, the area of impoundment must be treated as Paved - use Table 1 imperviousness and C values for Paved surface type	Completed
Per previous comments, state that roof drains will be sized with capacity to pass the 100 year storm	Completed
Per previous comments, on-site detention and WQ treatment must be provided for these areas	Completed
must show any proposed retaining walls on the Drainage Plan and must include a typical cross section	No retaining walls are proposed.
outline site on map	Completed
Area, Acres (?)	Completed
are these areas in acres? add label over this section	Completed
none of these Ca values match COA SDDTC Table 1 - must use Table 1	Updated as requested
the values in this area should not be the same for all basins	Comment noted
check all composite calcs	Completed
C5s are probably all off - will need to redo calcs	Completed
C values and Te's are probably all off - calcs need to be redone	Completed
why are 5 year flows provided? Explain in report. For comparison to proposed flows, should be looking at 2 year and 100 year	2 year and 100 year flows are compared in the report.
This page is a duplicate of what was provided earlier in report - delete	Completed
C values must be from Table 1 of SDDTC - all these values are off	Updated as requested
duplicate page - delete	Completed
duplicate - delete	Completed
Missing all Proposed Hydrology and Pond Sizing Information - see comments in first submittal	Completed
delete this page - plans are a separate document	Completed

PRELIMINARY DRAINAGE REPORT CHECKLIST REDLINES

City Staff Comment	Applicant Response
Detention and WQ required for roadway improvements.	Comment noted
no easements shown or labeled	Updated
Must include analysis of drainage from street sections that must be constructed.	Updated
not platted yet	Comment noted
not platted yet	Comment noted
none shown	Updated
see comments on plan	Comment noted
calcs for proposed condition no provided	Updated
MHFD spreadsheet not provided	Updated
V100 + 1.2*WQCV req'd	Updated
trib likely needs to be adjusted	Updated
volumes need to be adjusted	Updated
volumes need to be adjusted	Updated
FFE's not provided	Updated
trib area likely needs to be changed	Comment noted
10 year needs to be provided	Comment noted
none of this is shown	Comment noted
label pipes - leave off diameter	Updated
cant tell if this applies	Comment noted
cant tell if this applies	Comment noted

The redline comments on the plan sets have been addressed by our design team.

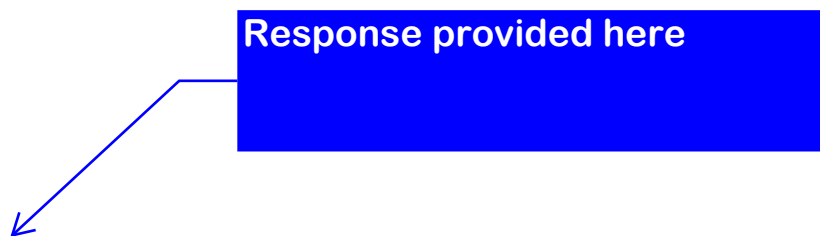
Some staff comments are informational and have been annotated as follows:

Comment Noted

Some comments merely needed to be completed. These comments have been annotated as follows:

Completed

Other comments require additional information or an explanation. These comments look like this:



Thanks,
The Dimension Group Design Team

SITE PLAN NOTES:

- THE DEVELOPER, HIS SUCCESSORS AND ASSIGNS, INCLUDING THE HOMEOWNERS OR MERCHANTS ASSOCIATION, SHALL BE RESPONSIBLE FOR INSTALLATION, MAINTENANCE AND REPLACEMENT OF ALL FIRE LANE SIGNS AS REQUIRED BY THE CITY OF AURORA.
- ALL SIGNS MUST CONFORM TO THE CITY OF AURORA SIGN CODE.
- RIGHT OF WAY FOR INGRESS AND EGRESS FOR SERVICE AND EMERGENCY VEHICLES IS GRANTED OVER, ACROSS, ON AND THROUGH ANY AND ALL PRIVATE ROADS AND WAYS NOW OR HEREAFTER ESTABLISHED ON THE DESCRIBED PROPERTY, AND THE SAME ARE HEREBY DESIGNATED AS "SERVICE/EMERGENCY AND UTILITY EASEMENTS" AND SHALL BE POSTED "NO PARKING - FIRE LANE."
- "ACCESSIBLE EXTERIOR ROUTES" SHALL BE PROVIDED FROM PUBLIC TRANSPORTATION STOPS, ACCESSIBLE PARKING AND ACCESSIBLE PASSENGER LOADING ZONES AND PUBLIC SIDEWALKS TO 60% OF THE ACCESSIBLE BUILDING ENTRANCE THEY SERVE. THE ACCESSIBLE ROUTE BETWEEN ACCESSIBLE PARKING AND ACCESSIBLE BUILDING ENTRANCES SHALL BE THE MOST PRACTICAL DIRECT ROUTE. THE ACCESSIBLE ROUTE MUST BE LOCATED WITHIN A SIDEWALK. NO SLOPE ALONG THIS ROUTE MAY EXCEED 1:20 WITHOUT PROVIDING A RAMP WITH A MAXIMUM SLOPE OF 1:12 AND HANDRAILS. CROSSWALKS ALONG THIS ROUTE SHALL BE WIDE ENOUGH TO WHOLLY CONTAIN THE CURB RAMP WITH A MINIMUM WIDTH OF 36" AND SHALL BE PAINTED WITH WHITE STRIPES. THE CITY OF AURORA ENFORCES HANDICAPPED ACCESSIBILITY REQUIREMENTS BASED ON THE 2015 INTERNATIONAL BUILDING CODE, CHAPTER 11, AND THE AMERICAN NATIONAL STANDARDS INSTITUTE (ICC/ANSI) A117-2009.
- THE APPLICANT HAS THE OBLIGATION TO COMPLY WITH ALL APPLICABLE REQUIREMENTS OF THE AMERICAN WITH DISABILITIES ACT.
- THE DEVELOPER, HIS SUCCESSORS AND ASSIGNS, SHALL BE RESPONSIBLE FOR INSTALLATION, MAINTENANCE AND REPLACEMENT OF ALL LANDSCAPING MATERIALS SHOWN OR INDICATED ON THE APPROVED SITE PLAN OR LANDSCAPE PLAN ON FILE IN THE PLANNING DEPARTMENT. ALL LANDSCAPING WILL BE INSTALLED PRIOR TO ISSUANCE OF CERTIFICATE OF OCCUPANCY.
- ALL CROSSINGS OR ENCROACHMENTS INTO EASEMENTS AND RIGHTS-OF-WAY OWNED BY THE CITY OF AURORA ("CITY") IDENTIFIED AS BEING PRIVATELY-OWNED AND MAINTAINED HEREIN ARE ACKNOWLEDGED BY THE UNDERSIGNED AS BEING SUBJECT TO CITY'S USE AND OCCUPANCY OF SAID EASEMENTS OR RIGHTS-OF-WAY. THE UNDERSIGNED, ITS SUCCESSORS AND ASSIGNS, FURTHER AGREES TO REMOVE, REPAIR, REPLACE, RELOCATE, MODIFY, OR OTHERWISE ADJUST SAID CROSSINGS OR ENCROACHMENTS UPON REQUEST FROM THE CITY AND AT NO EXPENSE TO THE CITY. THE CITY RESERVES THE RIGHT TO MAKE FULL USE OF THE EASEMENTS AND RIGHTS-OF-WAY AS MAY BE NECESSARY OR CONVENIENT AND THE CITY RETAINS ALL RIGHTS TO OPERATE, MAINTAIN, INSTALL, REPAIR, REMOVE OR RELOCATE ANY CITY FACILITIES LOCATED WITHIN SAID EASEMENTS AND RIGHTS-OF-WAY AT ANY TIME AND IN SUCH A MANNER AS IT DEEMS NECESSARY OR CONVENIENT.
- THE APPROVAL OF THIS DOCUMENT DOES NOT CONSTITUTE FINAL APPROVAL OF GRADING, DRAINAGE, UTILITY, PUBLIC IMPROVEMENTS AND BUILDING PLANS. CONSTRUCTION PLANS MUST BE REVIEWED AND APPROVED BY THE APPROPRIATE AGENCY PRIOR TO THE ISSUANCE OF BUILDING PERMITS.
- ALL BUILDING ADDRESS NUMBERS SHALL COMPLY WITH THE AURORA CITY CODE, SECTION 126, ARTICLE VII -NUMBERING OF BUILDINGS.
- ALL ROOFTOP MECHANICAL EQUIPMENT AND VENTS GREATER THAN EIGHT (8) INCHES IN DIAMETER MUST BE SCREENED. SCREENING MAY BE DONE EITHER WITH AN EXTENDED PARAPET WALL OR A FREESTANDING SCREEN WALL. SCREENS SHALL BE AT LEAST AS HIGH AS THE EQUIPMENT THEY HIDE. IF EQUIPMENT IS VISIBLE BECAUSE SCREENS DON'T MEET THIS MINIMUM HEIGHT REQUIREMENT, THE DIRECTOR OF PLANNING MAY REQUIRE CONSTRUCTION MODIFICATIONS PRIOR TO THE ISSUANCE OF A PERMANENT CERTIFICATE OF OCCUPANCY.
- NOTWITHSTANDING ANY SURFACE IMPROVEMENTS, LANDSCAPING, PLANTING OR CHANGES SHOWN IN THESE SITE OR CONSTRUCTION PLANS, OR ACTUALLY CONSTRUCTED OR PUT IN PLACE, ALL UTILITY EASEMENTS MUST REMAIN UNOBSTRUCTED AND FULLY ACCESSIBLE ALONG THEIR ENTIRE LENGTH TO ALLOW FOR ADEQUATE MAINTENANCE EQUIPMENT. ADDITIONALLY, NO INSTALLATION, PLANTING, CHANGE IN THE SURFACE, ETC., SHALL INTERFERE WITH THE OPERATION OF THE UTILITY LINES PLACED WITHIN THE EASEMENT. BY SUBMITTING THESE SITE OR CONSTRUCTION PLANS FOR APPROVAL, THE LANDOWNER RECOGNIZES AND ACCEPTS THE TERMS, CONDITIONS AND REQUIREMENTS OF THIS NOTE.
- FINAL GRADE SHALL BE AT LEAST SIX (6) INCHES BELOW ANY EXTERIOR WOOD SIDING ON THE PREMISES.
- ALL INTERESTED PARTIES ARE HEREBY ALERTED THAT THIS SITE PLAN IS SUBJECT TO ADMINISTRATIVE CHANGES AND AS SHOWN ON THE ORIGINAL SITE PLAN ON FILE IN THE AURORA CITY PLANNING OFFICE AT THE MUNICIPAL BUILDING. A COPY OF THE OFFICIAL CURRENT PLAN MAY BE PURCHASED THERE. LIKEWISE, SITE PLANS ARE REQUIRED TO AGREE WITH THE APPROVED SUBDIVISION PLAT OF RECORD AT THE TIME OF A BUILDING PERMIT; AND IF NOT, MUST BE AMENDED TO AGREE WITH THE PLAT AS NEEDED, OR VICE VERSA.
- ERRORS IN APPROVED SITE PLANS RESULTING FROM COMPUTATIONS OR INCONSISTENCIES IN THE DRAWINGS MADE BY THE APPLICANT ARE THE RESPONSIBILITY OF THE PROPERTY OWNER OF RECORD. WHERE FOUND, THE CURRENT MINIMUM CODE REQUIREMENTS WILL APPLY AT THE TIME OF BUILDING PERMIT. PLEASE BE SURE THAT ALL PLAN COMPUTATIONS ARE CORRECT.
- ALL REPRESENTATIONS AND COMMITMENTS MADE BY APPLICANTS AND PROPERTY OWNERS AT PUBLIC HEARINGS REGARDING THIS PLAN ARE BINDING UPON THE APPLICANT, PROPERTY OWNER, AND ITS HEIRS, SUCCESSORS, AND ASSIGNS.
- ARCHITECTURAL FEATURES, SUCH AS BAY WINDOWS, FIREPLACES, ROOF OVERHANGS, GUTTERS, EAVES, FOUNDATIONS, FOOTINGS, CANTILEVERED WALLS, ETC. ARE NOT ALLOWED TO ENCROACH INTO ANY EASEMENT OR FIRE LANE.
- IN LOCATIONS WHERE UTILITY EASEMENTS OVERLAP DRAINAGE EASEMENTS, ONLY SUBSURFACE UTILITIES SHALL BE PERMITTED WITHIN THE PORTION OF THE UTILITY EASEMENT THAT OVERLAPS THE DRAINAGE EASEMENT. INSTALLATION OF ABOVE GROUND UTILITIES WITHIN A DRAINAGE EASEMENT REQUIRES PRIOR WRITTEN APPROVAL BY CITY ENGINEER.
- THE STREETLIGHT OR PEDESTRIAN LIGHT INSTALLATION WITHIN THE PUBLIC RIGHT-OF-WAY SHALL BE DESIGNED, FUNDED, AND CONSTRUCTED BY THE DEVELOPER/OWNER. OWNERSHIP AND MAINTENANCE OF THE STREET/PEDESTRIAN LIGHTS SHALL BE THE RESPONSIBILITY OF THE CITY OF AURORA ONCE THEY HAVE BEEN ACCEPTED. STREET LIGHT AND/OR PEDESTRIAN PHOTOMETRICS PLANS SHALL BE PREPARED AND SUBMITTED TO THE CITY FOR REVIEW AND APPROVAL AND SHALL BECOME A PART OF THE APPROVED CIVIL CONSTRUCTION PLANS FOR THE PROJECT. AN ELECTRICAL PLAN SHOWING SITE LOCATION OF LIGHTS, ELECTRICAL ONE LINE AND GROUNDING DETAILS SHALL BE SUBMITTING TO THE PERMIT CENTER FOR REVIEW BY THE BUILDING DEPARTMENT. THE OWNER IS RESPONSIBLE FOR OBTAINING AN ADDRESS FOR THE METER(S) FROM THE PLANNING DEPARTMENT. A BUILDING PERMIT FOR THE METER AND A PUBLIC INSPECTIONS PERMIT FOR THE STREET LIGHTS ARE REQUIRED. CERTIFICATE OF OCCUPANCIES WILL NOT BE ISSUED UNTIL THE STREET AND/OR PEDESTRIAN LIGHTING PLANS ARE APPROVED, CONSTRUCTED, AND INITIALLY ACCEPTED.
- THE 2015 INTERNATIONAL FIRE CODE, SECTION 510, REQUIRES ALL BUILDINGS TO BE ASSESSED FOR ADEQUATE EMERGENCY RESPONDER RADIO COVERAGE (ERRC), AT THE TIME THE STRUCTURE IS AT FINAL FRAME AND FINAL ELECTRICAL INSPECTIONS. THE GENERAL CONTRACTOR (GC) WILL BE REQUIRED TO HIRE AN APPROVED AND QUALIFIED INDEPENDENT 3RD PARTY TO ASSESS THE RADIO FREQUENCY LEVELS WITHIN THE STRUCTURE. ONCE COMPLETED, THE 3RD PARTY WILL PROVIDE THE RESULTS OF THE TEST TO BOTH THE GC AND THE AURORA BUILDING DIVISION AS TO WHETHER THE STRUCTURE PASSED OR FAILED THE PRELIMINARY RADIO SURVEILLANCE. A STRUCTURE THAT HAS PASSED THIS SURVEILLANCE REQUIRES NO FURTHER ACTION BY THE GC. A FAILED RADIO SURVEILLANCE WILL REQUIRE A LICENSED CONTRACTOR TO SUBMIT PLANS TO THE AURORA BUILDING DIVISION TO OBTAIN A BUILDING PERMIT FOR THE INSTALLATION OF AN ERRC SYSTEM PRIOR TO INSTALLATION. THIS ASSESSMENT AND INSTALLATION IS AT THE OWNER OR DEVELOPER'S EXPENSE. FUTURE INTERIOR OR EXTERIOR MODIFICATIONS TO THE STRUCTURE AFTER THE ORIGINAL CERTIFICATE OF OCCUPANCY IS ISSUED WILL REQUIRE A REASSESSMENT FOR ADEQUATE RADIO FREQUENCY COVERAGE.
- PER ARTICLE XI, C.O.A. BUILDING AND ZONING CODE, SECTIONS 22-425 THROUGH 22-434, AN ACOUSTIC ANALYSIS, PREPARED BY AN ACOUSTIC EXPERT THAT WILL IDENTIFY BUILDING DESIGN FEATURES NECESSARY TO ACCOMPLISH EXTERIOR NOISE REDUCTION TO ACHIEVE INTERIOR NOISE LEVELS NOT EXCEEDING _____ (LDN VALUE TO BE DETERMINED FOR EACH PROJECT) UNDER WORSE-CASE NOISE CONDITIONS.

PROJECT BENCHMARK:

CITY OF AURORA BM 3S6633NE002 - COA BRASS CAP SET IN NOSE OF MEDIAN IN TOWER ROAD NORTH OF EAST ENTRY TO TOWER CENTER FOR INDUSTRY.
ELEVATION: 5438.06 FEET (NAVD 1988 DATUM).

PROJECT BASIS OF BEARING:

BEARINGS ARE BASED ON THE WEST LINE OF THE NW ¼ OF SECTION 34, TOWNSHIP 3 SOUTH, RANGE 66 WEST, OF THE 6TH PRINCIPAL MERIDIAN BEARING N00°08'24"E BOUNDED BY THE MONUMENTS SHOWN HEREON.

OWNER/DEVELOPER

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GREENWOOD VILLAGE, CO 80111
(720) 493-5100

THE DIMENSION GROUP

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CONTACT: TANNER KINDE, AIA, NCARB LEED AP BD+C

ENGINEER

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CONTACT: RENEE C. YOUNG, PE

LANDSCAPE ARCHITECT

EVERGREEN DESIGN GROUP, INC.
1755 TELSTAR DRIVE, SUITE 300
COLORADO SPRINGS, CO 80920
PHONE: (800) 680-6630 X1
CONTACT: CHRIS ROSE, PLA

SURVEYOR

ENGINEERING SERVICE COMPANY
14190 E. EVANS AVENUE
PHONF: AURORA, CO 80014
PHONG: (720) 536-3180
CONTACT: CHARLES N. BECKSTROM, PLS



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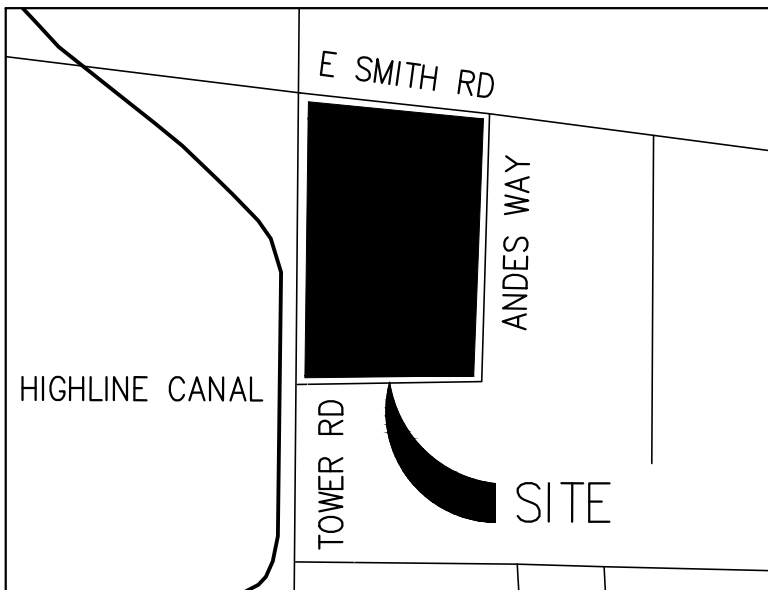
7-ELEVEN AT SMITH & TOWER

SITE DEVELOPMENT PLAN

A PARCEL OF LAND SITUATED IN THE NW 1/4 NW 1/4 OF SECTION 34, T.3S., R66W, OF THE 6TH P.M.
CITY OF AURORA, COUNTY OF ADAMS, STATE OF COLORADO

move to
another sheet

B	BACK OF CURB
BOW	BEGIN VERTICAL CURVE
BVC	BEGIN VERTICAL CURVE STATION
BVCE	BEGIN VERTICAL CURVE ELEVATION
BW	BOTTOM OF WALL
EL	ELEVATION
EVC	END VERTICAL CURVE
EVCS	END VERTICAL CURVE STATION
EVCE	END VERTICAL CURVE ELEVATION
EX	EXISTING
EOP	EDGE OF PAN or EDGE OF PAVEMENT
FL	FLOWLINE
FLPI	FLOWLINE POINT OF INTERSECTION
GB	GRADE BREAK
HP	HIGH POINT
LP	LOW POINT
MX	MATCH EXISTING
PC	POINT OF CURVATURE
PT	POINT OF TANGENCY
PCC	POINT OF COMPOUND CURVATURE
PR	PROPOSED
PVI	POINT OF VERTICAL INTERSECTION
SW	SIDEWALK
T	TRANSITION FROM SPILL TO CATCH CURB
TW	TOP OF WALL



VICINITY MAP
1 IN. = 500 FT.

SHEET INDEX

01	COVER SHEET
02	SITE PLAN
03	GRADING AND UTILITY SCHEMATIC
04	LANDSCAPE PLAN
05	LANDSCAPE DETAILS
06	ARCHITECTURAL BUILDING ELEVATIONS
07	ARCHITECTURAL CANOPY ELEVATIONS
08	SITE PLAN DETAILS
09	PHOTOMETRICS PLAN
10	PHOTOMETRICS DETAILS

The site plan will not be approved by public works until the preliminary drainage letter/report is approved

Comment Noted

Without a plat submittal, additional reviews may be required as the first review of the plat will be with the 3rd submittal of the site plan.

Comment Noted

SIGNATURE BLOCK:

THIS SITE PLAN AND ANY AMENDMENTS HERETO, UPON APPROVAL BY THE CITY OF AURORA AND RECORDING, SHALL BE BINDING UPON THE APPLICANTS THEREFORE, THEIR SUCCESSORS AND ASSIGNS. THIS PLAN SHALL LIMIT AND CONTROL THE ISSUANCE AND VALIDITY OF ALL BUILDING PERMITS, AND SHALL RESTRICT AND LIMIT THE CONSTRUCTION, LOCATION, USE, OCCUPANCY AND OPERATION OF ALL LAND AND STRUCTURES WITHIN THIS PLAN TO ALL CONDITIONS, REQUIREMENTS, LOCATIONS AND LIMITATIONS SET FORTH HEREIN. ABANDONMENT, WITHDRAWAL OR AMENDMENT OF THIS PLAN MAY BE PERMITTED ONLY UPON APPROVAL OF THE CITY OF AURORA.

IN WITNESS THEREOF, _____ HAS CAUSED THESE

PRESENTS TO BE EXECUTED THIS _____ DAY OF _____ AD. _____.

BY: _____, ITS MANAGING DIRECTOR

STATE OF COLORADO)

COUNTY OF ARAPAHOE)SS

THE FOREGOING INSTRUMENT WAS ACKNOWLEDGED BEFORE ME THIS _____ DAY OF

_____ AD, _____ BY _____.

WITNESS MY HAND AND OFFICIAL SEAL.

MY COMMISSION EXPIRES: _____

NOTARY PUBLIC _____

CITY OF AURORA APPROVALS

CITY ATTORNEY: _____

DATE: _____

PLANNING DIRECTOR: _____

DATE: _____

PLANNING AND ZONING COMMISSION: _____

DATE: _____

ATTEST: _____

DATE: _____

RECORDER'S CERTIFICATE

ACCEPTED FOR FILING IN THE OFFICE OF THE CLERK AND RECORDER OF _____ COLORADO AT

_____ O'CLOCK _____ M, THIS _____ DAY OF _____ AD, _____.

CLERK AND RECORDER: _____ DEPUTY: _____

LEGAL DESCRIPTION:

Legal can't be proofed until Plat submittal. make sure legal, bearings, distances, etc. match the plat

THAT PART OF THE NW 1/4 NW 1/4 OF SECTION 34, TOWNSHIP 3 SOUTH, RANGE 66 WEST OF THE 6TH P.M., DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT 715 NORTH AND 30 FEET EAST OF THE SOUTHWEST CORNER OF SAID NW 1/4 NW 1/4 ; THENCE EAST 417.40 FEET; THENCE NORTH 219.35 FEET, MORE OR LESS, TO THE SOUTH LINE OF THE UNION PACIFIC RAILROAD COMPANY RIGHT OF WAY; THENCE NORTHWESTERLY, ALONG SAID SOUTH LINE, 427 FEET, MORE OR LESS, TO A POINT ON A LINE WHICH IS 30 FEET EAST OF THE WEST LINE OF SAID SECTION 34; THENCE SOUTH 270.25 FEET, MORE OR LESS, TO THE POINT OF BEGINNING, COUNTY OF ADAMS, STATE OF COLORADO.

BE RESPONSIBLE FOR PAYMENT OF 100% OF THE LEFT-TURN ARROW INSTALLATION COSTS FOR THE INTERSECTION OF SMITH RD AND TOWER RD. PURSUANT TO 147-37.5 OF CITY CODE, THE PERCENTAGE OF THE TRAFFIC SIGNALIZATION COSTS IDENTIFIED ABOVE SHALL BE PAID TO THE CITY BY THE APPLICANT / OWNER, TO BE HELD IN ESCROW FOR SUCH PURPOSE, PRIOR TO THE ISSUANCE OF A BUILDING PERMIT FOR THE RELATED DEVELOPMENT OR AS OTHERWISE REQUIRED BY CITY CODE. THE PERCENTAGE ABOVE WILL BE APPLIED TO THE ENTIRE TRAFFIC SIGNALIZATION MODIFICATION COST AS ESTIMATED AT THE TIME OF THE ESCROW DEPOSIT TO CALCULATE SPECIFIC DOLLAR FUNDING REQUIREMENT.

NOTE:

CADENCE DEVELOPMENT SHALL BE RESPONSIBLE FOR PAYMENT OF 100% OF THE LEFT-TURN ARROW INSTALLATION COSTS FOR THE INTERSECTION OF SMITH RD AND TOWER RD. PURSUANT TO 147-37.5 OF CITY CODE, THE PERCENTAGE OF THE TRAFFIC SIGNALIZATION COSTS IDENTIFIED ABOVE SHALL BE PAID TO THE CITY BY THE APPLICANT / OWNER, TO BE HELD IN ESCROW FOR SUCH PURPOSE, PRIOR TO THE ISSUANCE OF A BUILDING PERMIT FOR THE RELATED DEVELOPMENT OR AS OTHERWISE REQUIRED BY CITY CODE. THE PERCENTAGE ABOVE WILL BE APPLIED TO THE ENTIRE TRAFFIC SIGNALIZATION MODIFICATION COST AS ESTIMATED AT THE TIME OF THE ESCROW DEPOSIT TO CALCULATE SPECIFIC DOLLAR FUNDING REQUIREMENT.

COVER SHEET

7-ELEVEN AT SMITH & TOWER

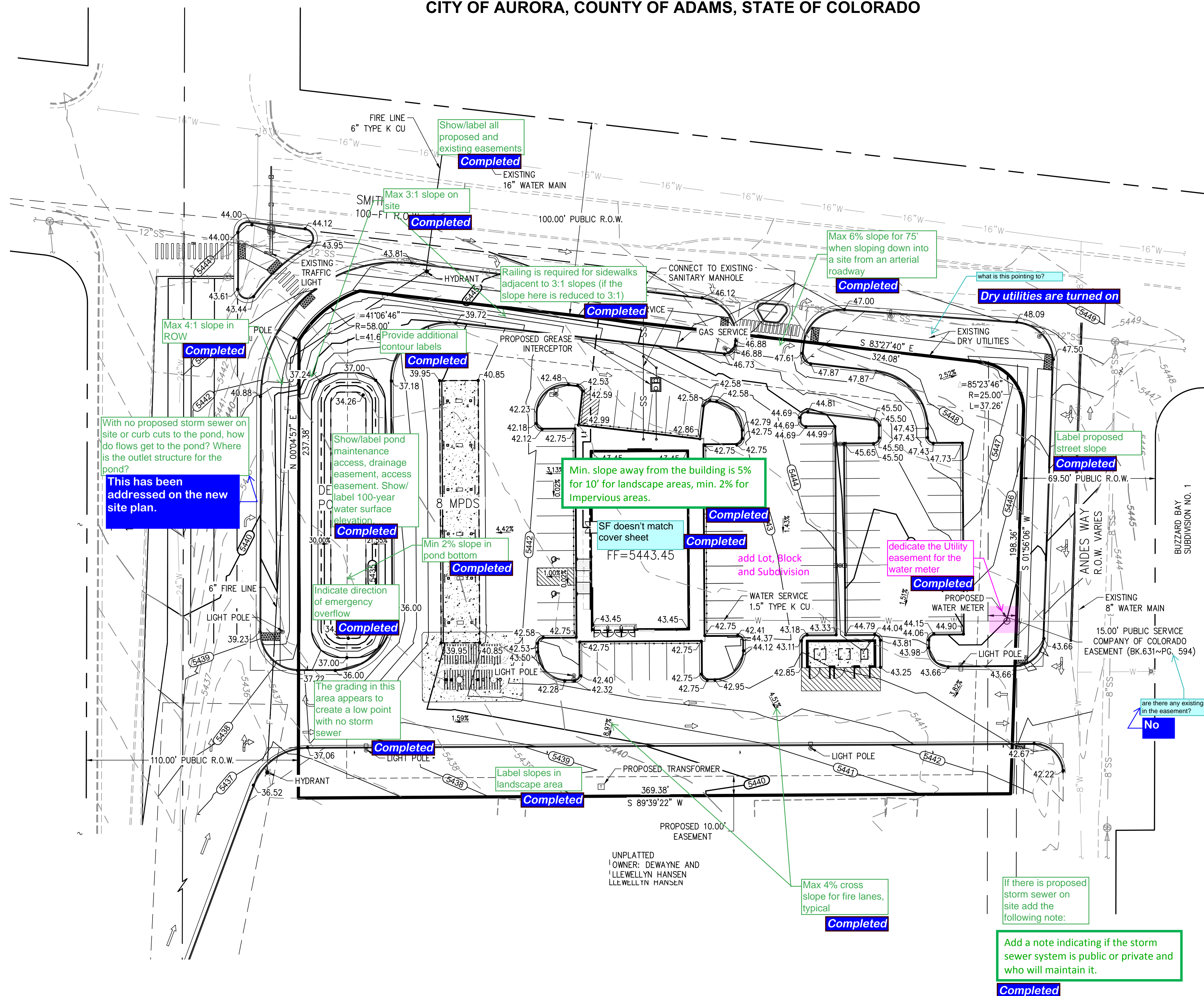
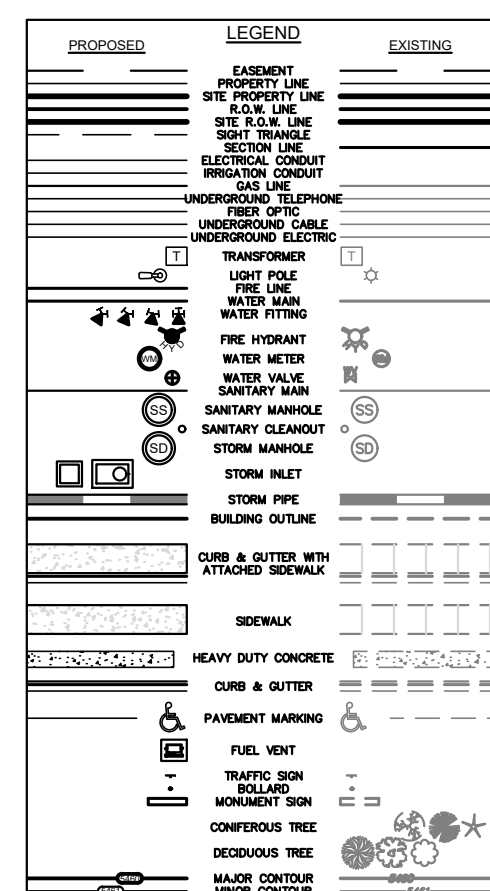
SITE DEVELOPMENT PLAN

7/6/2021

SHEET 1 OF 10

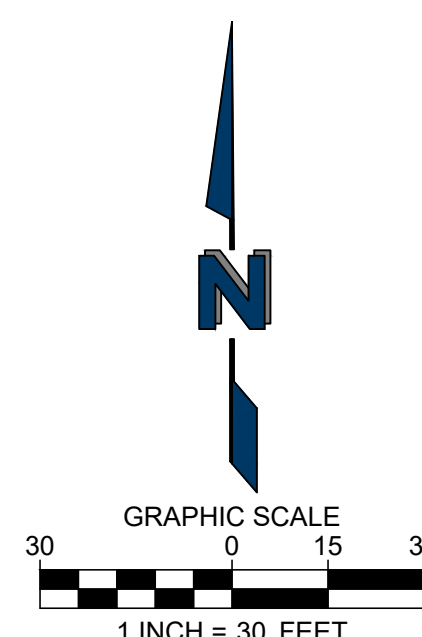
We do not believe this applies as this site is within the Buckley Airport Influence Area but not within the Noise Impact District (NID).
Note removed.

**A PARCEL OF LAND SITUATED IN THE NW 1/4 NW 1/4 OF SECTION 34, T.3S., R66W, OF THE 6TH P.M.
CITY OF AURORA, COUNTY OF ADAMS, STATE OF COLORADO**



UTILITY NOTES: remove contractor notes.

1. THE CONTRACTOR **Completed** SOLE AND COMPLETE RESPONSIBILITY FOR HIS MEANS AND METHODS OF CONSTRUCTION, JOB SITE CONDITIONS AND JOB SITE SAFETY, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO WORKING HOURS. THE CONTRACTOR SHALL SAVE, PROTECT, INDENTIFY, DEFEND AND HOLD HARMLESS THE OWNER, THE ARCHITECT AND THE ENGINEER FROM ANY CLAIM OF LIABILITY, REAL OR ALLEGED, ARISING OUT OF THE PERFORMANCE OF ANY WORK ON THIS PROJECT. THE CONTRACTOR SHALL NAME THE OWNER, THE ARCHITECT AND THE ENGINEER AS "ADDITIONAL INSURED" ON HIS INSURANCE POLICIES.
2. EXISTING ABOVE GROUND UTILITIES HAVE BEEN SHOWN BASED ON INFORMATION SHOWN ON A SURVEY OF THE PROPERTY BY OTHERS. UNDERGROUND UTILITIES ARE SHOWN BASED ON RECORD DATA AND MAY NOT BE COMPLETE OR EXACT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATIONS AND DEPTHS OF ALL ABOVE GROUND AND UNDERGROUND UTILITIES AND ESTABLISHING THEIR EXACT LOCATION AND DEPTH PRIOR TO SETTING ANY FINISH GRADE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGE TO EXISTING ABOVE GROUND OR UNDERGROUND UTILITIES, INCLUDING THOSE NOT SHOWN ON THE PLANS. THE CONTRACTOR IS ADVISED TO CONTACT THE CITY AND ALL FRANCHISE UTILITY COMPANIES, EASEMENT HOLDERS, ETC. AT LEAST 48 HOURS PRIOR TO BEGINNING EXCAVATION IN THE VICINITY OF ANY UNDERGROUND UTILITY.
3. ALL DRY UTILITY INFORMATION SHOWN ON THESE PLANS (GAS, ELECTRIC, CABLE, PHONE, ETC.) IS SHOWN FOR INFORMATION ONLY. THE CONTRACTOR SHALL COORDINATE WITH THE INDIVIDUAL UTILITY COMPANIES FOR FINAL LOCATION OF TRANSFORMERS, SWITCH BOXES, PEDESTALS, AND CONDUIT PRIOR TO INSTALLATION.
4. WHEN WATER AND SEWER LINES ARE INSTALLED IN PROXIMITY TO ONE ANOTHER, SUCH INSTALLATION SHALL BE IN STRICT ACCORDANCE WITH THE RULES AND REGULATIONS OF THE JURISDICTIONAL AUTHORITY. SPECIAL ATTENTION IS CALLED TO REQUIREMENTS FOR BOTH LATERAL AND VERTICAL SEPARATION BETWEEN WATER AND SEWER FACILITIES. THIS PROJECT TO BE BUILT IN ACCORDANCE WITH CITY STANDARDS, SPECIFICATIONS AND DETAILS FOR WATER AND SEWER CONSTRUCTION. THE CONTRACTOR SHALL COMPLY WITH ALL BUILDING CODES AND REGULATIONS, FEDERAL STATE, COUNTY AND CITY SAFETY CODES AND REQUIREMENTS.
7. THE CONTRACTOR SHALL PROVIDE DUST PROTECTION DURING CONSTRUCTION. ALL TRASH AND DEBRIS SHALL BE PICKED UP AT ALL TIMES.
8. TRENSH SAFETY: IF ANY TRENCH ON THIS JOB SITE, INCLUDING OPEN EXCAVATIONS WHOSE DIMENSIONS CAUSE THEM TO BE CONSIDERED TRENCHES BY OSHA, REGARDLESS OF WHETHER FOR THE INSTALLATION OF UTILITIES, FOUNDATIONS OR ANY OTHER SITE ELEMENT, IS EQUAL TO OR GREATER THAN 5.0' DEPTH, THEN THE CONTRACTOR SHALL NOT PERFORM ANY TRENCHING ON THIS SITE UNTIL HE HAS FIRST OBTAINED DETAILED PLANS AND SPECIFICATIONS FOR TRENCH SAFETY SYSTEMS CONFORMING TO OSHA REQUIREMENTS. SUCH PLANS AND SPECIFICATIONS SHALL BE PREPARED BY A REGISTERED PROFESSIONAL ENGINEER EMPLOYED BY OR CONTRACTED BY THE CONTRACTOR AND SHALL BE CONSIDERED A PART OF THE CONTRACTOR'S MEANS AND METHOD'S OF CONSTRUCTION. IF THIS PROJECT IS OFFERED FOR BID, THE BIDS MUST CONTAIN A SEPARATE UNIT PRICE PAY ITEM FOR TRENCH SAFETY.
9. POTABLE WATER LINES SHALL BE PVC IN ACCORDANCE WITH AWWA C-900.
10. SANITARY SEWER LINES SHALL BE PVC IN ACCORDANCE WITH ASTM D3034.
11. FIRE HYDRANT MUST BE ADEQUATELY PROTECTED BY EITHER CURB STOPS OR CONCRETE POSTS. FIRE HYDRANT MUST BE INSTALLED AT A MINIMUM OF TWO(2) FEET BEHIND A CURB, TO A MAXIMUM OF SIX(6) FEET BEHIND A CURB.
12. **utilities** WHEN CONSTRUCTION DETAILS AND SPECIFICATIONS ARE NOT NOTED ON THESE PLANS USE CITY OF AURORA STANDARD SPECIFICATIONS FOR DESIGN AND CONSTRUCTION.
13. SEE FUEL PLANS FOR INSTALLATION OF FUEL TANKS, PIPING, VENTING AND ELECTRICAL WITHIN THE CANOPY AND TANK AREAS.



GRADING & UTILITY PLAN
7-ELEVEN AT SMITH & TOWER
SITE DEVELOPMENT PLAN

7/6/2021
SHEET 3 OF 10

PROJECT BENCHMARK:
CITY OF AURORA BM 356633NE002 – COA BRASS CAP SET IN NOSE OF
MEDIAN IN TOWER ROAD NORTH OF EAST ENTRY TO TOWER CENTER
FOR INDUSTRY.
ELEVATION: 5438.06 FEET (NAVD 1988 DATUM).

PROJECT BASIS OF BEARING:
BEARINGS ARE BASED ON THE WEST LINE OF THE NW $\frac{1}{4}$ OF SECTION 34,
TOWNSHIP 3 SOUTH, RANGE 66 WEST, OF THE 6TH PRINCIPAL MERIDIAN
BEARING N00°08'24"E BOUNDED BY THE MONUMENTS SHOWN HEREON.

 **THE
DIMENSION
GROUP**
ARCHITECTURE • CIVIL ENGINEERING • MEP ENGINEERING
5600 S. QUEBEC STREET, SUITE 325C, GREENWOOD VILLAGE, COLORADO 80111
TEL: 720-536-3180 www.DimensionGrp.com

CITY PROJECT NUMBER

Comment Noted

Corrected

ADD:
NOT FOR CONSTRUCTION

match site data on cover sheet

Revised

the grass not in curbside landscape

identify number of 1 gal
plant material separately
from 5 gal material

Done

max. use of ornamental
grasses in the buffer = 20%
of plant material

Trees Prov

UDO 4.7.5.D: STREET FRONTAGE LANDSCAPE BUFFERS

Fluv. Trees
(1/40)

** Buffer trees omitted on An

Revised

UV.

Revised

6

TURNER TREAT

All specified plants are selected from City of Aurora Xeriscape Plant list

Area	Trees Req./Prov.	Shrubs Req./Prov.
------	------------------	-------------------

1. APPLY SOIL AMENDMENT OF FOUR CUBIC YARDS OF ORGANIC MATERIAL PER 1,000 SF OF AREA TO RECEIVE SOD

- MUST BE LISTED ON THESE PLANS

SHEET 4 OF 10

Note added TBD

Added



ARCHITECTURE • CIVIL ENGINEERING • MEP ENGINEERING
5600 S. QUEBEC STREET, SUITE 325C, GREENWOOD VILLAGE, COLORADO 80120
TEL: 720-536-3180 www.DimensionGrp.com

CITY PROJECT NUMBER

DECIDUOUS TREES

ADD WATER USE COLUMN

Comment Noted

SIZE

which one is the buffer?

CONT.GAL

Com

7-ELEVEN AT SMITH & TOWER

SITE DEVELOPMENT PLAN

A PARCEL OF LAND SITUATED IN THE NW 1/4 NW 1/4 OF SECTION 34, T.3S., R66W, OF THE 6TH P.M.
CITY OF AURORA, COUNTY OF ADAMS, STATE OF COLORADO

PLANTING SPECIFICATIONS

GENERAL

1. QUALIFICATIONS OF LANDSCAPE CONTRACTOR
2. ALL LANDSCAPE WORK SHOWN ON THESE PLANS SHALL BE PERFORMED BY A SINGLE FIRM SPECIALIZING IN LANDSCAPE PLANTING.
3. A LIST OF SUCCESSFULLY COMPLETED PROJECTS OF THIS TYPE, SIZE AND NATURE MAY BE REQUESTED BY THE OWNER FOR FURTHER QUALIFICATION MEASURES.
4. THE LANDSCAPE CONTRACTOR SHALL HOLD A VALID NURSERY AND FLORAL CERTIFICATE ISSUED BY THE TEXAS DEPARTMENT OF AGRICULTURE, AS WELL AS OPERATE UNDER A COMMERCIAL PESTICIDE APPLICATION LICENSE ISSUED BY EITHER THE TEXAS DEPARTMENT OF AGRICULTURE OR THE TEXAS STRUCTURAL PEST CONTROL BOARD.
5. THE LANDSCAPE CONTRACTOR SHALL HOLD A VALID CONTRACTOR'S LICENSE ISSUED BY THE APPROPRIATE LOCAL JURISDICTION.
6. SCOPE OF WORK
7. WORK COVERED BY THESE SECTIONS INCLUDES THE FURNISHING AND PAYMENT OF ALL MATERIALS, LABOR, SERVICES, EQUIPMENT, LICENSES, TAXES AND ANY OTHER ITEMS THAT ARE NECESSARY FOR THE EXECUTION, INSTALLATION AND COMPLETION OF ALL WORK, SPECIFIED HEREON ON THE LANDSCAPE PLANS, NOTES, AND DETAILS.
8. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH ALL APPLICABLE LAWS, REGULATIONS REQUIRED BY AUTHORITIES HAVING JURISDICTION OVER SUCH WORK, INSPECTIONS AND PERMITS REQUIRED BY FEDERAL, STATE AND LOCAL AUTHORITIES, TRANSPORTATION AND INSTALLATION OF MATERIALS.
9. THE LANDSCAPE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL UNDERGROUNDS (WATER, SEWER, ELECTRICAL, TELEPHONE, GAS, CABLE, TELEVISION, ETC.) PRIOR TO ANY WORK.

PRODUCTS

1. ALL MANUFACTURED PRODUCTS SHALL BE NEW.
2. CONTAINER AND BALLED-AND-BURLAPPED PLANTS
3. FURNISH NURSERY-GROWN PLANTS COMPLYING WITH ANSI Z60.1-2014. PROVIDE WELL-BRANCHED, HEALTHY, VIGOROUS STOCK FREE OF DISEASE, INSECTS, EGGS, LARVAE, AND DEFECTS SUCH AS KNOTS, SUN SCALD, INJURIES, ABRASIONS, AND DISFIGUREMENT. ALL PLANTS WITHIN A SPECIES SHALL HAVE SIMILAR SIZE, AND SHAPE OF A FORM TYPICAL FOR THE SPECIES. ALL TREES SHALL BE OBTAINED FROM SOURCES WITHIN 200 MILES OF THE PROJECT SITE, AND WITH SIMILAR CLIMATIC CONDITIONS.
4. MULTI-TRUNK TREES SHALL BE HEALTHY, DENSELY BRANCHED ROOT SYSTEMS, NON-POT-BOUND, FREE FROM ENCIRCLING AND/OR GIRDLING ROOTS, AND FREE FROM ANY OTHER ROOT DEFECTS (SUCH AS J-SHAPED ROOTS).
5. TREES MAY BE PLANTED FROM CONTAINERS OR BALLE-AND-BURLAPPED (B&B), UNLESS SPECIFIED ON THE PLANTING LEGEND. BARE-ROOT TREES ARE NOT ACCEPTABLE.
6. ANY PLANT DEEMED UNACCEPTABLE BY THE LANDSCAPE ARCHITECT OR OWNER SHALL BE IMMEDIATELY REMOVED FROM THE SITE AND SHALL BE REPLACED WITH AN ACCEPTABLE PLANT OF LIKE TYPE AND SIZE AT THE CONTRACTOR'S OWN EXPENSE. ANY PLANTS APPEARING TO BE UNHEALTHY, EVEN IF STANDARD TO STILL BE ALIVE, SHALL NOT BE ACCEPTED. THE LANDSCAPE ARCHITECT AND OWNER SHALL BE THE SOLE JUDGES AS TO THE ACCEPTABILITY OF PLANT MATERIAL.
7. ALL TREES SHALL BE DETERMINED IN FORM, UNLESS OTHERWISE SPECIFIED. TREES WITH CENTRAL LEADERS WILL NOT BE ACCEPTED IF LEADER IS DAMAGED OR REMOVED. PRUNE ALL DAMAGED TWIGS AFTER PLANTING.
8. CALIPER MEASUREMENTS FOR STANDARD (SINGLE TRUNK) TREES SHALL BE AS FOLLOWS: SIX INCHES ABOVE THE ROOT FLARE FOR TREES UP TO AND INCLUDING FOUR INCHES IN CALIPER, AND TWELVE INCHES ABOVE THE ROOT FLARE FOR TREES EXCEEDING FOUR INCHES IN CALIPER.
9. MULTI-TRUNK TREES SHALL BE MEASURED BY THEIR OVERALL HEIGHT, MEASURED FROM THE TOP OF THE ROOT BALL, WHERE CALIPER MEASUREMENTS ARE USED, THE CALIPER SHALL BE CALCULATED AS ONE-HALF OF THE SUM OF THE CALIPER OF THE THREE LARGEST TRUNKS.
10. ANY TREE OR SHRUB SHOWN TO HAVE EXCESS SOIL PLACED ON TOP OF THE ROOT BALL, SO THAT THE ROOT FLARE HAS BEEN COMPLETELY COVERED, SHALL BE REJECTED.
11. SOD: PROVIDE WELL-ROOTED SOD OF THE VARIETY NOTED ON THE PLANS. SOD SHALL BE CUT FROM HEALTHY, MATURE TURF WITH SOIL THICKNESS OF 3/4" TO 1". EACH PALLET OF SOD SHALL BE ACCOMPANIED BY A CERTIFICATE FROM SUPPLIER STATING THE COMPOSITION OF THE SOD.
12. SEED: PROVIDE BLEND OF SPECIES AND VARIETIES AS NOTED ON THE PLANS, WITH MAXIMUM PERCENTAGES OF PURITY, GERMINATION, AND MINIMUM PERCENTAGE OF WEED SEED AS INDICATED ON PLANS. EACH BAG OF SEED SHALL BE ACCOMPANIED BY A TAG FROM THE SUPPLIER INDICATING THE COMPOSITION OF THE SEED.
13. TOPSOIL: SANDY TO CLAY LOAM TOPSOIL, FREE OF STONES LARGER THAN 1/2 INCH, FOREIGN MATTER, PLANTS, ROOTS, AND SEEDS.
14. COMPOST: WELL-COMPOSTED, STABLE, AND WEED-FREE ORGANIC MATTER, pH RANGE OF 5.5 TO 8; MOISTURE CONTENT 35 TO 55 PERCENT BY WEIGHT; 100 PERCENT PASSING THROUGH 3/4-INCH SIEVE; SOLUBLE SALT CONTENT OF 5 TO 10 DECISEMENS/M; NOT EXCEEDING 0.5 PERCENT INERT CONTAMINANT; AND FREE OF SUBSTANCES TOXIC TO PLANTINGS. NO MANURE OR ANIMAL-BASED PRODUCTS SHALL BE USED.
15. FERTILIZER: GRANULAR FERTILIZER CONSISTING OF NITROGEN, PHOSPHORUS, POTASSIUM, AND OTHER NUTRIENTS IN PROPORTIONS, AMOUNTS, AND RELEASE RATES RECOMMENDED IN A SOIL REPORT FROM A QUALIFIED SOIL-TESTING AGENCY (SEE BELOW).
16. MULCH: SIZE AND TYPE AS INDICATED ON PLANS, FREE FROM DELETERIOUS MATERIALS AND SUITABLE AS A TOP DRESSING OF TREES AND SHRUBS.
17. TREE STAKING AND GUYING
18. STAKES: 6" LONG GREEN METAL T-POSTS.
19. GUY AND THE WIRE: ASTM A 641, CLASS 1, GALVANIZED-STEEL WIRE, 2-STRAND, TWISTED, 0.106 INCH DIAMETER.
20. STRAP CHAFING GUARD: REINFORCED NYLON OR CANVAS AT LEAST 1-1/2 INCH WIDE, WITH GROMMETS TO PROTECT TREE TRUNKS FROM DAMAGE.
21. STEEL EDGING: PROFESSIONAL STEEL EDGING, 14 GAUGE THICK X 4 INCHES WIDE, FACTORY PAINTED DARK GREEN. ACCEPTABLE MANUFACTURERS INCLUDE COL-MET OR APPROVED EQUAL.
22. PRE-EMERGENT HERBICIDES: ANY GRANULAR, NON-STAINING PRE-EMERGENT HERBICIDE THAT IS LABELED FOR THE SPECIFIC ORNAMENTALS OR TURF ON WHICH IT WILL BE UTILIZED. PRE-EMERGENT HERBICIDES SHALL BE APPLIED PER THE MANUFACTURER'S LABELED RATES.

METHODS

1. SOIL PREPARATION
2. BEFORE STARTING WORK, THE LANDSCAPE CONTRACTOR SHALL VERIFY THAT THE GRADE OF ALL LANDSCAPE AREAS ARE WITHIN +0.1' OF FINISH GRADE. THE CONTRACTOR SHALL NOTIFY THE OWNER IMMEDIATELY SHOULD ANY DISCREPANCIES EXIST.
3. SOIL TESTING
4. AFTER FINISH GRADES HAVE BEEN ESTABLISHED, CONTRACTOR SHALL HAVE SOIL SAMPLES FROM THE PROJECT'S LANDSCAPE AREAS TESTED BY AN ESTABLISHED SOIL-TESTING LABORATORY. EACH SAMPLE SUBMITTED TO THE LAB SHALL CONTAIN NO LESS THAN ONE QUART OF SOIL, TAKEN FROM BETWEEN THE SOIL SURFACE AND 6" DEPTH. IF NO SAMPLE LOCATIONS ARE INDICATED ON THE PLANS, THE CONTRACTOR SHALL TAKE A MINIMUM OF THREE SAMPLES FROM VARIOUS REPRESENTATIVE LOCATIONS FOR TESTING.
5. THE CONTRACTOR SHALL HAVE THE SOIL TESTING LABORATORY PROVIDE RESULTS FOR THE FOLLOWING: SOIL TEXTURAL CLASS, GENERAL SOIL FERTILITY, pH, ORGANIC MATTER CONTENT, SALT (CEC), LIME, SODIUM ADSORPTION RATIO (SAR) AND BORON CONTENT.
6. THE CONTRACTOR SHALL ALSO SUBMIT THE PROJECT'S PLANT LIST TO THE LABORATORY ALONG WITH THE SOIL SAMPLES.
7. THE SOIL REPORT PRODUCED BY THE LABORATORY SHALL CONTAIN RECOMMENDATIONS FOR THE FOLLOWING (AS APPROPRIATE): SEPARATE SOIL PREPARATION AND BACKFILL MIX RECOMMENDATIONS FOR GENERAL ORNAMENTAL PLANTING, SHRUB PLANTS, TURF, AND NATIVE SEED, AS WELL AS PRE-PLANT FERTILIZER APPLICATIONS AND RECOMMENDATIONS FOR ANY OTHER SOIL RELATED ISSUES. THE REPORT SHALL ALSO PROVIDE A FERTILIZER PROGRAM FOR THE ESTABLISHMENT PERIOD AND FOR LONG-TERM MAINTENANCE.
8. THE CONTRACTOR SHALL INSTALL SOIL AMENDMENTS AND FERTILIZERS PER THE SOILS REPORT RECOMMENDATIONS. ANY CHANGE IN COST DUE TO THE SOIL REPORT RECOMMENDATIONS, EITHER INCREASE OR DECREASE, SHALL BE SUBMITTED WITH THE REPORT.
9. FOR BIDDING PURPOSES ONLY, THE SOIL PREPARATION SHALL CONSIST OF THE FOLLOWING:
 - a. TURF: INCORPORATE THE FOLLOWING AMENDMENTS INTO THE TOP 8" OF SOIL BY MEANS OF ROTOTILLING AFTER CROSS-RIPPING:
 - i. NITROGEN STABILIZED ORGANIC AMENDMENT - 4 CU. YDS. PER 1,000 S.F.
 - ii. PREPLANT TURF FERTILIZER (10-20-10 OR SIMILAR, SLOW RELEASE, ORGANIC) - 15 LBS PER 1,000 S.F.
 - iii. "CLAY BUSTER" OR EQUAL - USE MANUFACTURER'S RECOMMENDED RATE
 - b. TREES, SHRUBS, AND PERENNIALS: INCORPORATE THE FOLLOWING AMENDMENTS INTO THE TOP 8" OF SOIL BY MEANS OF ROTOTILLING AFTER CROSS-RIPPING:
 - i. NITROGEN STABILIZED ORGANIC AMENDMENT - 4 CU. YDS. PER 1,000 S.F.
 - ii. 12-12-12 FERTILIZER (OR SIMILAR, ORGANIC, SLOW RELEASE) - 10 LBS. PER CU. YD.
 - iii. "CLAY BUSTER" OR EQUAL - USE MANUFACTURER'S RECOMMENDED RATE
 - iv. IRON SULPHATE - 2 LBS. PER CU. YD.
10. IN THE CONTEXT OF THESE PLANS, NOTES, AND SPECIFICATIONS, "FINISH GRADE" REFERS TO THE FINAL ELEVATION OF THE SOIL SURFACE (NOT TOP OF MULCH) AS INDICATED ON THE GRADING PLANS.
11. BEFORE STARTING WORK, THE LANDSCAPE CONTRACTOR SHALL VERIFY THAT THE ROUGH GRADES OF ALL LANDSCAPE AREAS ARE WITHIN +0.1' OF FINISH GRADE. SEE SPECIFICATIONS FOR MORE DETAILED INSPECTION ON TURF AREA AND PLANTING BED PREPARATION.
12. CONSTRUCT AND MAINTAIN FINISH GRADES AS SHOWN ON GRADING PLANS AND CONSTRUCT AND MAINTAIN SLOPES AS RECOMMENDED BY THE GEOTECHNICAL REPORT. ALL LANDSCAPE AREAS SHALL HAVE POSITIVE DRAINAGE AWAY FROM STRUCTURES AT THE MINIMUM SLOPE SPECIFIED IN THE REPORT AND ON THE GRADING PLANS, AND AREAS OF POTENTIAL PONDING SHALL BE REGRADED TO BLEND IN WITH THE SURROUNDING GRADES AND ELIMINATE PONDING POTENTIAL.
13. THE LANDSCAPE CONTRACTOR SHALL DETERMINE WHETHER OR NOT THE EXPORT OF ANY SOIL WILL BE NEEDED, TAKING INTO ACCOUNT THE ROUGH GRADE PROVIDED, THE AMOUNT OF SOIL AMENDMENTS TO BE ADDED (BASED ON A SOIL TEST, PER SPECIFICATIONS), AND THE FINISH GRADES TO BE ESTABLISHED.
14. ENSURE THAT THE FINISH GRADE IN SHRUB AREAS IMMEDIATELY ADJACENT TO WALKS AND OTHER WALKING SURFACES, AFTER INSTALLING SOIL AMENDMENTS, IS 3" BELOW THE ADJACENT FINISH SURFACE, IN ORDER TO ALLOW FOR PROPER MULCH DEPTH. TAPER THE SOIL SURFACE TO MEET FINISH GRADE, AS SPECIFIED ON THE GRADING PLANS, AT APPROXIMATELY 18" AWAY FROM THE WALKS.
15. ENSURE THAT THE FINISH GRADE IN TURF AREAS IMMEDIATELY ADJACENT TO WALKS AND OTHER WALKING SURFACES, AFTER INSTALLING SOIL AMENDMENTS, IS 1" BELOW THE FINISH SURFACE OF THE WALKS. TAPER THE SOIL SURFACE TO MEET FINISH GRADE, AS SPECIFIED ON THE GRADING PLANS, AT APPROXIMATELY 18" AWAY FROM THE WALKS.
16. SHOULD ANY CONFLICTS AND/OR DISCREPANCIES ARISE BETWEEN THE GRADING PLANS, GEOTECHNICAL REPORT, THESE NOTES AND PLANS, AND ACTUAL CONDITIONS, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE LANDSCAPE ARCHITECT, THE LANDSCAPE ARCHITECT, GENERAL CONTRACTOR, AND OWNER.
17. ONCE SOIL PREPARATION IS COMPLETE, THE LANDSCAPE CONTRACTOR SHALL ENSURE THAT THERE ARE NO DEBRIS, TRASH, OR STONES LARGER THAN 1" REMAINING IN THE TOP 6" OF SOIL.

SUBMITTALS

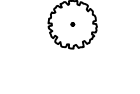
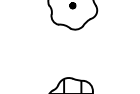

1. THE CONTRACTOR SHALL PROVIDE SUBMITTALS AND SAMPLES, IF REQUIRED, TO THE LANDSCAPE ARCHITECT, AND RECEIVE APPROVAL IN WRITING FOR SUCH SUBMITTALS BEFORE WORK COMMENCES.
2. SUBMITTALS SHALL INCLUDE PHOTOS OF PLANTS WITH A RULER OR MEASURING STICK FOR SCALE, PHOTOS OR SAMPLES OF ANY REQUIRED MULCHES, AND SOIL TEST RESULTS AND PREPARATION RECOMMENDATIONS FROM THE TESTING LAB (INCLUDING COMPOST AND FERTILIZER RATE) AND TYPES, AND OTHER AMENDMENTS FOR TREE/SHRUB, TURF, AND SEED AREAS AS MAY BE APPROPRIATE.
3. SUBMITTALS SHALL ALSO INCLUDE MANUFACTURER CUT SHEETS FOR PLANTING ACCESSORIES SUCH AS TREE STAKES AND GUYING, PRE-EMERGENT HERBICIDES, AND LANDSCAPE FABRICS (IF APPLICABLE).
4. WHERE MULTIPLE ITEMS ARE SHOWN ON A PAGE, THE CONTRACTOR SHALL CLEARLY INDICATE THE ITEM BEING CONSIDERED.
5. GENERAL PLANTING
6. REMOVE ALL NURSERY TAGS AND STAKES FROM PLANTS.
7. EXCEPT IN AREAS TO BE PLANTED WITH ORNAMENTAL GRASSES, APPLY PRE-EMERGENT HERBICIDES RECOMMENDED RATE.
8. TREES:
9. DO NOT DISTURB ROOTS 1-1/2" AND LARGER IN DIAMETER WITHIN THE CRITICAL EXISTING TREES, AND SHALL EXERCISE ALL POSSIBLE CARE AND DUE DILIGENCE TO AVOID INJURY TO TREE ROOTS, TRUNKS, AND BRANCHES. THE CRZ IS AN AREA EXTENDING OUTWARD FROM THE TREE TRUNK, WITH A RADIUS OF 1" OF TRUNK DIAMETER AT-BREAST-HEIGHT (4.5' ABOVE THE AVERAGE 1" IN THE CRZ SHALL BE PERFORMED USING HAND TOOLS. NO MACHINE EXCAVATION OR BREACHING OF ANY KIND SHALL BE ALLOWED WITHIN THE CRZ.
10. ALTER ALIGNMENT OF PIPE TO AVOID TREE ROOTS 1-1/2" AND LARGER IN DIAMETER, WHERE TREE ROOTS 1-1/2" AND LARGER IN DIAMETER ARE ENCOUNTERED IN THE FIELD, TUNNEL UNDER SUCH ROOTS. WRAP EXPOSED ROOTS WITH SEVERAL LAYERS OF BURLAP AND KEEP MOIST.
11. IN THE CANOPY DRIP LINES WITHIN 24 HOURS.
12. BE HAND PRUNED WITH SHARP TOOLS AND ALLOWED TO AIR-DRY. SAVERS OR WOUND HEALANTS.
13. TREE PLANTING HOLES SHALL BE EXCAVATED TO A MINIMUM WIDTH OF TWO TIMES THE WIDTH OF THE ROOTBALL, AND TO A DEPTH EQUAL TO THE DEPTH OF THE ROOTBALL, LESS TWO TO FOUR INCHES. SCARIFY THE SIDES AND BOTTOM OF THE PLANTING HOLE PRIOR TO THE PLACEMENT OF THE TREE. REMOVE ANY GLAZING THAT MAY HAVE BEEN CAUSED DURING THE EXCAVATION OF THE HOLE.
14. FOR CONTAINER AND BOX TREES, TO REMOVE ANY POTENTIALLY GIRDLING ROOTS AND OTHER ROOT DEFECTS, THE CONTRACTOR SHALL SHAVE A 1" LAYER OFF OF THE SIDES AND BOTTOM OF THE ROOTBALL OF ALL TREES JUST BEFORE PLACING INTO THE PLANTING PIT. DO NOT "TEASE" ROOTS OUT FROM THE ROOTBALL.
15. INSTALL THE TREE ON UNDISTURBED SURFACE SO THAT THE TOP OF THE ROOTBALL IS TWO TO FOUR INCHES ABOVE THE SURROUNDING GRADE.
16. BACKFILL THE TREE HOLE UTILIZING THE EXISTING TOPSOIL FROM ON-SITE. ROCKS LARGER THAN 1" DIA. AND ALL OTHER DEBRIS SHALL BE REMOVED FROM THE BACKFILL. THE BACKFILL SHOULD ADDITIONAL SOIL BE REQUIRED TO ACCOMPLISH THIS TASK. USE STORED TOPSOIL FROM ON-SITE OR IMPORT ADDITIONAL TOPSOIL FROM OFF-SITE AT NO ADDITIONAL COST TO THE OWNER. IMPORTED TOPSOIL SHALL BE OF SIMILAR TEXTURAL CLASS AND COMPOSITION IN THE ON-SITE SOIL.
17. TREES SHALL NOT BE STAKED UNLESS LOCAL CONDITIONS (SUCH AS HEAVY WINDS OR SLOPES) REQUIRE STAKES TO KEEP TREES UPRIGHT. SHOULD STAKING BE REQUIRED, THE TOTAL NUMBER OF TREE STAKES (BEYOND THE MINIMUMS LISTED BELOW) WILL BE LEFT TO THE LANDSCAPE CONTRACTOR'S DISCRETION. SHOULD ANY TREES FALL OR LEAN, THE LANDSCAPE CONTRACTOR SHALL STRAIGHTEN THE TREE, OR REPLACE IT SHOULD IT BECOME DAMAGED. TREE STAKING SHALL ADHERE TO THE FOLLOWING GUIDELINES:
 - a. 1-2" TREES
 - b. 2-1/2" 4" TREES
 - c. TREES OVER 4" CALIPER
 - d. MULTI-TRUNK TREES
 - e. 1/4" 1/2" BOX TREES
 - f. 3/4" 1" BOX TREES
 - g. OVER 1" BOX TREES
 - h. GUY AS NEEDED
18. UPON COMPLETION OF PLANTING, CONSTRUCT AN EARTH WATERING BASIN AROUND THE TREE. COVER THE INTERIOR OF THE TREE RING WITH THE WEED BARRIER CLOTH AND TOPDRESS WITH MULCH (TYPE AND DEPTH PER PLANS).
19. THE PLANTING HOLES TWICE AS WIDE AND 2" LESS DEEP THAN EACH PLANT'S ROOTBALL. INSTALL THE PLANT IN THE HOLE. BACKFILL AROUND THE PLANT WITH SOIL AMENDED PER SOIL TEST RECOMMENDATIONS.
20. INSTALL THE WEED BARRIER CLOTH, OVERLAPPING IT AT THE ENDS. UTILIZE STEEL STAPLES TO KEEP THE WEED BARRIER CLOTH IN PLACE.
21. WHEN PLANTING IS COMPLETE, INSTALL MULCH (TYPE AND DEPTH PER PLANS) OVER ALL PLANTING BEDS, COVERING THE ENTIRE PLANTING AREA.
22. SODDING
23. SOD VARIETY TO BE AS SPECIFIED ON THE LANDSCAPE PLAN.
24. LAY SOD WITHIN 24 HOURS FROM THE TIME OF STRIPPING. DO NOT LAY IF THE GROUND IS FROZEN.
25. LAY THE SOD TO FORM A SOLID MASS WITH TIGHTLY FITTED JOINTS. BUTT ENDS AND SIDES OF SOD STRIPS - DO NOT OVERLAP. STAGGER STRIPS TO OFFSET JOINTS IN ADJACENT COURSES.
26. ROLL THE SOD TO ENSURE GOOD CONTACT OF THE SOD'S ROOT SYSTEM WITH THE SOIL UNDERNEATH.
27. WATER THE SOD THOROUGHLY WITH A FINE SPRAY IMMEDIATELY AFTER PLANTING TO OBTAIN AT LEAST SIX INCHES OF PENETRATION INTO THE SOIL BELOW THE SOD.
28. TURF HYDROMULCH MIX (PER 1,000 SF) SHALL BE AS FOLLOWS:
 - a. WINTER MIX (OCTOBER 1 - MARCH 31)
 - i. 50# CELLULOSE FIBER MULCH
 - ii. UNHULLED BERMUDA SEED
 - iii. ANNUAL RYE SEED
 - iv. 15-15-15 WATER SOLUBLE FERTILIZER
 - b. SUMMER MIX (APRIL 1 - SEPTEMBER 30)
 - i. 50# CELLULOSE FIBER MULCH
 - ii. HULLED BERMUDA SEED
 - iii. 15-15-15 WATER SOLUBLE FERTILIZER
29. SEED HYDROMULCH MIX (PER 1,000 SF) SHALL BE AS FOLLOWS:
 - a. GENERAL
 - i. 50# CELLULOSE FIBER MULCH
 - ii. 15-15-15 WATER SOLUBLE FERTILIZER
30. DRILL SEEDING
31. ALL SEED SHALL BE DRILL SEEDING AT THE RATES SHOWN ON THE PLANS, WITH A HYDROMULCH MIX APPLIED AFTER SEEDING.
32. THE HYDROMULCH MIX (PER 1,000 SF) SHALL BE AS FOLLOWS:
 - a. 50# CELLULOSE FIBER MULCH
 - b. 15-15-15 WATER SOLUBLE FERTILIZER
 - c. ORGANIC BINDER
33. MULCH
34. INSTALL MULCH TOPDRESSING, TYPE AND DEPTH PER MULCH NOTE, IN ALL PLANTING AREAS AND TREE RINGS.
35. DO NOT INSTALL MULCH WITHIN 24" OF TREE ROOT FLARE AND WITHIN 24" OF HABITABLE STRUCTURES, EXCEPT AS MAY BE NOTED ON A COVER PLANS. MULCH COVERING OF TREES, RESETTING OF PLANTS, AND CURBS SHALL NOT PROTRUDE ABOVE THE FINISH SURFACE OF THE WALKS AND CURBS. MULCH COVER WITHIN 12" OF WALLS SHALL BE AT LEAST 3" LOWER THAN THE TOP OF WALL.
36. CLEAN UP
37. DURING LANDSCAPE PREPARATION AND PLANTING, KEEP ALL PAVEMENT CLEAN AND ALL WORK AREAS IN A NEAT, ORDERLY CONDITION.
38. LEGALLY DISPOSE ALL EXCAVATED MATERIALS OFF THE PROJECT SITE.
39. INSPECTION AND ACCEPTANCE
40. UPON COMPLETION OF THE WORK, THE LANDSCAPE CONTRACTOR SHALL PROVIDE THE SITE CLEAN, FREE OF DEBRIS AND TRASH, AND SUITABLE FOR USE AS INTENDED. THE LANDSCAPE CONTRACTOR SHALL THEN REQUEST AN INSPECTION BY THE OWNER TO DETERMINE FINAL ACCEPTABILITY.
41. WHEN THE INSPECTED PLANTING WORK DOES NOT COMPLY WITH THE CONTRACT DOCUMENTS, THE LANDSCAPE CONTRACTOR SHALL REPLACE AND/OR REPAIR THE REJECTED WORK TO THE OWNER'S SATISFACTION WITHIN 24 HOURS.
42. THE LANDSCAPE MAINTENANCE PERIOD WILL NOT COMMENCE UNTIL THE LANDSCAPE WORK HAS BEEN RE-INSPECTED BY THE OWNER AND FOUND TO BE FULLY ACCEPTABLE. AT THAT TIME, A WRITTEN NOTICE OF FINAL ACCEPTANCE WILL BE ISSUED BY THE OWNER, AND THE MAINTENANCE AND GUARANTEE PERIODS WILL COMMENCE.
43. LANDSCAPE MAINTENANCE
44. THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR THE MAINTENANCE OF ALL WORK SHOWN ON THESE PLANS FOR 90 DAYS BEYOND FINAL ACCEPTANCE OF ALL LANDSCAPE WORK BY THE OWNER. LANDSCAPE MAINTENANCE SHALL INCLUDE WEEKLY SITE VISITS FOR THE FOLLOWING ACTIONS (AS APPROPRIATE): PROPER PRUNING, RESTAKING OF TREES, RESETTING OF PLANTS THAT HAVE SETTLED, MOVING AND AERATION OF LAWNS, WEEDING, RESEEDING AREAS WHICH HAVE NOT GERMINATED WELL, TREATING FOR INSECTS AND DISEASES, REPLACEMENT OF MULCH, REMOVAL OF LITTER, REPAIRS TO THE IRRIGATION SYSTEM DUE TO FAULTY PARTS AND/OR WORKMANSHIP, AND THE APPROPRIATE WATERING OF ALL PLANTINGS. THE LANDSCAPE CONTRACTOR SHALL MAINTAIN THE IRRIGATION SYSTEM IN PROPER WORKING ORDER, WITH SCHEDULING ADJUSTMENTS BY SEASON TO MAXIMIZE WATER CONSERVATION.
45. SHOULD SEEDS AND/OR SODDED AREAS NOT BE COVERED BY AN AUTOMATIC IRRIGATION SYSTEM, THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR WATERING THESE AREAS AND OBTAINING A FULL, HEALTHY STAND OF PLANTS AT NO ADDITIONAL COST TO THE OWNER.
46. TO ACHIEVE FINAL ACCEPTANCE AT THE END OF THE MAINTENANCE PERIOD, ALL OF THE FOLLOWING CONDITIONS MUST OCCUR:
 - a. THE LANDSCAPE SHALL SHOW ACTIVE, HEALTHY GROWTH (WITH EXCEPTIONS MADE FOR SEASONAL DORMANCY). ALL PLANTS NOT MEETING THIS CONDITION SHALL BE REJECTED AND REPLACED BY HEALTHY PLANT MATERIAL PRIOR TO FINAL ACCEPTANCE.
 - b. ALL HARDSCAPE SHALL BE CLEANED PROPERLY TO FINAL ACCEPTANCE.
 - c. SODDED AREAS MUST BE ACTIVELY GROWING AND MUST REACH A MINIMUM HEIGHT OF 1-1/2 INCHES BEFORE FIRST MOWING. HYDROMULCHED AREAS SHALL SHOW ACTIVE, HEALTHY GROWTH. BARE AREAS LARGER THAN TWELVE SQUARE INCHES MUST BE RESEEDED OR RESEEDING (AS APPROPRIATE) PRIOR TO FINAL ACCEPTANCE. ALL SODDED TURF SHALL BE NEATLY MOWED.
47. WARRANTY PERIOD, PLANT GUARANTEE AND REPLACEMENTS
48. THE LANDSCAPE CONTRACTOR SHALL GUARANTEE ALL TREES, SHRUBS, PERENNIALS, SOD, SEEDING, HYDROMULCHED AREAS, AND IRRIGATION SYSTEMS FOR A PERIOD OF ONE YEAR FROM THE DATE OF THE OWNER'S FINAL ACCEPTANCE (90 DAYS FOR ANNUAL PLANTS). THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING ANY PLANTS WHICH DIE OR BECOME DAMAGED DURING THE WARRANTY PERIOD, AT HIS OWN EXPENSE AND TO THE SATISFACTION OF THE OWNER, ANY PLANTS WHICH DIE IN THAT TIME, OR REPAIR ANY PORTIONS OF THE IRRIGATION SYSTEM WHICH OPERATE IMPROPERLY. AFTER THE INITIAL MAINTENANCE PERIOD AND DURING THE GUARANTEE PERIOD, THE LANDSCAPE CONTRACTOR SHALL ONLY BE RESPONSIBLE FOR REPLACEMENT OF PLANTS WHEN PLANT DEATH CANNOT BE ATTRIBUTED DIRECTLY TO OVERWATERING OR OTHER DAMAGE BY HUMAN ACTIONS.
49. PROVIDE A MINIMUM OF (2) COPIES OF RECORD DRAWINGS TO THE OWNER UPON COMPLETION OF WORK. A RECORD DRAWING IS A RECORD OF ALL CHANGES THAT OCCURRED IN THE FIELD AND THAT ARE DOCUMENTED THROUGH CHANGE ORDERS, ADDENDA, OR CONTRACTOR/CONSULTANT DRAWING MARKUPS.



PLANT SCHEDULE


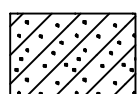
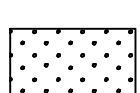
DECIDUOUS TREES	CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	HEIGHT
	AC	9	Acer platanoides 'Columnare'	Columnar Norway Maple	CONT.	3" CAL MIN	10'-12' HT
	AG	10	Acer grandidentatum 'Highland Park'	Highland Park Bigtooth Maple	CONT.	2.5" CAL.	10'-12' HT
	GS	7	Gleditsia triacanthos 'Shademaster' TM	Shademaster Locust	CONT.	3" CAL.	10'-12' HT
	QR	2	Quercus rubra	Red Oak	CONT.	3" CAL.	10'-12' HT
	UF	11	Ulmus x 'Frontier'	Frontier Elm	CONT.	2.5" CAL.	10'-12' HT

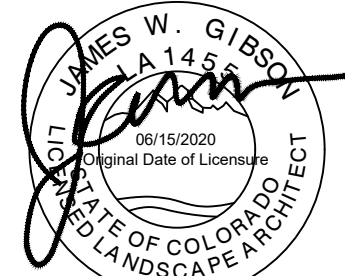
EVERGREEN TREES	CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	HEIGHT
	PA	4	Pinus nigra 'Arnold Sentinel'	Arnold Sentinel Austrian Black Pine	CONT.		6' HT MIN

DECIDUOUS SHRUBS	CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER
	BA	40	Berberis thunbergii 'Atropurpurea'	Red Leaf Japanese Barberry	5 GAL	
	PB	36	Prunus besseyi 'Pawnee Buttes'	Sand Cherry	5 GAL	
	RA	123	Rhus aromatica 'Gro-Low'	Gro-Low Fragrant Sumac	5 GAL	
	SM	136	Spiraea x bumalda 'Goldmound'	Gold Mound Spirea	5 GAL	

EVERGREEN SHRUBS	CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER
	CL	51	Cotoneaster lucidus	Peking Cotoneaster	5 GAL	
	CT	78	Cotoneaster apiculatus 'Tom Thumb'	Tom Thumb Cranberry Cotoneaster	5 GAL	
	PS	72	Pinus mugo 'Slowmound'	Mugo Pine	5 GAL	

ORNAMENTAL GRASSES	CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER
	CK	12	Calamagrostis x acutiflora 'Karl Foerster'	Feather Reed Grass	1 GAL	
	PO	89	Pennisetum orientale	Oriental Fountain Grass	1 GAL	

SOD/SEED	CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER
	BL	6,326 sf	Buchloe dactyloides 'Legacy'	Legacy Buffalo Grass	SEED	
	NS	6,168 sf	Native Seed	Native Seed Mix	SEED	
	PP	11,143 sf	Poa pratensis	Kentucky Bluegrass	SOD	



LANDSCAPE DETAILS
7-ELEVEN AT SMITH & TOWER
SITE DEVELOPMENT PLAN
7/6/2021
SHEET 5 OF 10



THE
DIMENSION
GROUP

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Denver, CO 80202
www.DimensionGrp.com

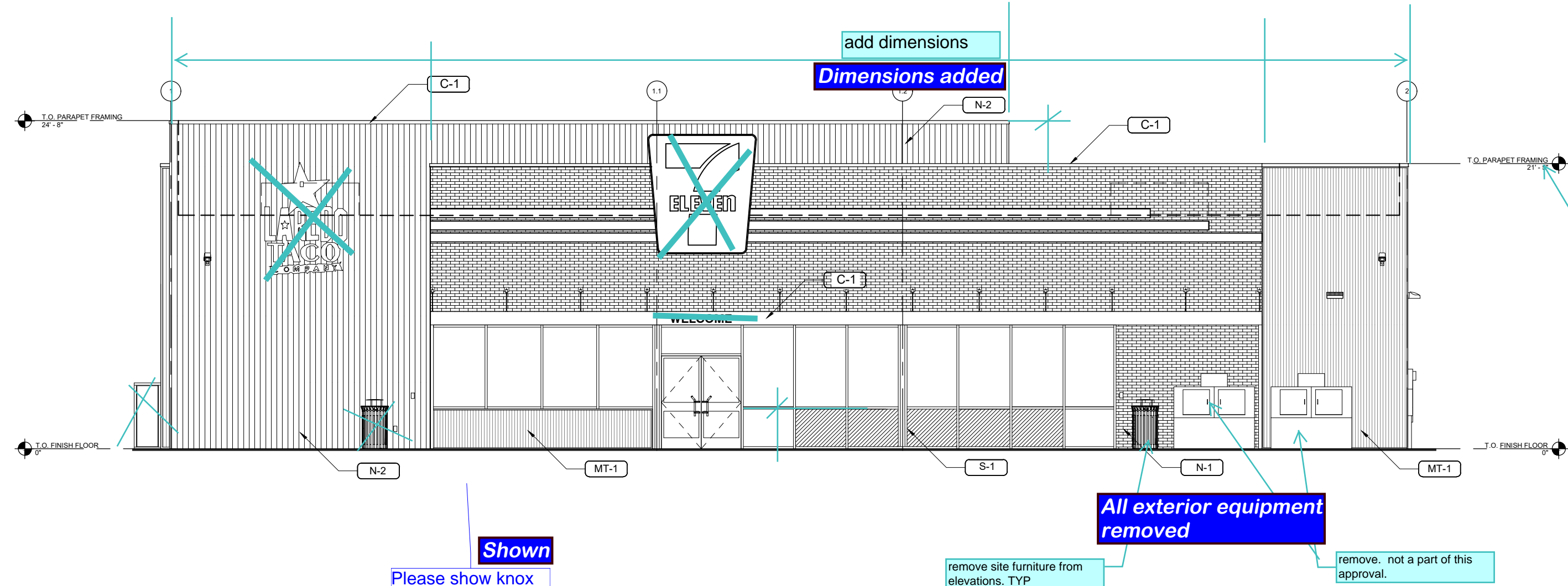
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CITY PROJECT NUMBER

7-ELEVEN AT SMITH & TOWER

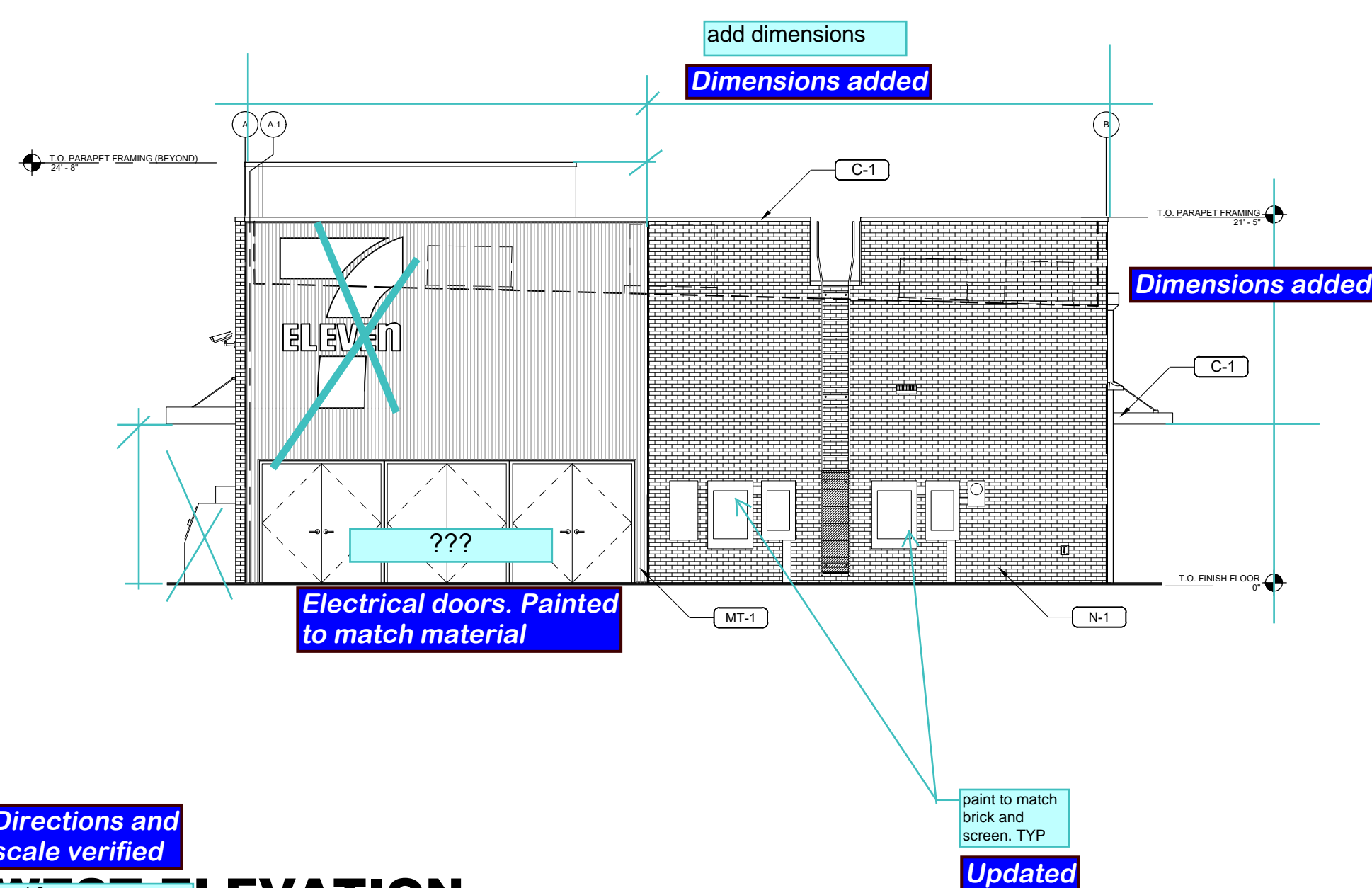
SITE PLAN

A PARCEL OF LAND SITUATED IN THE NW 1/4 NW 1/4 OF SECTION 34, T.3S., R66W, OF THE 6TH P.M.
CITY OF AURORA, COUNTY OF ADAMS, STATE OF COLORADO



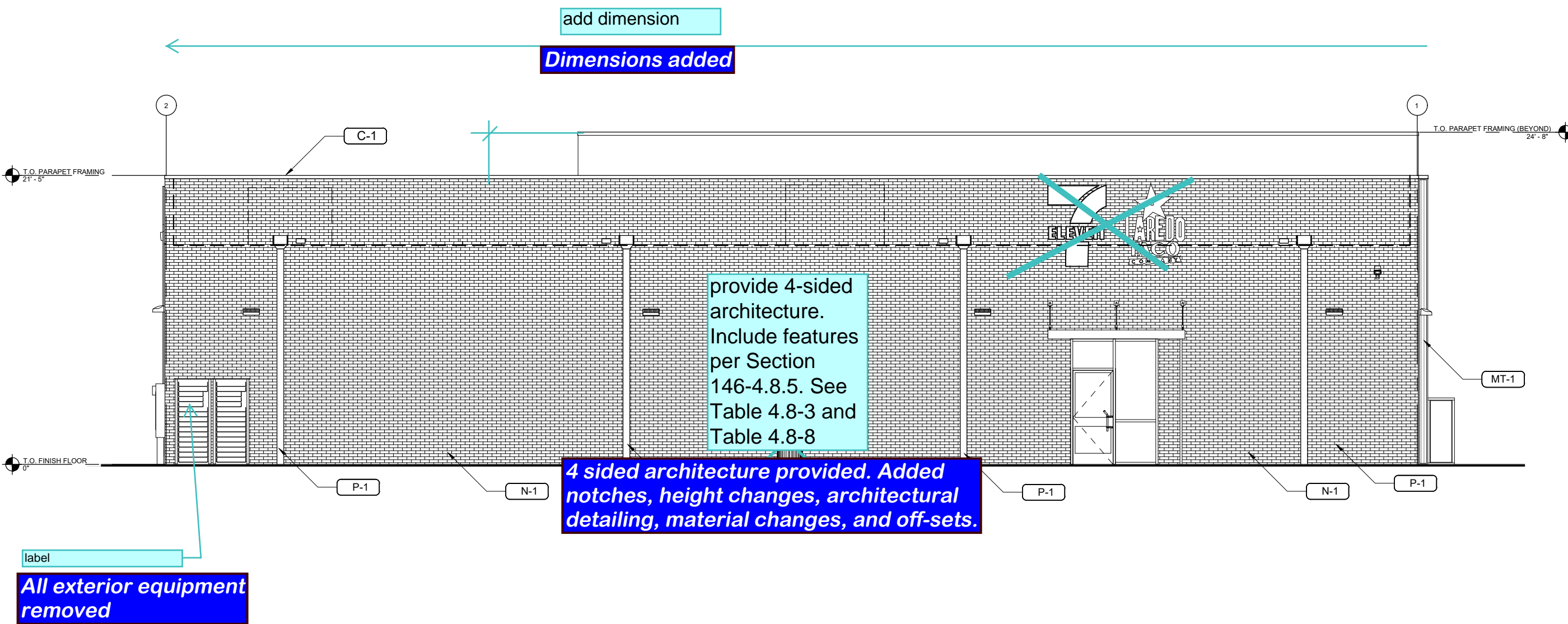
NORTH ELEVATION

SCALE 1/8" = 1'-0"



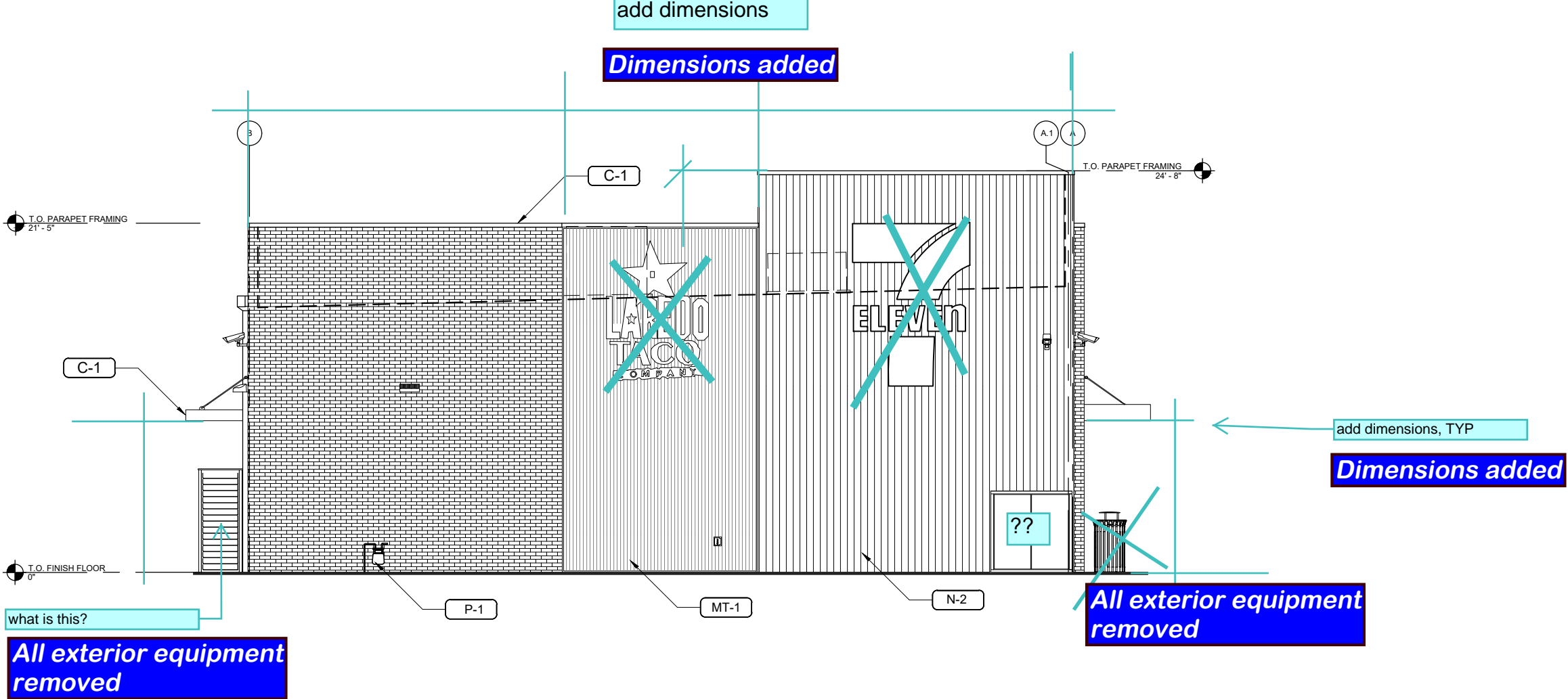
EAST ELEVATION

SCALE 1/8" = 1'-0"



SOUTH ELEVATION

SCALE 1/8" = 1'-0"



EAST ELEVATION

SCALE 1/8" = 1'-0"

EXTERIOR MATERIALS SCHEDULE (NOT ALL MATERIALS IN SCHEDULE ARE USED)		
NO.	MATERIAL	MANUF.-COLOR
MR-1	MEMBRANE ROOFING	DUROLAST - WHITE
N-1	FIBER CEMENT PANEL	NICHIHA - VINTAGE BRICK PAINTED P-1
P-2	HOLLOW METAL DOORS AND FRAMES	SHERWIN WILLIAMS - MISTY SW 6232
P-3	TRASH ENCLOSURE GATE AND BOLLARDS	SHERWIN WILLIAMS - TRICORN BLACK SW 6258
P-6	EXTERIOR BOLLARDS	SHERWIN WILLIAMS - TRICORN BLACK SW6258
S-1	ALUMINUM STOREFRONT GLAZING	KAWNEER - 451T VG #29 BLACK FINISH
C-1	PREFINISHED ALUMINUM CANOPY	MAPES LUMISHADE CANOPY - MATTE BLACK BAKED ENAMEL W/ REAR GUTTER CONNECTIONS
MT-1	CORRUGATED METAL WALL PANELS,	PAC-CLAD 22 GAGE 7/8" CORRUGATED METAL WALL PANELS, COLOR: SILVER
N-2	WOOD LOOK SIDING	NICHIHA - VINTAGE WOOD- CEDAR (AWP3030, FOR VERTICAL INSTALLATION)

only show what is used

Updated

ARCHITECTURAL BUILDING ELEVATIONS
7-ELEVEN AT SMITH & TOWER
SITE DEVELOPMENT PLAN
LEGAL DESCRIPTION 2
7/6/2021
SHEET 6 OF 10

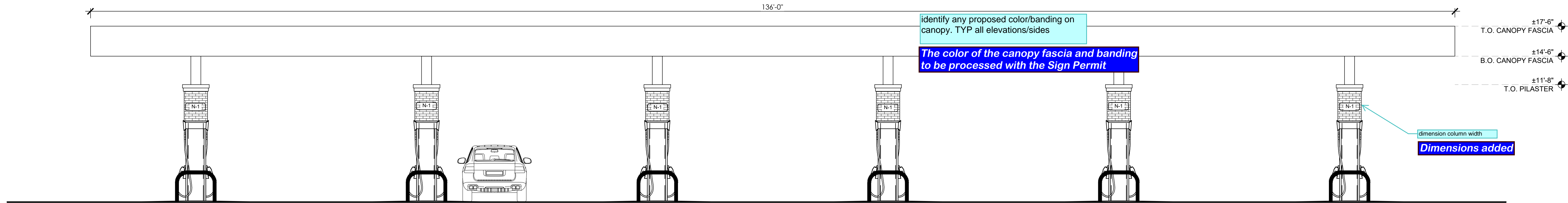
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CITY PROJECT NUMBER

7-ELEVEN AT SMITH & TOWER

SITE PLAN

A PARCEL OF LAND SITUATED IN THE NW 1/4 NW 1/4 OF SECTION 34, T.3S., R66W, OF THE 6TH P.M.
CITY OF AURORA, COUNTY OF ADAMS, STATE OF COLORADO

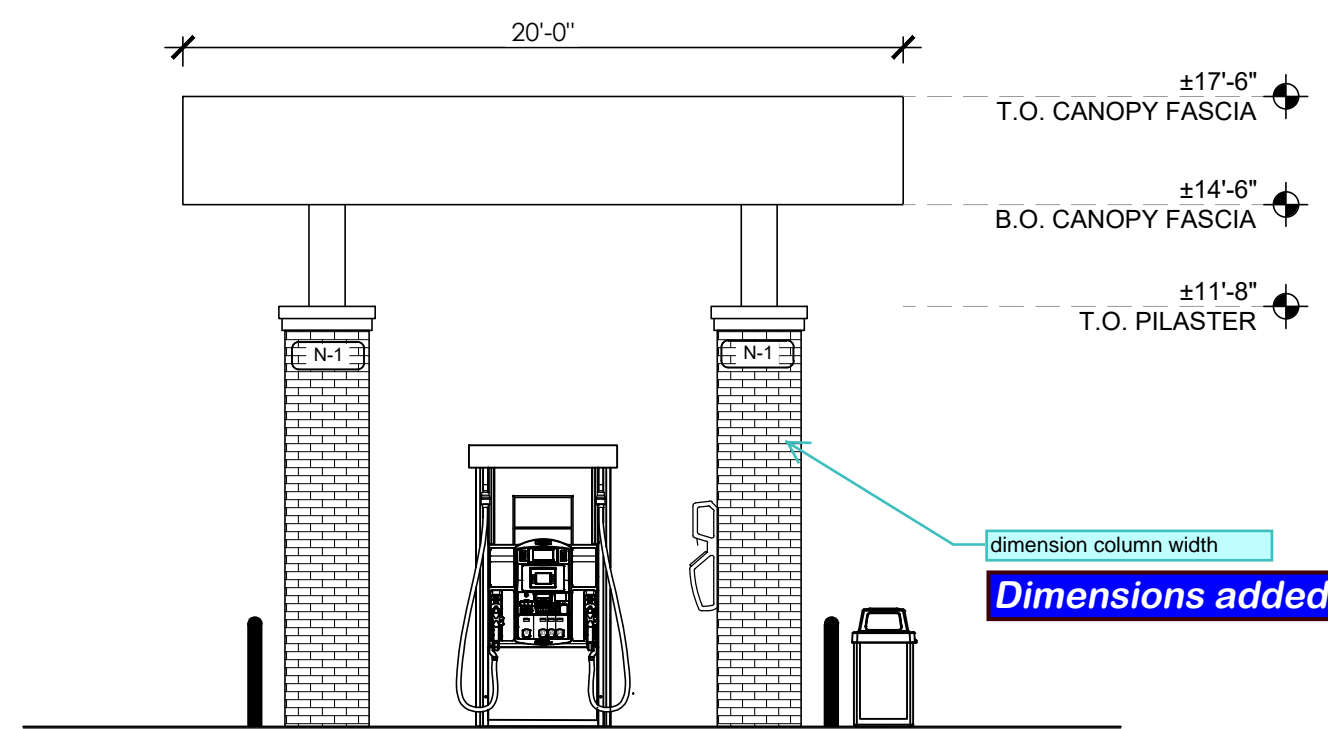


NORTH CANOPY ELEVATION

SCALE 3/16" = 1'-0"

least/west?

Directions and scale verified

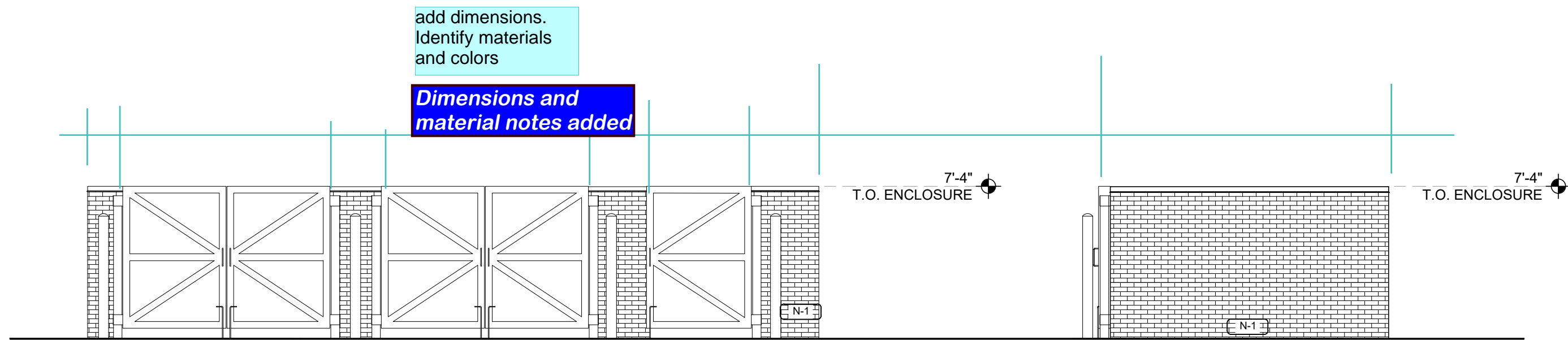


EAST CANOPY ELEVATION

SCALE 3/16" = 1'-0"

North? and south?

Directions and scale verified



DUMPSTER ENCLOSURE ELEVATION

SCALE 3/16" = 1'-0"

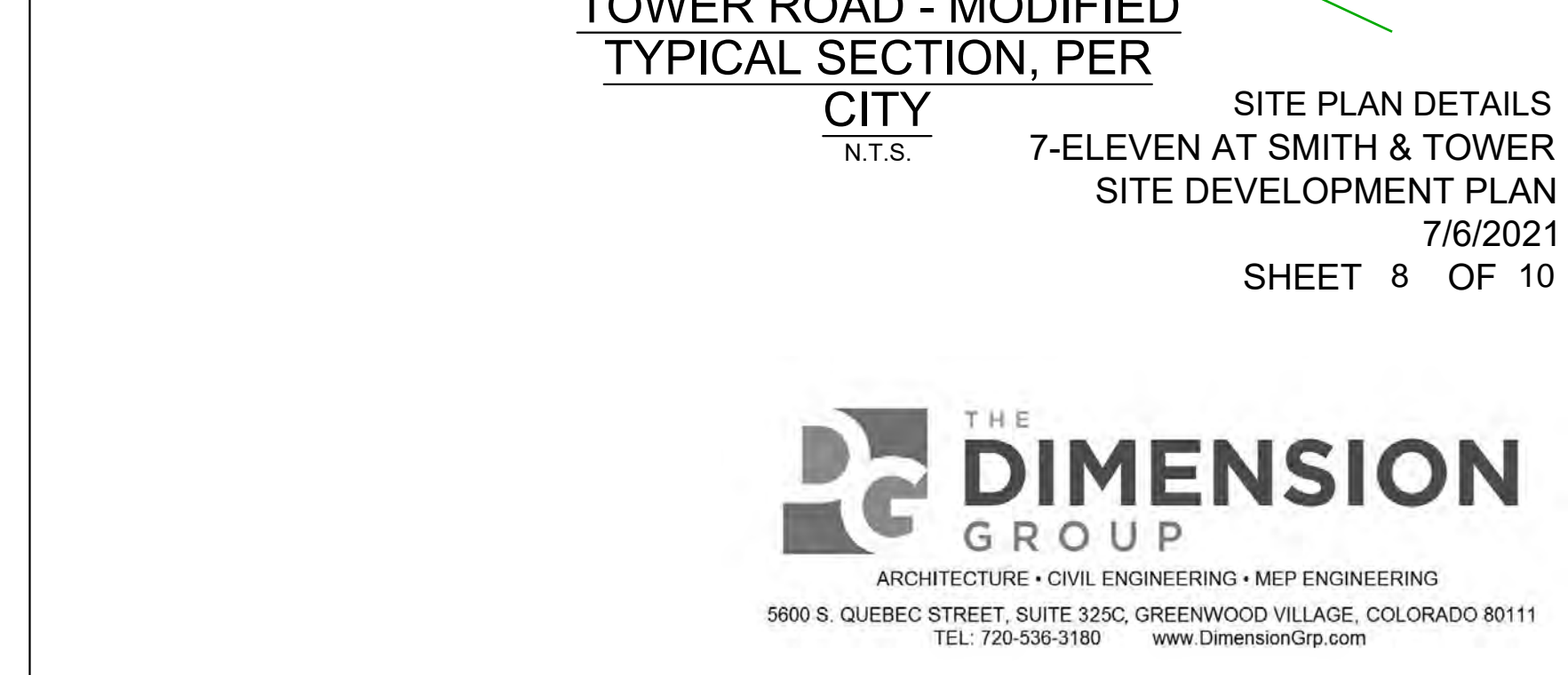
Add a note stating: "Accent colors may be used as decorative elements on the canopy fascia, but they shall be limited to horizontal bands of a total area not to exceed 40 percent of the area of the canopy fascia."

Note added

EXTERIOR MATERIALS SCHEDULE (NOT ALL MATERIALS IN SCHEDULE ARE USED)		
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ARCHITECTURAL CANOPY ELEVATIONS
7-ELEVEN AT SMITH & TOWER
SITE DEVELOPMENT PLAN
LEGAL DESCRIPTION 2
7/6/2021
SHEET 7 OF 10

**A PARCEL OF LAND SITUATED IN THE NW 1/4 NW 1/4 OF SECTION 34, T.3S., R66W, OF THE 6TH P.M.
CITY OF AURORA, COUNTY OF ADAMS, STATE OF COLORADO**



SITE DEVELOPMENT PLAN

CITY OF AURORA, COUNTY OF ADAMS, STATE OF COLORADO

Text is too small

Calculation Summary (Footcandles calculated using predicted lumen values @ 50K hrs of operation)						
Label	Units	Avg	Max	Min	Avg/Min	Max/Min
CANOPY	Fc	34.11	43	18	1.90	2.39
PAVED AREA	Fc	5.86	29.7	1.1	5.33	27.00
SITE	Fc	1.06	24.4	0.0	N.A.	N.A.

14- CPY-B-DM-F-13L-UL-57K-WH-HZ
7- CPY-B-DM-F-C-UL-57K-BZ-HZ
7- XSPW-B-WM-3ME-4L-57K-UL-BZ
4- XSPLG-D-HT-3ME-24L-57K-UL-BZ-N
7- XSPLG-D-HT-4ME-24L-57K-UL-BZ-N
8- SSS-4-11-17-CW-BS-OT-N-BZ
5- PD-1H4
1- PD-2H4(90)
2- PD-2H4(180)

(8) SSS-4-11-17-CW-BS-OT-N-BZ (17' x 4" x 0.125" STEEL S
(5) PD-1H4 (SINGLE HORIZONTAL TENON)
(1) PD-2H4(90) (DOUBLE HORIZONTAL TENON 2@90)
(2) PD-2H4(180) (DOUBLE HORIZONTAL TENON 2@180)

~~*** CUSTOMER TO VERIFY ORDERING INFORMATION
CATALOGUE NUMBER PRIOR TO PLACING ORDER ***~~

TOWER ROAD

CREE LIGHTING

illumination results shown on this lighting design are based on project parameters provided to Cree Lighting used in conjunction with luminaires test procedures conducted under laboratory conditions. Actual project conditions differing from these design parameters may affect field results. The customer is responsible for verifying dimensional accuracy along with compliance with any applicable electrical, etc.

SR-35521

Footcandles calculated at grade

Filename: 711-210503ARCOLJSR1.AGI

Date: 6/29/2021

Date:6/29/2021

30 0 15

Comment Noted

PROJECT BENCHMARK:
CITY OF AURORA BM 3S6633NE002 – COA BRASS CAP SET IN NOSE OF
MEDIAN IN TOWER ROAD NORTH OF EAST ENTRY TO TOWER CENTER
FOR INDUSTRY.
ELEVATION: 5438.06 FEET (NAVD 1988 DATUM).

BEARINGS ARE BASED ON THE WEST LINE OF THE NW $\frac{1}{4}$ OF SECTION 34, TOWNSHIP 3 SOUTH, RANGE 66 WEST, OF THE 6TH PRINCIPAL MERIDIAN BEARING N00°08'24"E BOUNDED BY THE MONUMENTS SHOWN HEREON.

THE
DIMENSION

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CITY PROJECT NUMBER

7-ELEVEN AT SMITH & TOWER

SITE PLAN

A PARCEL OF LAND SITUATED IN THE NW 1/4 NW 1/4 OF SECTION 34, T.3S., R66W, OF THE 6TH P.M.
CITY OF AURORA, COUNTY OF ADAMS, STATE OF COLORADO

All fixtures should be labeled to match Luminaire schedule

Completed

Include light fixtures for the public street lights

Comment noted - TBD

WALL PACK - XSPW

XSP Series

XSPW™ LED Wall Mount Luminaire featuring Cree TrueWhite® Technology

Product Description

The XSPW™ LED wall mount luminaire has a slim, low profile design for outdoor wall mounted applications. The rugged lightweight aluminum housing and mounting base are designed for installation on standard single gang J-Boxes and mud ring single gang J-Boxes. The luminaire allows for through vent or sealed entry from the top, bottom, sides and rear. The housing design is intended specifically for LED technology including a water/vapor LED driver compartment and thermal management. Opti. design features include cooling technology™ Precision Delivery (PD™) system for multiple distributions.

Applications: General area and security lighting

Performance Summary

NonDimmable™ Precision Delivery (PD™) optic

Assembled in the U.S.A. of U.S. and imported parts

CEC Minimum 70 CRI (3000K, 4000K & 5000K, 5700K, 6000K)

LifeTime Warranty™ 10 years on luminaire/10 years on Colorfast DetailGuard™ finish

Includes the following components for warranty items:

Accessories

Field Installed

Recessed Pole Mount

Recessed Pole Mount

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WALL PACK - XSPW

XSPW™ LED Wall Mount Luminaire

Product Specifications

CREE TRUEWHITE™ TECHNOLOGY
A revolutionary way to generate high quality white light. Cree TrueWhite™ Technology is a patented approach that delivers an exclusive combination of 100% CRI, beautiful light characteristics and lifetime color consistency, all while maintaining high luminous efficacy - a true no compromise solution.

CONSTRUCTION & MATERIALS

• Slim, low profile design

• Luminaire housing is specifically designed for LED applications with advanced LED thermal management and driver

• Luminaire can also be direct mounted to a wall or surface using J-Boxes and mud ring single gang J-Boxes

• Secured to wall with four 3/16" (3mm) screws by others

• Corrosion resistant powder coating, providing excellent resistance to corrosion, ultraviolet degradation and abrasion. Silver, black, white and bronze are available

• Weight: 2L, 4L, 6L, 8L, 11.8 lbs. (0.9 kg, 1.1 lbs, 1.3 lbs, 1.8 lbs, 2.3 lbs)

• Power Factor: > 0.9 at full load

• Total Harmonic Distortion: < 20% at full load

• Integral 10W surge suppression protection standard

• When used, UL-listed surge protector must be used in conjunction with the surge protector

• Designed with 0-10V dimming capabilities. Controls by others

• 10W Surge Current: 0.1 A

• Ambient Temperature Range: -40°C to +40°C (-40°F to +104°F)

• Humidity: 5% to 95% RH

• Vibration: 10g

• Shock: 10g

• Impact: 10g

• Wind: 10g

• Salt: 10g

• Dust: 10g

• Rain: 10g

• Snow: 10g

• Ice: 10g

• UV: 10g

• Ozone: 10g

• Acid: 10g

• Alkali: 10g

• Sulfur: 10g

• Chlorine: 10g

• Fluorine: 10g

• Iodine: 10g

• Bromine: 10g

• Mercury: 10g

• Cadmium: 10g

• Lead: 10g

• Copper: 10g

• Nickel: 10g

• Zinc: 10g

• Silver: 10g

• Gold: 10g

• Platinum: 10g

• Palladium: 10g

• Rhodium: 10g

• Rhenium: 10g

• Ruthenium: 10g

• Technetium: 10g

• Yttrium: 10g

• Zirconium: 10g

• Niobium: 10g

• Molybdenum: 10g

• Technetium: 10g

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• Rhodium: 10g

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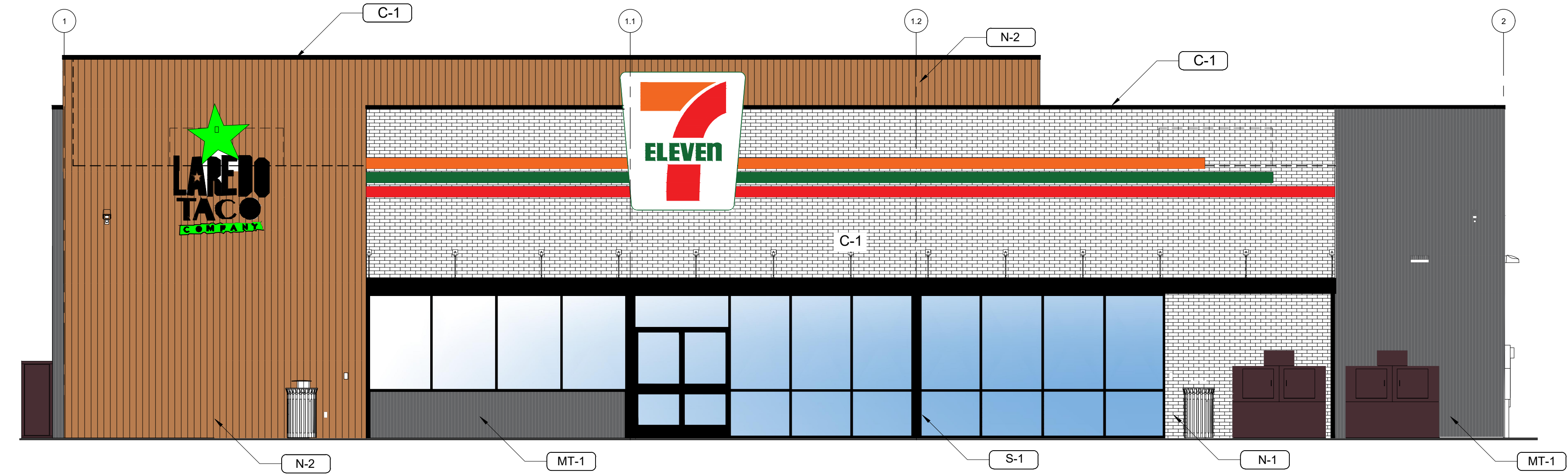
remove all signage from elevations

All signage has been removed from elevations

7-ELEVEN AT SMITH & TOWER

SITE PLAN

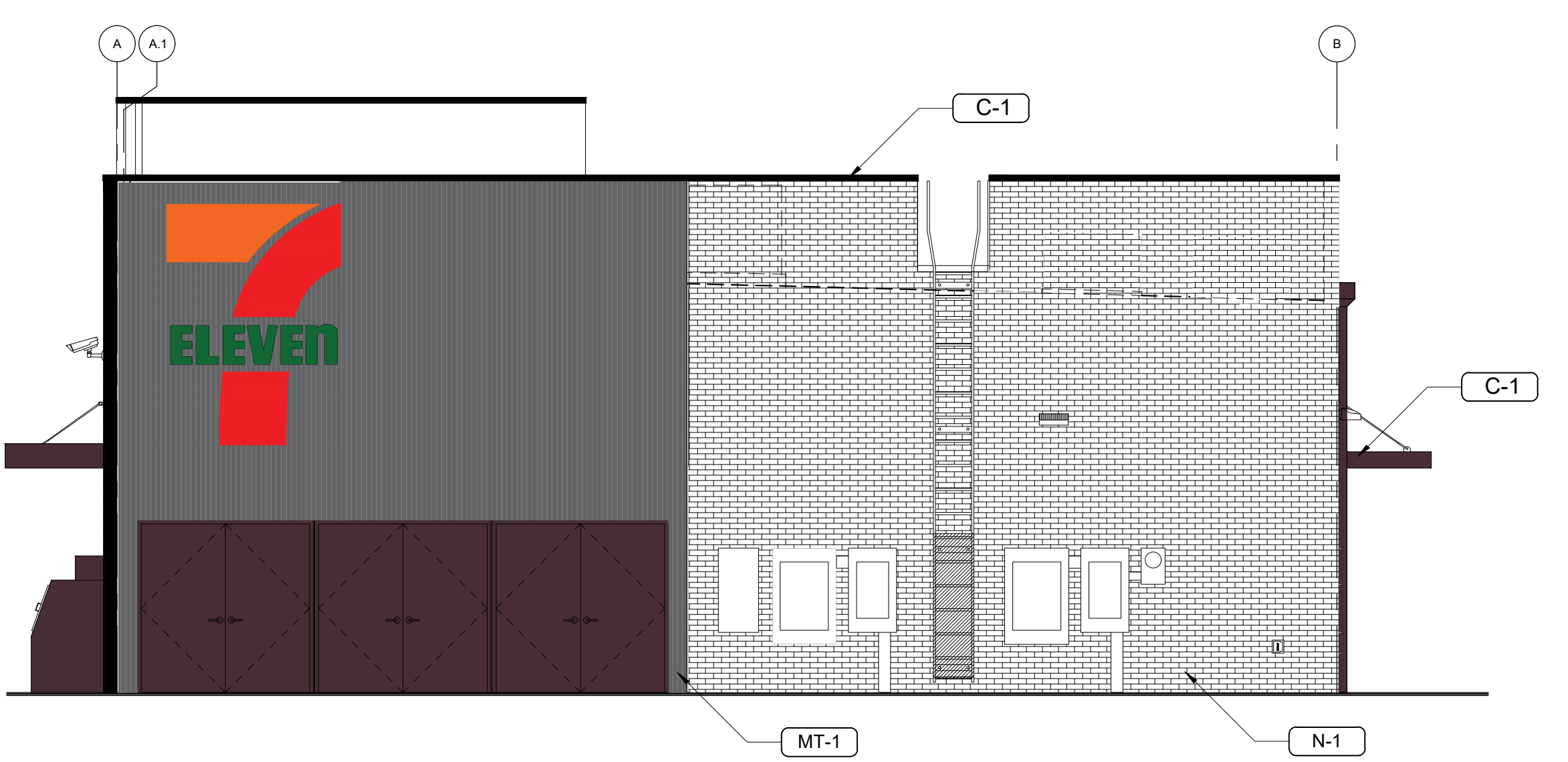
A PARCEL OF LAND SITUATED IN THE NW 1/4 NW 1/4 OF SECTION 34, T.3S., R66W, OF THE 6TH P.M.
CITY OF AURORA, COUNTY OF ADAMS, STATE OF COLORADO



1
4

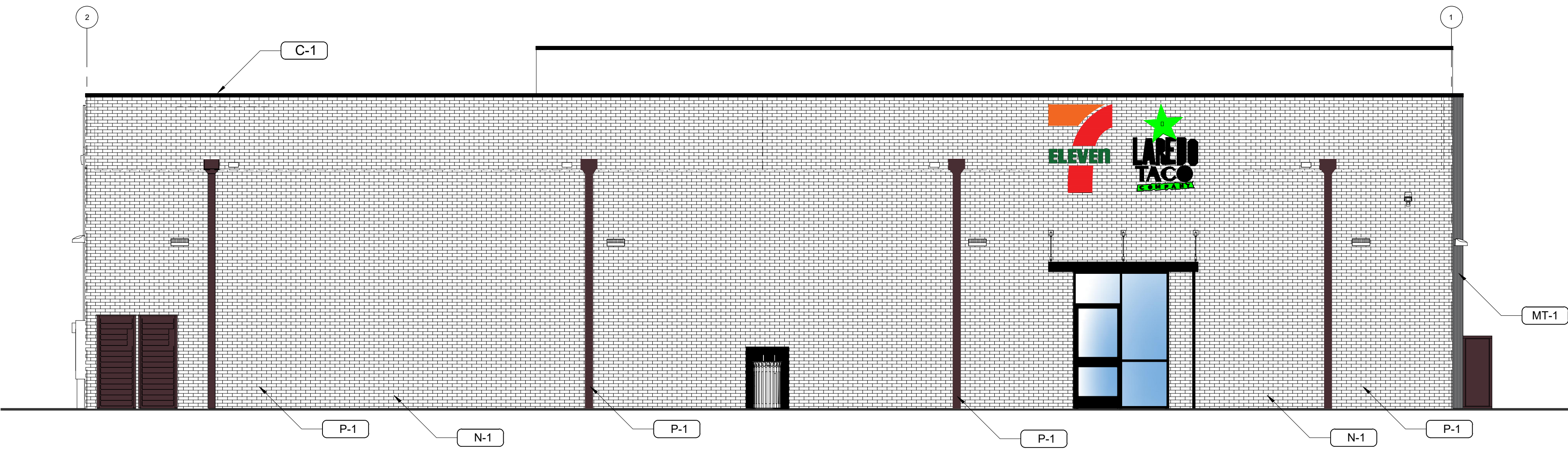
NORTH ELEVATION
SCALE 1/8" = 1'-0"

verify directions of elevations. TYP
Directions and scale verified



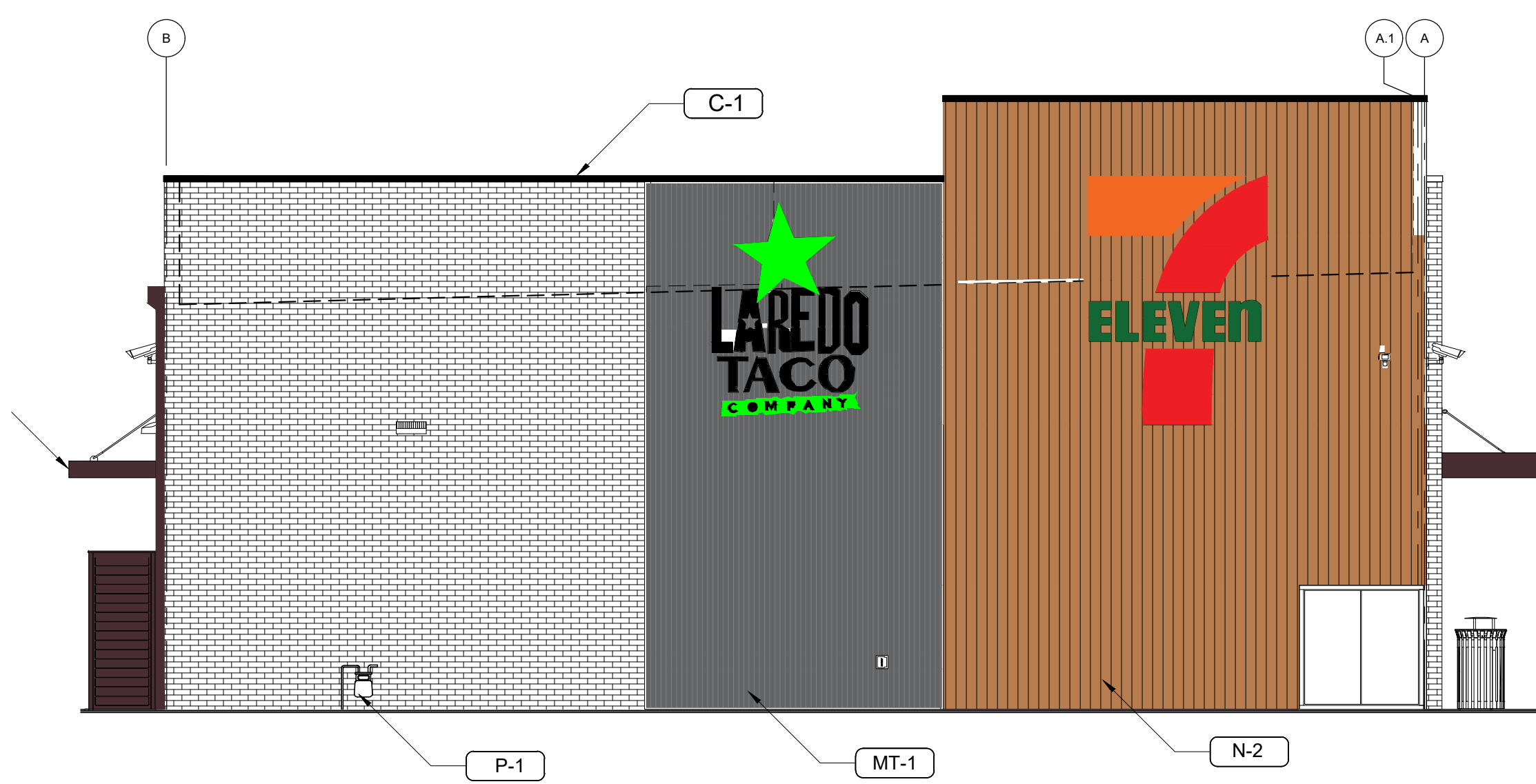
2
4

WEST ELEVATION
SCALE 1/8" = 1'-0"



3
4

SOUTH ELEVATION
SCALE 1/8" = 1'-0"



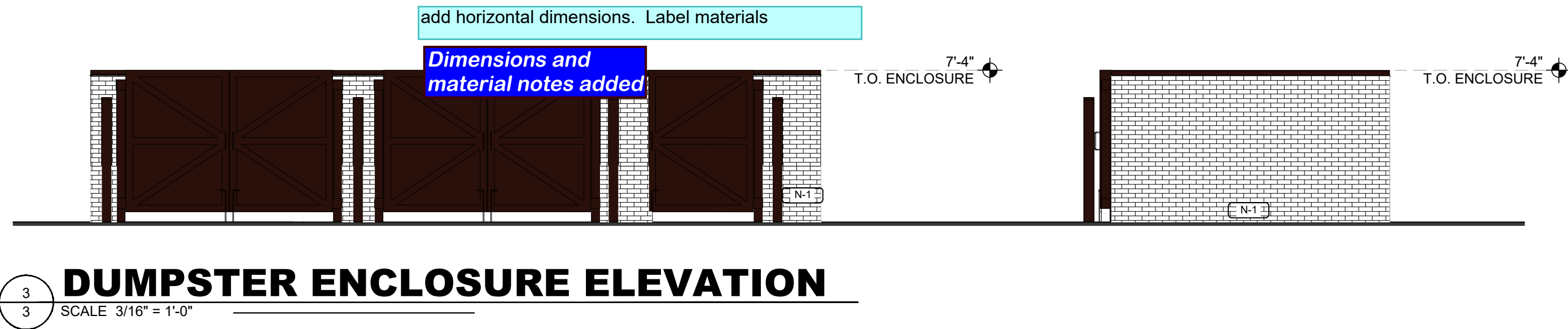
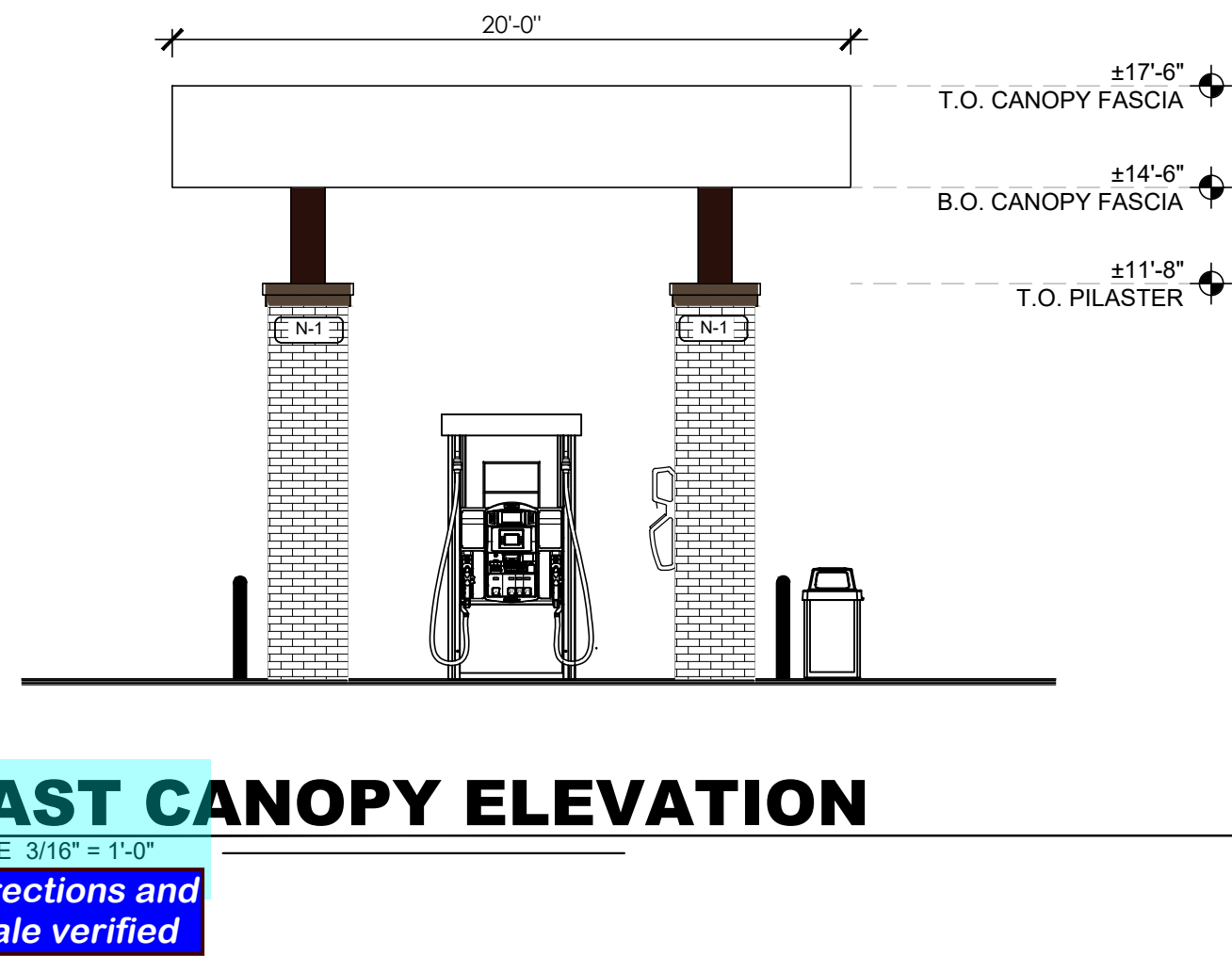
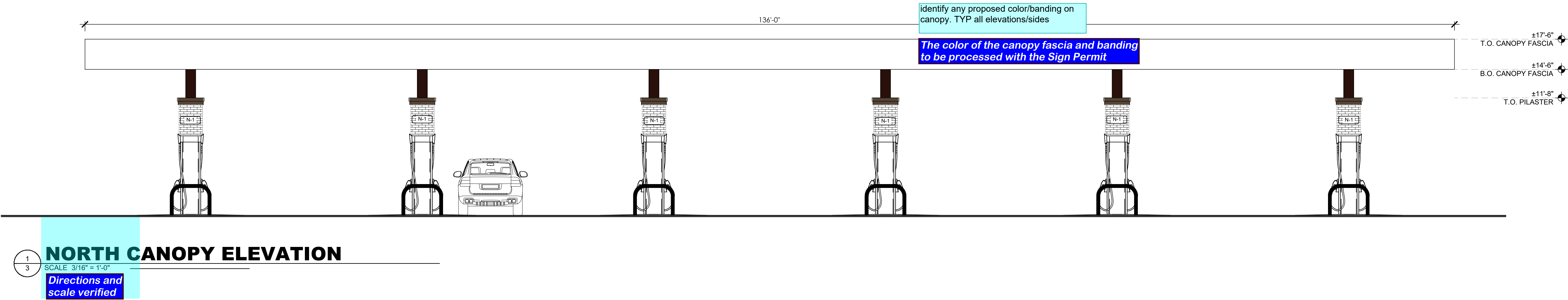
4
4

EAST ELEVATION
SCALE 1/8" = 1'-0"

EXTERIOR MATERIALS SCHEDULE (NOT ALL MATERIALS IN SCHEDULE ARE USED)		
NO.	MATERIAL	MANUF.-COLOR
MR-1	MEMBRANE ROOFING	DUROLAST - WHITE
N-1	FIBER CEMENT PANEL	NICHIHA - VINTAGE BRICK PAINTED P-1
P-2	HOLLOW METAL DOORS AND FRAMES	SHERWIN WILLIAMS - MISTY SW 6232
P-3	TRASH ENCLOSURE GATE AND BOLLARDS	SHERWIN WILLIAMS - TRICORN BLACK SW 6258
P-6	EXTERIOR BOLLARDS	SHERWIN WILLIAMS - TRICORN BLACK SW6258
S-1	ALUMINUM STOREFRONT GLAZING	KAWNEER - 451T VG #29 BLACK FINISH
C-1	PREFINISHED ALUMINUM CANOPY	MAPES LUMISHADE CANOPY - MATTE BLACK BAKED ENAMEL W/ REAR GUTTER CONNECTIONS
MT-1	CORRUGATED METAL WALL PANELS,	PAC-CLAD 22 GAGE 7/8" CORRUGATED METAL WALL PANELS, COLOR: SILVER
N-2	WOOD LOOK SIDING	NICHIHA - VINTAGE WOOD- CEDAR (AWP3030, FOR VERTICAL INSTALLATION)

7-ELEVEN AT SMITH & TOWER
SITE DEVELOPMENT PLAN
LEGAL DESCRIPTION 2
7/2/2021
SHEET 1 OF 2

7-ELEVEN AT SMITH & TOWER
SITE PLAN
A PARCEL OF LAND SITUATED IN THE NW 1/4 NW 1/4 OF SECTION 34, T.3S., R66W, OF THE 6TH P.M.
CITY OF AURORA, COUNTY OF ADAMS, STATE OF COLORADO



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MR-1	MEMBRANE ROOFING	DUROLAST - WHITE
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SMITH & TOWER FUTURE ROADWAY BUILD-OUT EXHIBIT

Please remove AutoCad SHX text items in the comment section. Please flatten to reduce select-ability of the items.

Completed

PROPOSED	LEGEND	EXISTING
	EASEMENT	
	PROPERTY LINE	
	RIGHT OF WAY	
	SECTION LINE	
	PROPOSED ROAD	
	EXISTING ROAD	
	UTILITY POLE	
	STORM INLET	
	STORM PIPE	
	BUILDING OUTLINE	
	CURB & OUTER NEW ATTACHED SIDEWALK	
	SIDEWALK	
	HEAVY DUTY CONCRETE	
	CURB & OUTER	
	PAVEMENT MARKING	
	FUEL VENT	
	TRAFFIC SIGN	
	MONUMENT SIGN	
	CONIFEROUS TREE	
	DECIDUOUS TREE	
	MAJOR CONTOUR	
	MINOR CONTOUR	

Sidewalk at the intersection is incorrect
Completed

This plan is for the purpose of review coordination with a future project that will be initiated by the City to address regional traffic needs unrelated to the Project. It is Cadence's position based on the information in the TIS that this request exceeds the limitations established within state and federal law. In a meeting on October 21, 2021, Public Works Deputy Director Victor Rachael confirmed that a deferral is not required.

This needs to be part of the recorded site plan. Full design for deferred improvements needs to be included with a deferral agreement including grading. Additionally, a letter addressed to the Director of Public Works needs to be submitted requesting the deferral, describing the deferred improvements and providing a justification for the deferral

EB right turn into Andes Way is warranted (see curbline west of access point for what is needed)

Island would be appropriate here
Completed

There is no tree lawn in the ultimate Smith Road section. It is an attached 8' sidewalk.

This does not show the ultimate section for Smith Road

This sidewalk is supposed to be detached.

This plan is designed to function efficiently within the existing geometry of the approach and receiving lanes at the intersection. Moreover, the TIS concludes that the proposed project will not generate traffic that requires these improvements to maintain acceptable levels of service. Cadence is providing public improvements that already exceed the impact of the project. Therefore, it is our position that these additional requirements are not related to the project and cannot be required as a condition of a development approval. In a meeting on October 21, 2021, Public Works Deputy Director Victor Rachael confirmed that a third northbound lane on Tower Rd. is not required.

NB left turn lane needs to be centered on ROW, need space for 3 SB lanes in the section. NB right turn lane is in addition to the standard 110' ROW.

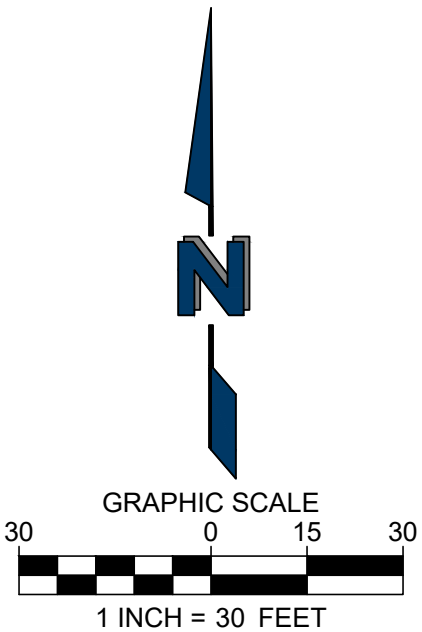
Cadence has done all that it can to accommodate coordination with future widening of Smith Rd. without causing significant impacts to the development of the property. Right turn lanes on Smith Rd. have been provided to meet the needs of the project, pursuant to requirements in the City's code, as well as state and federal law.

HORIZONTAL CONTROL NOTES:

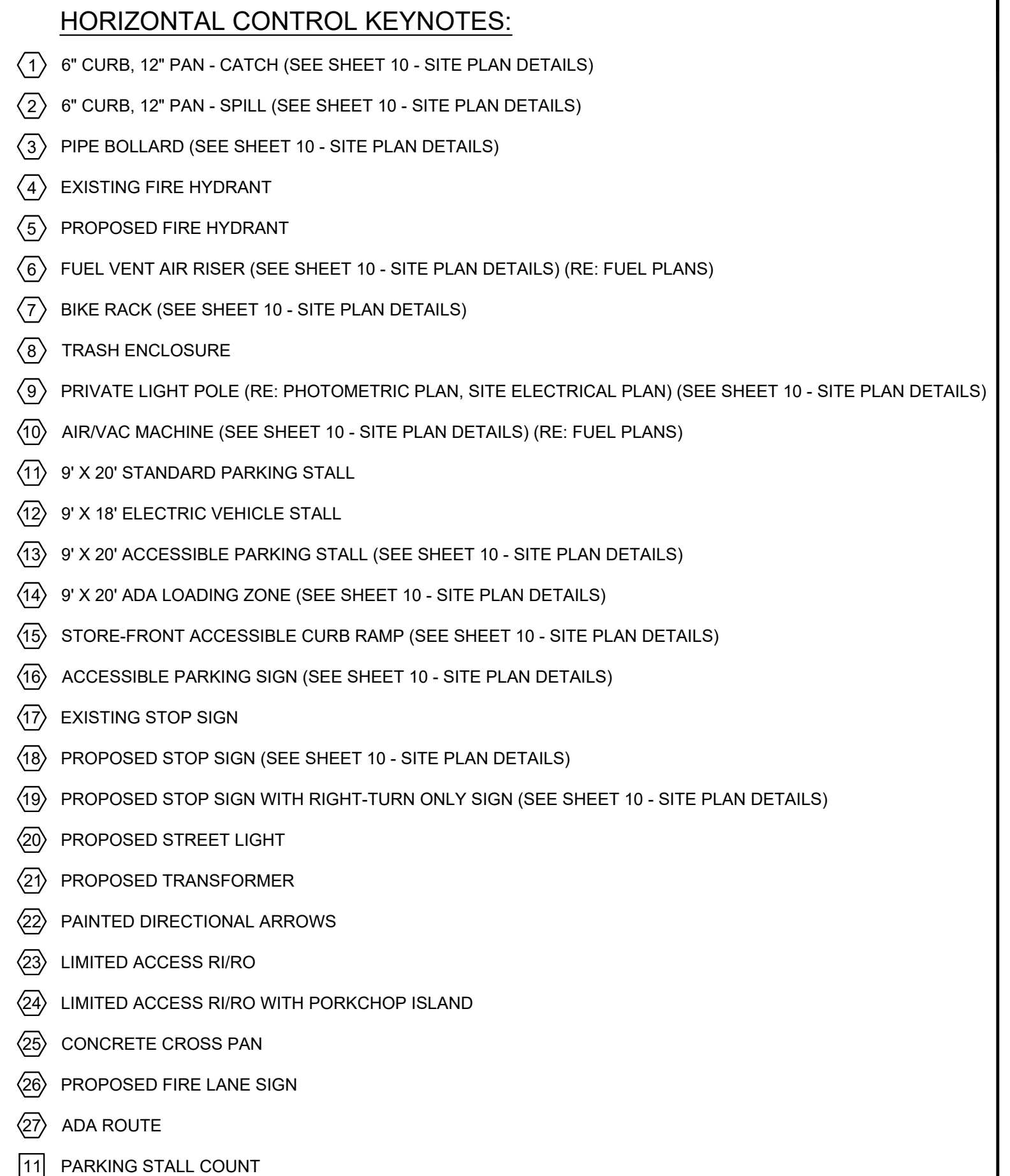
- SEE DETAILS ON SITE SHEET CH.#.
- WHERE CONSTRUCTION DETAILS AND SPECIFICATIONS ARE NOT NOTED ON THESE PLANS USE [CITY & COUNTY] STANDARD DRAWINGS FOR DESIGN AND CONSTRUCTION.
- ALL DIMENSIONS ARE TO FLOWLINE UNLESS OTHERWISE NOTED.
- SEE ARCHITECTURAL SITE PLAN FOR SPECIFIC SITE DETAILS.

ABBREVIATIONS

BOC	BACK OF CURB
BOW	BACK OF SIDEWALK
EX	EXISTING
EOP	EDGE OF PAV or EDGE OF PAVEMENT
FL	FLOWLINE
FLPI	FLOWLINE POINT OF INTERSECTION
MX	MATCH EXISTING
PR	PROPOSED
SW	SIDEWALK
T	TRANSITION FROM SPILL TO CATCH CURB



**A PARCEL OF LAND SITUATED IN THE NW 1/4 NW 1/4 OF SECTION 34, T.3S., R66W, OF THE 6TH P.M.
CITY OF AURORA, COUNTY OF ADAMS, STATE OF COLORADO**

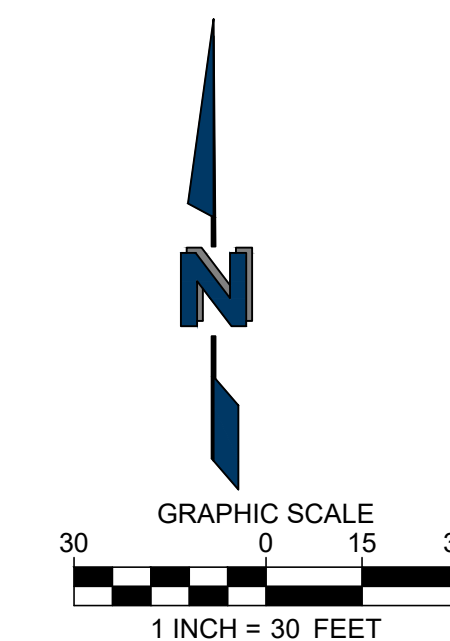


HORIZONTAL CONTROL NOTES:

1. SEE DETAILS ON SITE SHEET 10 - SITE PLAN DETAILS.
2. WHERE CONSTRUCTION DETAILS AND SPECIFICATIONS ARE NOT NOTED ON THESE PLANS USE CITY OF AURORA STANDARD DRAWINGS FOR DESIGN AND CONSTRUCTION.
3. ALL DIMENSIONS ARE TO FLOWLINE UNLESS OTHERWISE NOTED.
4. SEE ARCHITECTURAL SITE PLAN FOR SPECIFIC SITE DETAILS.

ABBREVIATIONS

BOC	BACK OF CURB
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EX	EXISTING
EOP	EDGE OF PAN or EDGE OF PAVEMENT
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SW	SIDEWALK
T	TRANSITION FROM SPILL TO CATCH CURB



TRUCK TURN ANALYSIS
7-ELEVEN AT SMITH & TOWER
SITE DEVELOPMENT PLAN
7/6/2021
SHEET OF 12

PROJECT BENCHMARK:
CITY OF AURORA BM 356633NE002 – COA BRASS CAP SET IN NOSE OF
MEDIAN IN TOWER ROAD NORTH OF EAST ENTRY TO TOWER CENTER
FOR INDUSTRY.
ELEVATION: 5438.06 FEET (NAVD 1988 DATUM).

PROJECT BASIS OF BEARING:
BEARINGS ARE BASED ON THE WEST LINE OF THE NW $\frac{1}{4}$ OF SECTION 34,
TOWNSHIP 3 SOUTH, RANGE 66 WEST, OF THE 6TH PRINCIPAL MERIDIAN
BEARING N00°08'24"E BOUNDED BY THE MONUMENTS SHOWN HEREON.

 **THE
DIMENSION
GROUP**

ARCHITECTURE • CIVIL ENGINEERING • MEP ENGINEERING

5600 S. QUEBEC STREET, SUITE 325C, GREENWOOD VILLAGE, COLORADO 80111
TEL: 720-536-3180 www.DimensionGrp.com

CITY PROJECT NUMBER

2nd Review

Provide all information listed in Section 2.34 of the COA SDDTC

Completed

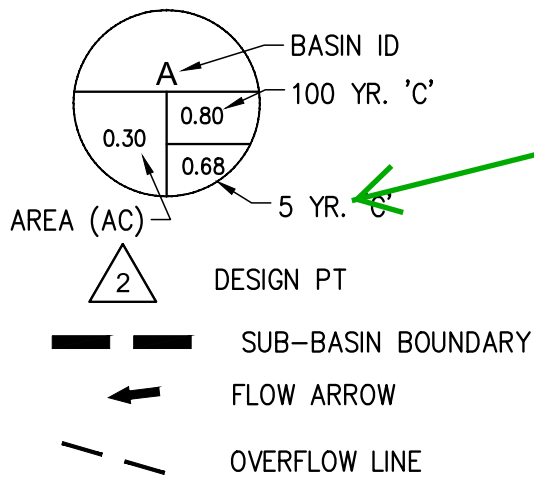
Address all 1st review comments

Completed

Label existing and proposed contours, extend existing contours 50' beyond project limits

Completed

7-ELEVEN AT SMITH & TOWER
SITE DEVELOPMENT PLAN
A PARCEL OF LAND SITUATED IN THE NW 1/4 NW 1/4 OF SECTION 34, T.3S., R66W, OF THE 6TH P.M.
CITY OF AURORA, COUNTY OF ADAMS, STATE OF COLORADO



Provide a summary of basin characteristics and flows - not the detailed calculations. Include design points and basin imperviousness in table.

Completed

STORM DRAINAGE SYSTEM DESIGN														
(RATIONAL METHOD PROCEDURE)														
DESIGN STORM: 5-YEAR EXISTING														
SMITH & TOWER CONVENIENCE PRELIMINARY DRAINAGE Aurora, CO														
DESIGN POINT	DIRECT RUNOFF						TOTAL RUNOFF						REMARKS	
	BASIN	AREA (AC)	COEFF. (C)	Tc (Min.)	CA	I (in./hr.)	Sum Area	Tc (min)	I (in./hr.)	Sum CA	Total Q (cfs)	SHEET FLOW OFF-SITE	FLOW IN SWALE	FLOW IN PIPE
OS-1	0.27	0.25	8.64	0.07	3.23	0.22								
OS-2	0.28	0.25	5.26	0.07	3.78	0.26								
1 EX-1	1.04	0.11	11.83	0.11	2.85	0.33	1.59	11.83	2.85	0.25	0.72		0.72	
OS-3	0.24	0.25	6.59	0.06	3.54	0.21								
2 EX2	1.33	0.11	12.39	0.15	2.80	0.41	1.57	12.39	2.80	0.21	0.58	0.58		

STORM DRAINAGE SYSTEM DESIGN														
(RATIONAL METHOD PROCEDURE)														
DESIGN STORM: 100-YEAR EXISTING														
SMITH & TOWER CONVENIENCE PRELIMINARY DRAINAGE Aurora, CO														
DESIGN POINT	DIRECT RUNOFF						TOTAL RUNOFF						REMARKS	
	BASIN	AREA (AC)	COEFF. (C)	Tc (Min.)	CA	I (in./hr.)	Sum Area	Tc (min)	I (in./hr.)	Sum CA	Total Q (cfs)	SHEET FLOW OFF-SITE	FLOW IN SWALE	FLOW IN PIPE
OS-1	0.27	0.65	8.64	0.18	7.01	1.23								
OS-2	0.28	0.65	5.26	0.18	8.20	1.49								
1 EX-1	1.04	0.15	11.83	0.16	6.19	0.97	1.59	11.83	6.19	0.51	3.18		3.18	
OS-3	0.24	0.65	6.59	0.16	7.68	1.20								
2 EX2	1.33	0.15	12.39	0.20	6.07	1.21	1.57	12.39	6.07	0.36	2.16	2.16		

PROJECT BENCHMARK:
CITY OF AURORA BM 3S8633NE002 – COA BRASS CAP SET IN NOSE OF MEDIAN IN TOWER ROAD NORTH OF EAST ENTRY TO TOWER CENTER FOR INDUSTRY.
ELEVATION: 5438.06 FEET (NAVD 1988 DATUM).

PROJECT BASIS OF BEARING:
BEARINGS ARE BASED ON THE WEST LINE OF THE NW 1/4 OF SECTION 34, TOWNSHIP 3 SOUTH, RANGE 66 WEST, OF THE 6TH PRINCIPAL MERIDIAN BEARING N00°08'24"E BOUNDED BY THE MONUMENTS SHOWN HEREON.

- NOTES:
- CITY OF AURORA PLAN REVIEW IS ONLY FOR GENERAL CONFORMANCE WITH CITY OF AURORA DESIGN CRITERIA AND THE CITY CODE. THE CITY IS NOT RESPONSIBLE FOR THE ACCURACY AND ADEQUACY OF THE DESIGN, OF DIMENSIONS AND ELEVATIONS WHICH SHALL BE CONFIRMED AND CORRELATED AT THE JOB SITE. THE CITY OF AURORA, THROUGH THE APPROVAL OF THIS DOCUMENT, ASSUMES NO RESPONSIBILITY FOR THE COMPLETENESS AND/ OR ACCURACY OF THIS DOCUMENT.
 - ALL STORM SEWER SYSTEMS ARE PRIVATE AND ARE DESIGNED FOR THE 100-YEAR EVENT UNLESS OTHERWISE NOTED.
 - RETAINING WALLS ADJACENT TO WALKWAYS, PARKING AREAS, WITH A VERTICAL DROP OF 30" OR MORE SHALL HAVE A HANDRAIL 3.5' TALL MIN. (RE: COA STD. 2.18). SEE COA SECTION 4.02.7.01 FOR REQUIREMENTS.

There needs to be a title block on these plans - see 1st submittal as an example

Completed

Existing should be 2nd sheet - Proposed should be 1st

Completed

Per 1st review comments, there needs to be an approval block on the first sheet

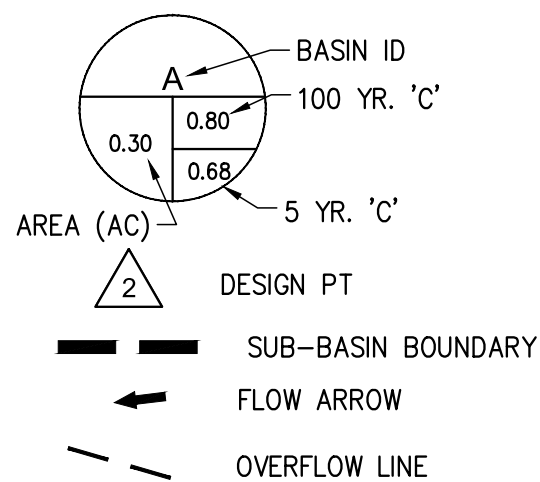
Completed

EXISTING DRAINAGE PLAN
7-ELEVEN AT SMITH & TOWER
SITE DEVELOPMENT PLAN
7/6/2021
SHEET OF 12

7-ELEVEN AT SMITH & TOWER

SITE DEVELOPMENT PLAN

A PARCEL OF LAND SITUATED IN THE NW 1/4 NW 1/4 OF SECTION 34, T.3S., R66W, OF THE 6TH P.M.
CITY OF AURORA, COUNTY OF ADAMS, STATE OF COLORADO



Why are 5 year flows being examined?

Basins P-1, P-2, and P-3 are the total ROW going to the pond ~1.98 ac.

STORM DRAINAGE SYSTEM DESIGN (RATIONAL METHOD PROCEDURE) DESIGN STORM: 5-YEAR DEVELOPED														Calc. by: VAN Chkd by: RCY Date: 7/6/2021	
Smith & Tower Convenience				Preliminary Drainage				Aurora, CO				REMARKS			
DIRECT RUNOFF						TOTAL PEAK RUNOFF									
	SUB-BASIN	AREA (AC)	COEFF. (C)	Tc (Min.)	C/A	I (in./hr.)	Q (cfs)	Sum Area	Tc (min)	I (in./hr.)	Sum C/A	Total Q (cfs)	SHEETFLOW	FLOW INTO WQ POND	FLOW MISSING WQ POND
	OS-1	0.50	0.82	6.6	0.41	3.5	1.5						1.5	1.5	
	OS-2	0.26	0.72	10.4	0.19	3.0	0.6								
	P-1	0.25	0.01	11.6	0.00	2.9	0.0								0.0
	P-2	1.11	0.76	11.9	0.85	2.8	2.4	1.62	11.9	2.8	1.04	2.9	2.9	4.4	
	P-3	0.11	0.77	5.0	0.08	3.8	0.3								
	OS-3	0.33	0.80	7.8	0.27	3.3	0.9	0.44	7.8	3.3	0.35	1.2	0.9	5.3	
	P-4	0.22	0.79	5.0	0.17	3.8	0.7						0.7		
	P-5	0.29	0.40	10.9	0.12	3.0	0.3								
															0

STORM DRAINAGE SYSTEM DESIGN (RATIONAL METHOD PROCEDURE) DESIGN STORM: 100-YEAR DEVELOPED														Calc. by: VAN Chkd by: RCY Date: 7/6/2021				
Smith & Tower Convenience			Preliminary Drainage				Aurora, CO											
DIRECT RUNOFF							TOTAL PEAK RUNOFF							REMARKS				
SUB-BASIN	AREA (AC)	COEFF. (C)	Tc (Min.)	C/A	I (in./hr.)	Q (cfs)	Sum Area	Tc (min)	I (in./hr.)	Sum C/A	Total Q (cfs)	FLOWAT DP (cfs)	TOTAL FLOW DETAINED (cfs)	FLOW NOT DETAINED (cfs)				
OS-1	0.50	0.88	6.6	0.44	7.7	3.4												
OS-2	0.26	0.83	10.4	0.21	6.5	1.4												
P-1	0.25	0.44	11.6	0.11	6.2	0.7												
P-2	1.11	0.85	11.9	0.94	6.2	5.8												
P-3	0.11	0.85	5.0	0.09	8.3	0.8												
OS-3	0.33	0.87	7.8	0.29	7.3	2.1												
P-4	0.22	0.86	5.0	0.19	8.3	1.5												
P-5	0.29	0.66	10.9	0.19	6.4	1.2												

PROJECT BENCHMARK:
CITY OF AURORA BM 35633NE002 - COA BRASS CAP SET IN NOSE OF MEDIAN IN TOWER ROAD NORTH OF EAST ENTRY TO TOWER CENTER FOR INDUSTRY.
ELEVATION: 5438.06 FEET (NAVD 1988 DATUM).

PROJECT BASIS OF BEARING:
BEARINGS ARE BASED ON THE WEST LINE OF THE NW 1/4 OF SECTION 34, TOWNSHIP 3 SOUTH, RANGE 66 WEST, OF THE 6TH PRINCIPAL MERIDIAN BEARING N00°08'24"E BOUNDED BY THE MONUMENTS SHOWN HEREON.

- NOTES:**
- CITY OF AURORA PLAN REVIEW IS ONLY FOR GENERAL CONFORMANCE WITH CITY OF AURORA DESIGN CRITERIA AND THE CITY CODE. THE CITY IS NOT RESPONSIBLE FOR THE ACCURACY AND ADEQUACY OF THE DESIGN, OF DIMENSIONS AND ELEVATIONS WHICH SHALL BE CONFIRMED AND CORRELATED AT THE JOB SITE. THE CITY OF AURORA, THROUGH THE APPROVAL OF THIS DOCUMENT, ASSUMES NO RESPONSIBILITY FOR THE COMPLETENESS AND/OR ACCURACY OF THIS DOCUMENT.
 - ALL STORM SEWER SYSTEMS ARE PRIVATE AND ARE DESIGNED FOR THE 100-YEAR EVENT UNLESS OTHERWISE NOTED.
 - RETAINING WALLS ADJACENT TO WALKWAYS, PARKING AREAS, WITH A VERTICAL DROP OF 30" OR MORE SHALL HAVE A HANDRAIL 3.5' TALL MIN. (RE: COA STD. 2.18). SEE COA SECTION 4.02.7.01 FOR REQUIREMENTS.

All retaining walls need to be shown on plan view and typical cross sections provided

N/A- standard note

This should be called Preliminary Drainage Plan Proposed

FINAL DRAINAGE PLAN
7-ELEVEN AT SMITH & TOWER
SITE DEVELOPMENT PLAN
7/6/2021
SHEET OF 12

2nd Review

per 1st review comments, number all pages sequentially including cover page and all appendices

Completed

PRELIMINARY DRAINAGE REPORT

*All Easements by Separate Document and License Agreements must be executed prior to Civil Plan Approval.
For Easements, contact Andy Niquette: (303) 739-7325
For License Agreements, contact Grace Gray: (303) 739-7277*

Noted

**Smith and Tower Convenience
SEC of Smith Road and Tower Road
Aurora, Colorado**

Preliminary Drainage Report must be approved prior to civil plan approval

Noted

Per 1st review comments, must include analysis of drainage related to roadway improvements in report and on plan - address WQ and detention for those areas.

Completed

PREPARED FOR:

Cadence Development
Fiddlers Green Circle, Ste 1820
Greenwood Village, CO 80111

Civil plans cannot be submitted for review until all significant comments on PD have been addressed. This report has many significant errors and omissions.

Noted

PREPARED BY:



5600 S. Quebec Street, Suite 325C
Greenwood Village, Colorado 80111
720.536.3180

Renee C. Young, PE

July 6th, 2021

COA Approval Block must be on cover page

Completed

TABLE OF CONTENTS

A. Introduction	1
B. Historic Drainage.....	2
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Appendix A – Hydrologic Computations

Appendix B – Hydraulic Computations

Appendix C – Detention Pond / Water Quality

Appendix D – Reference Information

Appendix E – City of Aurora Stormwater Management Facility Operation and Maintenance (O&M) General Guidelines

Appendix F – Drainage Plan

Appendix G – Water Quality Certification

MHFD detention
spreadsheets are
missing

Completed

This is not to be
included in this report

Removed

Drainage Plan is a
separate document

Removed

Pond Certification is not
part of this report - it is
separate
documentation
provided after the pond
is constructed

Removed

A. Introduction

1. Location

a. Adjacent Streets, Subdivision Name, Lot and Block, Site Plan Name

The proposed 7-Eleven Gas Station and Convenience Store and associated infrastructure (Site) is located at the southeast corner of Smith Road and Tower Road, more specifically situated in the NW $\frac{1}{4}$ of Section 34, Township 3 South, Range 66 West of the 6th Principal Meridian. The site is bounded to the west by Tower Road, to the south by an existing commercial development, to the north by Smith Road, and to the east by Andes Way.

b. Vicinity Map



c. Surrounding Developments

The existing site serves as an undeveloped lot. The surrounding developments include Captain Golf Cart Repairs and Sales to the south, Wagner Equipment's is located to the west across from Tower Road. Undeveloped lots surround the property to the north and east.

d. Proposed Development

a. Property Description

The proposed Site is located on a single 2.37 acre parcel. The Site development will include the construction of an access drive on Smith Rd. The development will include a detention pond and right-of-way (ROW) dedication for the public improvements on all three roadways. The proposed Site will dedicate approximately 0.29 acre to the City of Aurora for future roadway improvements and will result in the Site area of 2.08 acres.

The detention pond has been sized for 1.56 acres. Surrounding onsite areas, not tributary to the detention basin, sheet flow onto the surrounding streets.

Please see TIS comment responses. Additional detention has been provided for additional roadway improvements

Offsite runoff has been minimized

The information I have from the planning process is that half of each of the adjoining streets must be constructed.

As stated in previous comments, the extended detention basin must treat runoff from the street improvements

Per previous comments, the amount of area draining offsite without treatment must be minimized

The site currently is undeveloped land with ground cover consisting of natural grasses and shrubs. The existing topography across the site generally slopes north to south and east to west at slopes ranging from 1-percent to as high as 12-percent, with the majority of the site grades around 2 to 3-percent. The vertical elevation difference across the site from south to north is approximately 10 feet.

The Natural Resources Conservation Service (NRCS) defines the existing soils across the full 2.39-acre site as 100% Ascalon-Platner association (At). The portion of the site tributary to the proposed detention pond is predominately AsB. The properties and qualities of AsB describe such soils as well draining and categorized as Hydrologic Soil Group B. The NRCS soil survey is located in the Appendix.

The property lies within Zone X as delineated by the Flood Insurance Rate Map (FIRM) and is not located within a floodplain. The Federal Emergency Management Agency (FEMA) defines Zone X as areas determined to be outside the 0.2-percent annual chance floodplain. The flood information is found on the FIRM for Arapahoe County, Colorado and Incorporated Areas, Map Number 08005C0044K, map revised December 17, 2010. The FIRM map is included in Appendix A for reference. No irrigation canals or ditches exist on-site. Additionally, no significant geologic features exist on-site.

b. Type of Development

The proposed site will be developed into a gas station with a Loredo Taco Concept and 8 multiple pump dispensers (MPDs), and convenience store. To service this development, an access drive and detention and water quality pond will be constructed. The proposed site features surrounding the building include parking lots, sidewalks, curb and gutter, landscaping, and a trash enclosure. The proposed site will maintain pedestrian connectivity along Tower Road, Smith Road, and Andes Way.

c. Requested Variances

No variances are requested at this time.

B. Historic Drainage

1. Overall Basin Description

a. Off-site Basins

The existing conditions of the site have not been previously analyzed and a Final or Master Drainage Report was not made available. The existing site is undeveloped and naturally covered. The existing stormwater is assumed to drain to the southwest onto the existing property to the south and Tower Road to the west.

b. Major Drainage Ways

The proposed site lies within the Sand Creek Basin. Sand Creek ultimately terminates downstream at the South Platte River. The downstream outfall and downstream existing infrastructure is discussed in the subsequent sections.

Review of the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) Map Number 08005C0044K, Map Revised December 17, 2010, indicates the proposed site is located in Zone X defined as an area determined to be outside the 0.2% annual chance floodplain. The FIRM is included in the Appendix for reference.

2. Drainage Patterns Through Property

The existing conditions currently drain generally north to south and east to west at slopes ranging from 1-percent to as high as 12-percent, with the majority of the site grades around 2 to 3-percent. Runoff on the existing is assumed to discharge into the existing development to the south and Tower Road to the west.

3. Outfalls Downstream from Property

The site currently drains into the existing development to the south. Upon final design, the proposed site will discharge from the detention pond into Tower Road via an outlet structure, designed to release at historic rates. Ultimately runoff will be conveyed south within the existing infrastructure in Tower Road.

C. Design Criteria

1. List References

a. Existing Drainage Reports for Surrounding Properties

Existing drainage reports for this site are not on record.

b. USDCM

The design of the proposed storm drainage facilities are in conformance with the City of Aurora Storm Drainage Design and Technical Criteria (ASDDTC) and the Urban Drainage Flood Control District's (UDFCD) Urban Storm Drainage Criteria Manual (USDCM).

c. City Master Plan and Floodplain Studies

At the time of reporting, there are no known City Master Plans that would affect the proposed development. Additionally, there are no known floodplain studies adjacent to the site that would influence the development's design considerations.

2. Hydrologic Criteria

a. Rainfall Sours and P_1 Identified

The rainfall intensities for the proposed site are calculated based on the equation provided in ASDDTC Chapter 5, Hydrologic Criteria, Section 5.22 Rainfall Intensity;

Where:

$$I = \frac{28.5 P_1}{(10 + T_c)^{0.786}}$$

I = rainfall intensity (inches per hour)

P_1 = one-hour rainfall depth (inches) from Figures 5-1, 5-6 USDCM Volume 1*

T_c = time of concentration (minutes).

*One-hour point rainfalls for the 2-year and 100-year storms are 0.98-inches and 2.66-inches, respectively.

b. Calculation Method

The Rational Method was used to calculate runoff values for the 2-year and 100-year design storms.

$$Q = CIA$$

Where:

Q = peak discharge (cfs)

C = runoff coefficient

I = rainfall intensity (inches/hour)

A = drainage area (acres)

The runoff coefficients used in the calculation method are from ASDDTC Table 1, Runoff Coefficients and Percent Impervious.

c. Detention Volume Computation Method

A proposed detention pond will be constructed at the western portion of the site. Approximately 1.56 acres are tributary to the detention pond. The remaining 0.76 acres constitute the exterior edges of the site. The detention pond was sized using the UDFCD UD-Detention spreadsheet (Version 3.07, updated February 2017). The total impervious value for the 1.56 drainage area is 87.78%. The 100-year detention volume required is 0.222 acre-feet. The pond has been designed to release 99% of the water quality capture volume within 40 hours. It has been designed to release the 100-year release rates below 90% of the historical rate.

The minimum detention volume required was also calculated per ASDDTC, Section 6.33.

$$V = KA$$

Where:

V = required volume for the 100-year

K100 = $(1.78I - 0.002I^2 - 3.56)/900 = 0.153$

I = Developed Basin Imperviousness (%) = 87.78

A = Drainage area (acres) = 1.56

Therefore:

V100 = 0.24 acre-feet (City min. size). This volume is required by the UD-DET spreadsheet < 0.263 acre-feet at elevation 5442.17, o.k.

Allowable Release Rates for Detention Pond – CFS/Acre (Aurora 6.33)

Explanation has been modified

= 1.89 cfs

10 year has been provided

As noted in previous comments, unclear what the underlined statement is referring to. Provide a clearer explanation of where the 0.263 ac ft and elevation 5442.17 are coming from. Why are you apparently sizing the pond for something different than what the V=KA equation provides, or what the Detention spreadsheet provides?

make sure you are using the most current version of this spreadsheet - MHFD Detention

Version 4.04 February 2021 has been used

Will need to also provide a calculation of the 10 year release rate

Per previous comments, explain what the 0.6 cfs is based on



Explanation has been modified

Detained peak flows = 0.6 cfs < 1.32 cfs < 1.89 cfs, o.k.

Flow (Aurora 3.33)

100-Year minimum required detained freeboard (Aurora 6.32): 1.00'

Overflow Spillway = 5443.25

100-yr Emergency Highwater = 5443.49 (calculated per UD-Detention spreadsheet. Emergency Spillway)

Berm = 5445

Berm freeboard = 5445 – 5443.49 = 1.51' > 1' min., o.k.

d. Design Frequencies

Also discuss freeboard between Q100 emergency overflow WSEL and FFE for any structures on site. 1' freeboard is required.

Storm Sewers: The 2-year and 100-year storm design frequencies are used per the ASDDTTC Chapter 3 Storm Drainage Policy, Section 3.31 Design Frequencies. Residential and business land use requires the design storm frequency to be the 2-year minor storm event and 100-year major storm event.

Explanation has been modified

Detention pond volumes will be sized for full-spectrum using the 100-year major storm event.

e. Hydraulic Criteria

a. Reference Sources Other Than USDCM

The City of Aurora Storm Drainage Design and Technical Criteria (ASDDTC) was used in conjunction with the USDCM.

b. Identify Design Storm Frequencies

Per ASDDTTC, Section 3.31 Design Frequencies, the minor and major storm events for all proposed pipes and inlets are 2-year, and 100-year, respectively.

c. Water Surface Profile Method

Not seeing any storm sewer shown on Drainage Plan.

The proposed storm sewer system will be analyzed and modeled using FlowMaster V8i

any software used will have to account for energy losses through system

Storm has been added to drainage plan

There are no major drainage

Noted

Drainage Plan

General Concept

a. Conveyance of Off-Site Drainage; Proposed Downstream Outfall

The proposed site will maintain the existing drainage characteristics to the southwest portion of the site. The development of the 7-Eleven parcel and common access drive will overland flow to a full spectrum detention pond and an outlet structure releasing to the existing infrastructure along Tower Road at historic rates.

b. Coordination with Surrounding Developments

The proposed site is surrounded by existing developments with infrastructure in place to service their individual site or are undeveloped.

Explanation has been modified

You will need to minimize any untreated area - included roadways. Provide existing vs proposed flow comparison for both controlled release from the pond to existing storm drainage infrastructure and also existing vs proposed flow comparison for any untreated flows to existing infrastructure. Will need to demonstrate existing infrastructure has capacity for proposed flows from site.

As noted in previous comments, cannot use routed flows on page two of spreadsheet - must use approximate volumes on page 1 of spreadsheet

Portions of developed runoff will direct minimal flows to Tower Road, Smith Road, and Andes Way undetained.

c. Detention Ponding/Water Quality BMP Plan

Water Quality and Detention volume is provided within the full-spectrum detention pond at the west portion of the site. The basin will contain approximately 0.046 acre-feet of EURV, and 0.2

Explanation has been modified

The pond will include a trickle channel, emergency overflow path (likely a weir to be located along the western retaining wall thence to Tower Road R.O.W., a maintenance path in the form of a 4:1 grassed slope, and an outlet structure.

The pond with all basic features needs to be shown in the Preliminary Drainage Plan

Noted

structure has been designed to release 99% of the water storage volume within 40 hours. The outlet structure has been designed to release the 100-year flows below the historical release rates. The Maintenance of the detention pond will be the responsibility of the property owner.

2. Specific Details

a. Basin and Sub-Basin Minor and Major Storm Flow Patterns

For the purpose of this report the minor drainage basins were analyzed and used to determine the runoff in the minor and major event. The proposed land uses within each basin includes; drive aisles, parking lots, buildings, sidewalks, and landscaping. The detention and other grassed areas are 2% impervious. Impervious surfaces are 100%. In general, runoff is directed to the full-spectrum detention pond via overland flow and storm infrastructure. Flows from the proposed building and MPD fueling stations are piped directly into the detention pond. Refer to specific basin information, below. Refer to the appendix for a complete list of calculations.

Per previous comments, you will have to provide on-site detention and water quality for these basins

Basin OS-1 is 0.48 acres and consists of asphalt with curb and gutter and sidewalk (100%) and landscaping (2%) for a net composite of 96.08%. The direct runoff is 1.1 cfs and 3.4 cfs for the 2-year and 100-year storms, respectively. Flows are directed to the southwest along the curb and gutter southwest of the site.

Explanation has been modified

Basin OS-2 is 0.22 acres and consists of asphalt with curb and gutter and sidewalk (100%) and landscaping (2%) for a net composite of 84.92%. The direct runoff is 0.4 cfs and 1.4 cfs for the 2-year and 100-year storms, respectively. Flows are directed to the west where they combine with OS-1 and continue south outside of the detention pond catchment.

Basin P-1 is 0.25 acres and consists of the detention pond and asphalt with curb and gutter (100%) and landscaping (2%) for a net composite of 2.00%. The direct runoff is 0.0 cfs and 0.7 cfs for the 2-year and 100-year storms, respectively. Flows are directed to the southwest where they are contained in the detention pond.

Per previous comments, the area of impoundment must be treated as Paved - use Table 1 imperviousness and C values for Paved surface type

Basin P-2 is 0.99 acres and consists of landscaping (2%) and asphalt with curb and gutter (100%), for a net composite of 89.28%. The direct runoff is 1.8 cfs and 5.8 cfs for the 2-year and 100-year storms,

Explanation has been modified

Per previous comments, state that roof drains will be sized with capacity to pass the 100 year storm

Explanation has been modified

respectively. Flows are directed to the south where they collect at design point 2, an inlet which discharges into the detention pond.

Basin P-3 is 0.11 acres and consists entirely of roof (90%). The direct runoff is 0.2 cfs and 0.8 cfs for the 2-year and 100-year storms, respectively. Flows are directly piped from the roof into the detention point 3.

Per previous comments, on-site detention and WQ treatment must be provided for these areas

Explanation has been modified

Basin P-3 is 0.31 acres and consists of asphalt with curb and gutter and sidewalk (100%) and landscaping (2%) for a net composite of 94.06%. The direct runoff is 0.7 cfs and 2.1 cfs for the 2-year and 100-year storms, respectively. Flows are directed offsite via curb and gutter along Andes Way.

Basin P-4 is 0.20 acres and consists of asphalt with curb and gutter and sidewalk (100%) for a net composite of 92.42%. The direct runoff is 0.5 cfs for the 2-year and 100-year storms, respectively. Flows flow onto pavement and flow to design point 2 (inlet).

Basin P-5 is 0.14 acres and consists of landscaping (2%) and asphalt with curb and gutter (100%), for a net composite 49.95%. The direct runoff is 0.2 cfs and 1.2 cfs for the 2-year and 100-year storms, respectively. Flows are directed to the west where they discharge off-site at design point 6 into Tower Road where it follows historic drainage patterns.

b. TOD and Urban Center Developments

This topic for discussion is not relevant to the reporting of this project.

c. Detention Pond Location and Outfall

The proposed detention pond is proposed to service the developed site in order to match the existing drainage characteristics. The detention pond is located within the west portion of the property. Flows are directed via concrete curb cuts and storm inlets and discharge into the detention pond. Retaining walls or slopes exceeding 4:1 will be needed to meet the volume requirement. The outfall structure is located at the southwest

of the detention pond. Maintenance of the pond will be accessed slopes at the north portion of the propose detention pond. A closed conduit storm system will release runoff from the detention facility and discharge into Tower Road at historic rates.

The detention facility is sized using $V=KA$. The City-required 100-year detention volume is 0.24 acre-feet. The available storage for the pond is approximately 0.263 acre-feet and the approximate 100-year elevation is 5,442.17. The outlet structure has been designed to release on-site tributary flows below 3.12 cfs, the historic condition of existing basin E1.

Historic Rates Vs Proposed Rates: The historical release rates from the site are 0.78 cfs and 3.19 cfs for the 2-year and 100-year storm events, respectively. The outlet structure has been designed to release flows at 0.2 cfs and 0.6 cfs for the 2-year and 100-year storm events, respectively.

d. Emergency Overflow Path

The proposed emergency overflow path for the detention pond is the west edge of the detention wall and discharging to Tower Road.

must show any proposed retaining walls on the Drainage Plan and must include a typical cross section

No retaining walls are proposed

e. Solutions to Complications On-Site

This topic for discussion is not relevant to the reporting of this project, at this time.

f. Proposed Permanent BMPs

There will be two types of permanent BMPs located within the proposed development. An Extended Detention Basin will be permanently located at the west portion of the site.

All on-site flows will be directed to an extended detention basin (EDB) which will be used to treat and store the water quality and detention volumes. The detention basin will include a concrete trickle channel, outlet structure, and rip-rap. The outlet structure within the EDB has been designed using the UD-Detention spreadsheet. The outlet structure releases the 100-year detention volumes below 90% of the historic rates. Flows ultimately discharge into Tower Road via a sidewalk chase.

g. Phasing of Construction and Provisions for Drainage During Phasing

The project is planned to occur in 1 phase.

h. Open Channel Concepts

This topic for discussion is not relevant to the reporting of this project.

i. Stabilization Requirements for Roadside Ditches

This topic for discussion is not relevant to the reporting of this project.

j. Compliance with Approved Outfall Systems Plan

This topic for discussion is not relevant to the reporting of this project.

k. Additional Required Information for Project

At this time there is no other information deemed necessary for discussion.

E. Conclusions

1. Compliance with Standards

This Preliminary Drainage Report with supporting calculations is in general conformance with the ASDDTTC and USDCM.

2. Summary of Concept

a. Degree of Protection to Existing Site

The required improvements recommended by this Preliminary Drainage Report are designed to control damage from storm runoff to downstream properties by detention volume calculations using the Full Spectrum Method. Given the use of the proposed detention pond for the proposed site improvements that model the existing conditions, the overall drainage impacts downstream from the site will be minimal.

b. Measures Taken to Provide Adequate On-Site Drainage and Enhancement to Stormwater Quality

Further analysis of the proposed storm sewer infrastructure will be provided with the Final Drainage Report to ensure adequate on-site drainage.

The details for the permanent site BMP's are discussed in the aforementioned Section D.2.f.

c. Effect of Proposed Development on Adjacent, Upstream, and Downstream Sites Under Both Existing and Future Buildout Conditions

The proposed development should not have a negative impact upstream or downstream of any existing drainage ways for a storm at or below the 100-year storm event. The site has been analyzed to mimic historic drainage conditions and is proposing an outfall at an existing outfall location.

F. List of References

1. 1. The City of Aurora Storm Drainage Design and Technical Criteria (ASDDTC) revised October 11, 2010.
2. Urban Storm Drainage Criteria Manual (USDCM), volumes 1, 2, and 3, Urban Drainage and Flood Control District, updated January 2016.
3. Federal Emergency Management Agency Flood Insurance Rate Map, Community Panel Number 08005C0044K, Map Revised December 17, 2010.
4. Natural Resources Conservation Center Web Soil Survey, United States Department of Agriculture, site visited October 2019.

G. Appendix

1. Maps
 - a. Vicinity Map
 - b. FEMA Firm Map
 - c. NRCS Web Soil Survey
2. Hydrologic Computations
 - a. Hydrologic Criteria
 - b. One hour rainfall data
 - c. Rational Method Spreadsheets – Existing and Proposed
3. Hydraulic Computations
 - a. Hydraulic Criteria
 - b. UD-Detention Spreadsheets
4. Drainage Plans
 - a. Existing Drainage Area Map
 - b. Proposed Drainage Area Map

G.1 Maps

National Flood Hazard Layer FIRMette



39°45'25.55"N



Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS		Without Base Flood Elevation (BFE) Zone A, V, A99
		With BFE or Depth Zone AE, AO, AH, VE, AR
		Regulatory Floodway
OTHER AREAS OF FLOOD HAZARD		0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X
		Future Conditions 1% Annual Chance Flood Hazard Zone X
		Area with Reduced Flood Risk due to Levee. See Notes. Zone X
		Area with Flood Risk due to Levee Zone D
OTHER AREAS		NO SCREEN Area of Minimal Flood Hazard Zone X
		Effective LOMRs
GENERAL STRUCTURES		Area of Undetermined Flood Hazard Zone D
		Channel, Culvert, or Storm Sewer
		Levee, Dike, or Floodwall
OTHER FEATURES		20.2 Cross Sections with 1% Annual Chance Water Surface Elevation
		17.5 Coastal Transect
		Base Flood Elevation Line (BFE)
		Limit of Study
		Jurisdiction Boundary
		Coastal Transect Baseline
MAP PANELS		Profile Baseline
		Hydrographic Feature
		Digital Data Available
		No Digital Data Available
		Unmapped



The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 10/16/2019 at 4:48:28 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

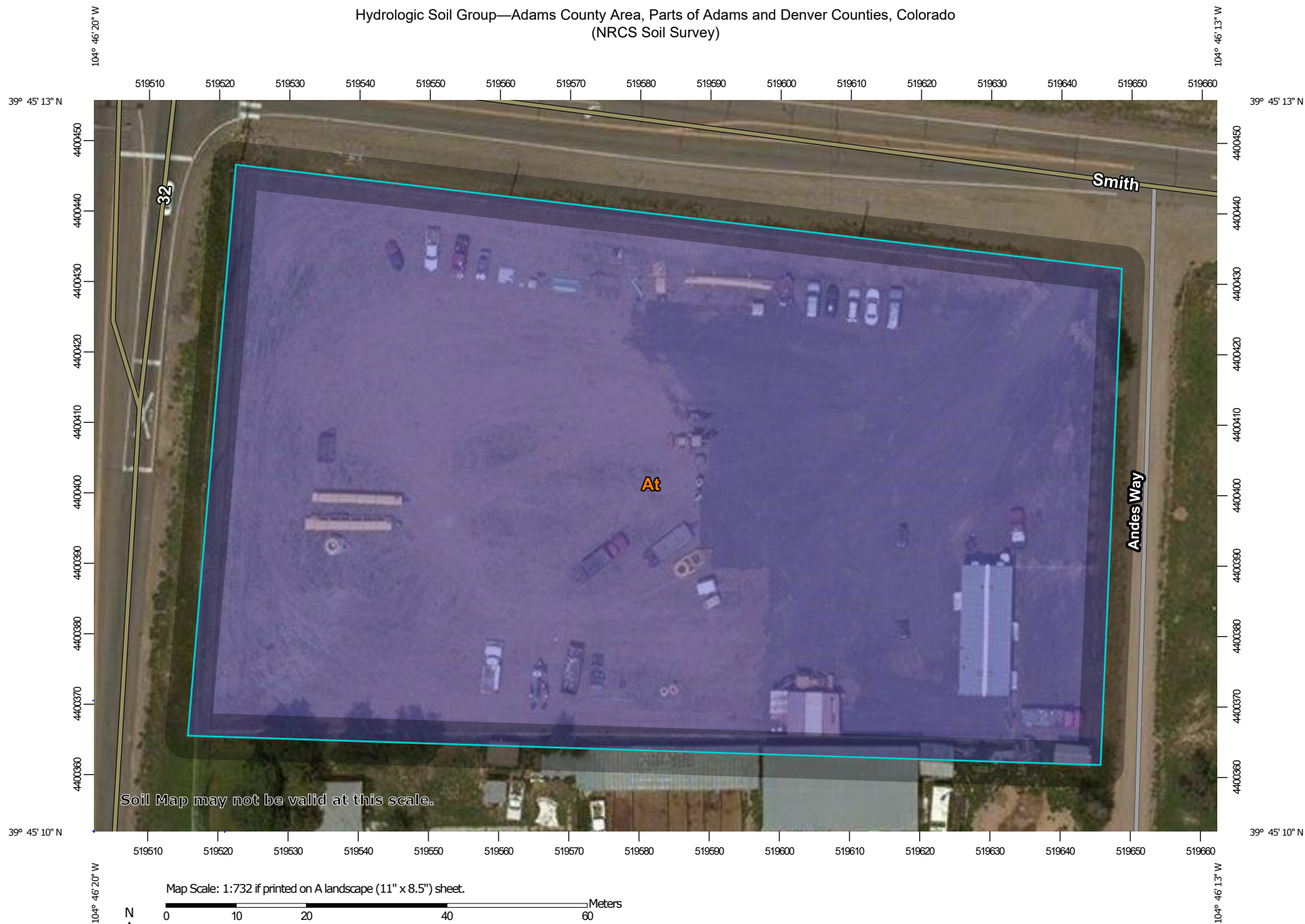
USGS The National Map: Orthoimagery. Data refreshed April, 2019.

0 250 500 1,000 1,500 2,000 Feet 1:6,000

39°44'57.89"N

104°45'58.72"W

Hydrologic Soil Group—Adams County Area, Parts of Adams and Denver Counties, Colorado (NRCS Soil Survey)



Hydrologic Soil Group—Adams County Area, Parts of Adams and Denver Counties, Colorado
(NRCS Soil Survey)

MAP LEGEND

Area of Interest (AOI)









Area of Interest (AOI)

Soils

Soil Rating Polygons





-  A
-  A/D
-  B
-  B/D
-  C
-  C/D
-  D
-  Not rated or not available

Soil Rating Lines


-  A
-  A/D
-  B
-  B/D
-  C
-  C/D
-  D
-  Not rated or not available

Soil Rating Points






-  A
-  A/D
-  B
-  B/D

-  C
-  C/D
-  D
-  Not rated or not available


Water Features

-  Streams and Canals

Transportation

-  Rails
-  Interstate Highways
-  US Routes
-  Major Roads
-  Local Roads

Background

-  Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Adams County Area, Parts of Adams and Denver Counties, Colorado
Survey Area Data: Version 16, Sep 12, 2019

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jun 10, 2014—Aug 21, 2014

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
At	Ascalon-Platner association, 0 to 5 percent slopes	B	2.4	100.0%
Totals for Area of Interest			2.4	100.0%

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

Aggregation Method: Dominant Condition

TABLE 1 (continued)

RUNOFF COEFFICIENTS AND PERCENTS IMPERVIOUS

LAND USE OR SURFACE CHARACTERISTICS	PERCENT IMPERVIOUS	FREQUENCY			
		2	5	10	100
<u>Streets:</u>					
Paved	100	.87	.88	.90	.93
Gravel	40	.15	.25	.35	.65
<u>Concrete Drive and Walks</u>	96	.87	.87	.88	.89
<u>Roofs</u>	90	.80	.85	.90	.90
<u>Lawns, Sandy Soil (A and B Soils):</u>	2				
2% Slope		.05	.06	.08	.10
2-7% Slope		.10	.11	.13	.15
>7% Slope		.15	.16	.18	.20
<u>Lawns, Clay Soil (C and D Soils):</u>	5				
2% Slope		.13	.14	.15	.17
2-7% Slope		.18	.19	.20	.22
>7% Slope		.25	.27	.30	.35

NOTE: These Rational Formula coefficients may not be valid for large basins

(*)See Figures RO-3 through RO-5 of USDCM Volume 1 for percent impervious.

(**)Up to 5 units per acre. Single-family with more than 5 units per acre, use values for multi-unit/detached

DESIGN STORM FREQUENCIES

Land Uses or Type of Facility	Minor Storm	Major Storm
Residential, Business, and Industrial	2-year ⁽¹⁾	100-year
City Center Zone	5-year ⁽¹⁾	100-year
Transit Oriented Developments, Urban Centers	N/A	100-year
Open Channels, Culverts, Bridges	See USDCM	100-year
Detention Ponds	(2)	100-year ⁽²⁾

(1) Frequency for sizing of storm sewers (most cases). Storm sewer flows originating from a location with a larger design storm frequency shall continue with that frequency to a logical point of outfall.

(2) Detention ponds shall be evaluated for multiple discharges (10-year and 100-year storms). Single stage discharges (100-year) will only be allowed with prior approval by the City.

3.32 Street Flow Capacities

The primary purpose of streets is for traffic. However, streets are also an integral part of the storm drainage system and can be used for storm runoff within reasonable limits. The allowable street flows shall be calculated by multiplying the theoretical capacity by the reduction factor from Figure ST-2 of the USDCM. Figures 4A and 4B present the allowable 2-year and 100-year street flow capacities for different street classifications.

$$I = \frac{28.5 P_1}{(10 + T_c)^{0.786}} \quad (5.5)$$

Where:

I = rainfall intensity (inches per hour)

P₁ = one-hour rainfall depth (inches) from Figures RA-1 through RA-6 in USDCM, Volume 1

T_c = time of concentration (minutes).

5.23 Runoff Coefficient (C)

The runoff coefficient (C) represents the integrated effects of infiltration, evaporation, retention, flow routing, and interception, all which affect the time distribution and peak rate of runoff.

Table 1 presents the recommended values of C for the various recurrence frequency storms. The values are presented for different surface characteristics as well as for different aggregate land uses. The coefficients for the various surface areas should normally be used to develop a composite value for parcels with site plans.

5.30 COLORADO URBAN HYDROGRAPH PROCEDURE

The Colorado Urban Hydrograph Procedure (CUHP) was originally developed for the Denver area at the time the Urban Storm Drainage Criteria Manual was prepared. See USDCM, Volume 1, "Runoff", Table RO-1 – Applicability of Hydrologic Methods for watershed sizes from zero to greater than 3,000 acres. The procedures for the CUHP, as explained in the USDCM, Volume 1 "Runoff," shall be followed in the preparation of drainage reports and storm drainage facility designs in the City of Aurora. A maximum unit time of five minutes shall be used for basins having watershed areas of one square mile or less. For larger areas, the unit time shall be less than or equal to 1/3 of the time to peak of the unit hydrograph, with a maximum value of 15 minutes.

The recommended infiltration rates and storage values in the USDCM shall be used unless soils reports justify otherwise.

When working on a larger or a non-homogeneous watershed, especially when preparing a master drainage plan, it is necessary to divide the watershed into smaller and somewhat homogeneous sub-basins. The storm hydrograph for each sub-basin can be calculated using the CUHP. Then, the individual sub-basin hydrographs shall be routed and combined to give a storm hydrograph for the entire watershed.

Calculations may be performed with available computer programs. Refer to Chapter 7.

5.40 STORM FLOW ANALYSIS

When analyzing flood peaks and volumes, the proposed land use runoff coefficients shall be used. Coefficients for undeveloped off-site land areas shall be estimated based on existing or most probable zoning. All off-site land shall be assumed to be fully developed. Small on-site

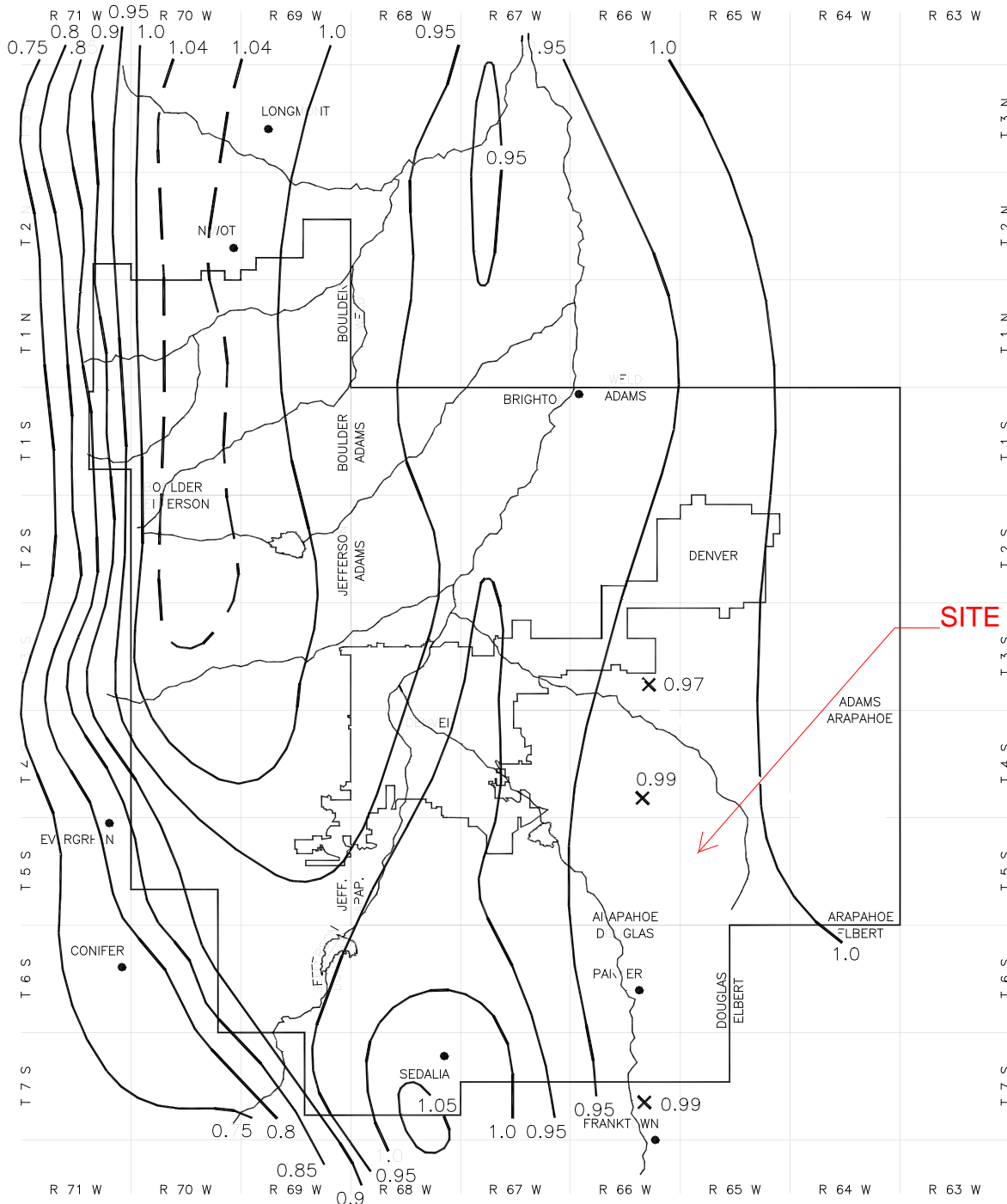


Figure 5-1. Rainfall depth-duration-frequency: 2-year, 1-hour rainfall

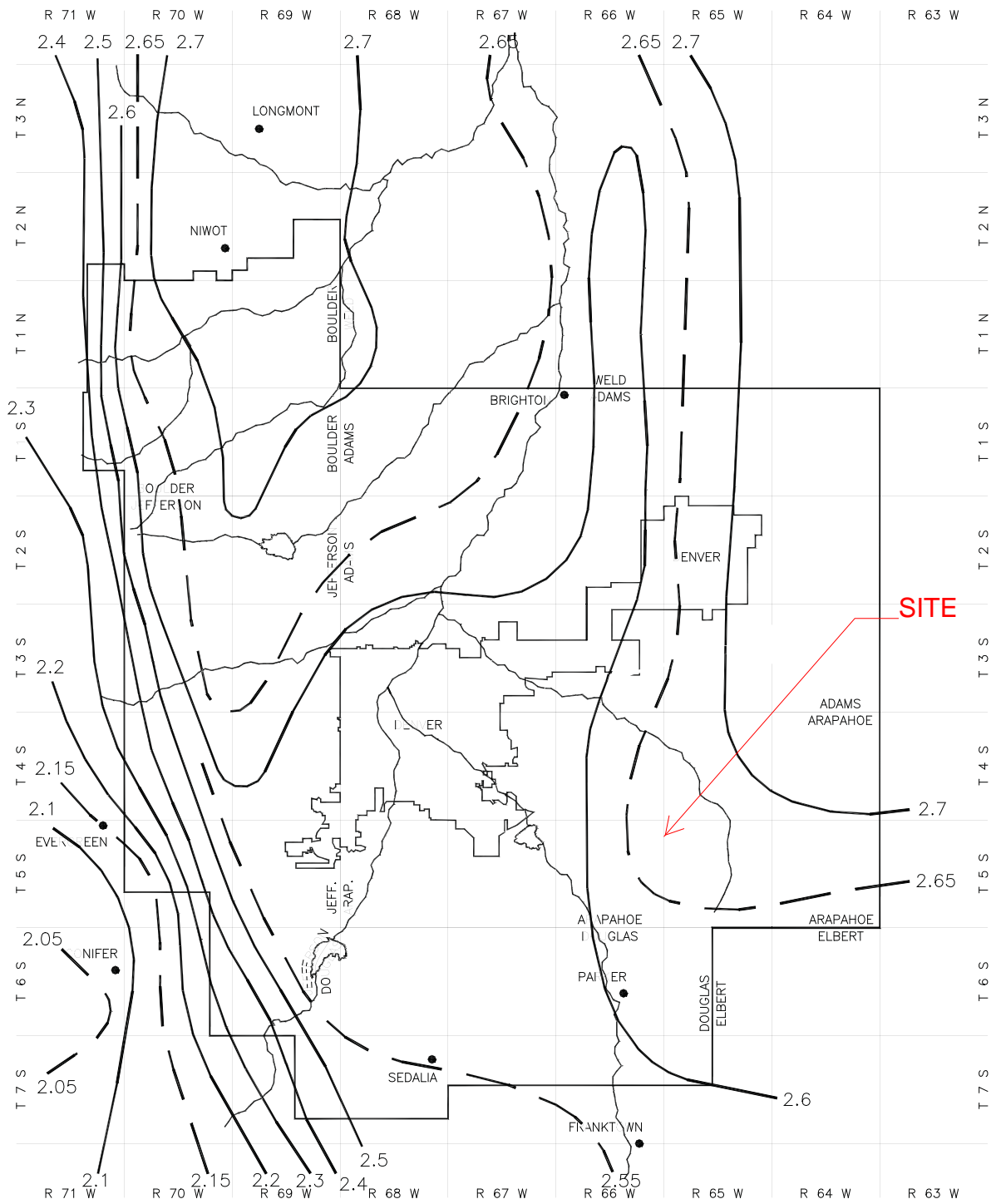


Figure 5-6. Rainfall depth-duration-frequency: 100-year, 1-hour rainfall

G.2 Hydrologic Computations

COMPOSITE 'C' FACTORS (EXISTING)																						
LOCATION: Smith & Tower Convenience					Preliminary Drainage				BY: VAN				Soil Type: B				DATE: 7/6/2021					
BASIN	Area, Acres (?)				PAVED				ROOFS				LAWNS				COMPOSITE C FACTOR				PERCENT IMPERVIOUS	
DESIGNATION	PAVED	ROOFS	LAWNS	TOTAL	2YR	5 YR	10 YR	100 YR	2YR	5 YR	10 YR	100 YR	2YR	5 YR	10 YR	100 YR	2YR	5 YR	10 YR	100 YR		
Imperviousness =					100				90				2									
OS1	0.27	0.00	0.00	0.27	0.84	0.86	0.87	0.90	0.74	0.77	0.79	0.85	0.01	0.01	0.07	0.44	0.01	0.01	0.07	0.44	100.00	
OS-2	0.11	0.00	0.17	0.28	0.84	0.86	0.87	0.90	0.74	0.77	0.79	0.85	0.01	0.01	0.07	0.44	0.01	0.01	0.07	0.44	41.61	
OS-3	0.04	0.00	0.20	0.24	0.84	0.86	0.87	0.90	0.74	0.77	0.79	0.85	0.01	0.01	0.07	0.44	0.01	0.01	0.07	0.44	18.28	
EX-1	0.00	0.00	1.04	1.04	0.84	0.86	0.87	0.90	0.74	0.77	0.79	0.85	0.01	0.01	0.07	0.44	0.01	0.01	0.07	0.44	2.00	
EX-2	0.00	0.00	1.33	1.33	0.84	0.86	0.87	0.90	0.74	0.77	0.79	0.85	0.01	0.01	0.07	0.44	0.01	0.01	0.07	0.44	2.00	
OVERALL	0.19	0.00	0.03	0.23	0.89	0.93	0.94	0.94	0.80	0.84	0.85	0.90	0.02	0.02	0.14	0.46	0.70	0.73	0.75	0.83	86.07	

are these areas in acres? add label over this section

none of these Ca values match COA SDDTC Table 1 - must use Table 1

check all composite calcs

the values in this area should not be the same for all basins

Urban drainage composite C values have been utilized with rational spreadsheet

TIME OF CONCENTRATION (EXISTING)															REMARKS
LOCATION: Smith & Tower Convenience			Preliminary Drainage			BY: VAN			DATE: 7/6/2021			FORMULAS:			
SUB-BASIN DATA			INIT./OVERLAND TIME (T _i)			TRAVEL TIME (T _t)					TOTAL	T _c Check (Urbanized Basins)		FINAL T _c	* T _i = [0.395 (1.1-C _s)L ^{1/2}] / S ^{1/3}
DESIGNATION	C _s	AREA (AC)	LENGTH (FT)	SLOPE %	T _i (Min.)*	C _v	LENGTH (FT)	SLOPE %	VEL. (FPS)**	T _t (Min.)	T _i +T _t (Min.)	LGTH. (FT)	T _c = (L/180) + 10	(minutes)	** V=C _v S ^{0.5}
OS-1	0.01	0.27	40	2.39	9.4	20	285	3.52	3.75	1.27	10.7	325.00	11.8	10.7	
OS-2	0.01	0.28	40	6.58	6.7	20	0	1.00	2.00	0.00	6.7	40.00	10.2	6.7	
OS-3	0.01	0.24	45	6.82	7.1	20	220	2.87	3.39	1.08	8.1	265.00	11.5	8.1	
EX-1	0.01	1.04	330	2.56	26.5	10	0	1.00	1.00	0.00	26.5	330.00	11.8	11.8	
EX-2	0.01	1.33	430	2.32	31.2	10	0	1.00	1.00	0.00	31.2	430.00	12.4	12.4	

C5s are probably all off -
will need to redo calcs

**Urban drainage composite C
values have been utilized with
rational spreadsheet**

STORM DRAINAGE SYSTEM DESIGN
(RATIONAL METHOD PROCEDURE)
DESIGN STORM: 100-YEAR EXISTING

Calc. by: VAN
 Chk'd by: RCY
 Date: 7/6/2021

Smith & Tower Convenience

Preliminary Drainage

Aurora, CO

DESIGN POINT	DIRECT RUNOFF							TOTAL PEAK RUNOFF							REMARKS	
	BASIN	AREA (AC)	COEFF. (C)	Tc (Min.)	C*A	I (in./hr.)	Q (cfs)	Sum Area	T _c (min)	I (in./hr.)	Sum C*A	Total Q (cfs)	SHEETFLOW			
	OS-1	0.27	0.44	10.7	0.12	6.5	0.8									Sheetflow into Sub-Basin EX1
	OS-2	0.28	0.44	6.7	0.12	7.6	0.9									
	OS-3	0.24	0.44	8.1	0.10	7.2	0.8									
1	EX-1	1.04	0.44	11.8	0.45	6.2	2.8	1.59	11.8	6.19	0.69	4.3	4.3			
2	EX-2	1.33	0.44	12.4	0.58	6.1	3.5	1.57	12.4	6.07	0.68	4.1	4.1			

C values and Tc's are probably all off - calcs
 need to be redone

STORM DRAINAGE SYSTEM DESIGN
(RATIONAL METHOD PROCEDURE)
DESIGN STORM: 5-YEAR EXISTING

Calc. by: VAN

Chk'd by: RCY

Date: 7/6/2021

Smith & Tower Convenience

Preliminary Drainage

Aurora, CO

DESIGN POINT	DIRECT RUNOFF							TOTAL PEAK RUNOFF							REMARKS	
	BASIN	AREA (AC)	COEFF. (C)	T _c (Min.)	C*A	I (in./hr.)	Q (cfs)	Sum Area	T _c (min)	I (in./hr.)	Sum C*A	Total Q (cfs)	SHEETFLOW			
	OS-1	0.27	0.01	10.7	0.00	3.0	0.0									Sheetflow into Sub-Basin EX1
	OS-2	0.28	0.01	6.7	0.00	3.5	0.0									
	OS-3	0.24	0.01	8.1	0.00	3.3	0.0									
1	EX-1	1.04	0.01	11.8	0.01	2.9	0.0	1.59	11.8	2.85	0.02	0.1				
2	EX-2	1.33	0.01	12.4	0.02	2.8	0.0	1.57	12.4	2.80	0.02	0.1	0.1			

why are 5 year flows provided? Explain in report. For comparison to proposed flows, should be looking at 2 year and 100 year

Urban drainage composite C values have been utilized with rational spreadsheet . 2 year and 100 year are provided

STORM DRAINAGE SYSTEM DESIGN
(RATIONAL METHOD PROCEDURE)
DESIGN STORM: 2-YEAR EXISTING

Calc. by: VAN

Chk'd by: RCY

Date: 7/6/2021

Smith & Tower Convenience

Preliminary Drainage

Aurora, CO

DESIGN POINT	DIRECT RUNOFF							TOTAL PEAK RUNOFF							REMARKS	
	BASIN	AREA (AC)	COEFF. (C)	Tc (Min.)	C*A	I (in./hr.)	Q (cfs)	Sum Area	T _c (min)	I (in./hr.)	Sum C*A	Total Q (cfs)	SHEETFLOW			
	OS-1	0.27	0.01	10.7	0.00	3.0	0.0									Sheetflow into Sub-Basin EX1
	OS-2	0.28	0.01	6.7	0.00	3.5	0.0									
	OS-3	0.24	0.01	8.1	0.00	3.3	0.0									
1	EX-1	1.04	0.01	11.8	0.01	2.9	0.0	1.59	11.8	2.85	0.02	0.1				
2	EX-2	1.33	0.01	12.4	0.02	2.8	0.0	1.57	12.4	2.80	0.02	0.1	0.1			

**Urban drainage composite C values have been utilized with rational spreadsheet .
2 year and 100 year are provided**

This page is a duplicate of what was provided earlier in report - delete

COMPOSITE 'C' FACTORS (EXISTING)

LOCATION: Smith & Tower Convenience					Preliminary Drainage				BY: VAN				Soil Type: B				DATE: 7/6/2021				
BASIN					PAVED				ROOFS				LAWNS				COMPOSITE C FACTOR				PERCENT IMPERVIOUS
DESIGNATION	PAVED	ROOFS	LAWNS	TOTAL	2YR	5 YR	10 YR	100 YR	2YR	5 YR	10 YR	100 YR	2YR	5 YR	10 YR	100 YR	2YR	5 YR	10 YR	100 YR	
Imperviousness =					100				90				2								
OS1	0.27	0.00	0.00	0.27	0.84	0.86	0.87	0.90	0.74	0.77	0.79	0.85	0.01	0.01	0.07	0.44	0.01	0.01	0.07	0.44	100.00
OS-2	0.11	0.00	0.17	0.28	0.84	0.86	0.87	0.90	0.74	0.77	0.79	0.85	0.01	0.01	0.07	0.44	0.01	0.01	0.07	0.44	41.61
OS-3	0.04	0.00	0.20	0.24	0.84	0.86	0.87	0.90	0.74	0.77	0.79	0.85	0.01	0.01	0.07	0.44	0.01	0.01	0.07	0.44	18.28
EX-1	0.00	0.00	1.04	1.04	0.84	0.86	0.87	0.90	0.74	0.77	0.79	0.85	0.01	0.01	0.07	0.44	0.01	0.01	0.07	0.44	2.00
EX-2	0.00	0.00	1.33	1.33	0.84	0.86	0.87	0.90	0.74	0.77	0.79	0.85	0.01	0.01	0.07	0.44	0.01	0.01	0.07	0.44	2.00
OVERALL	0.19	0.00	0.03	0.23	0.89	0.93	0.94	0.94	0.80	0.84	0.85	0.90	0.02	0.02	0.14	0.46	0.70	0.73	0.75	0.83	86.07

C values must be from Table 1 of SDDTC - all these values are off

Urban drainage composite C values have been utilized with rational spreadsheet . 2 year and 100 year are provided

STORM DRAINAGE SYSTEM DESIGN
(RATIONAL METHOD PROCEDURE)
DESIGN STORM: 100-YEAR EXISTING

duplicate page - delete

Calc. by: VAN
 Chk'd by: RCY
 Date: 7/6/2021

Smith & Tower Convenience

Preliminary Drainage

Aurora, CO

DESIGN POINT	DIRECT RUNOFF							TOTAL PEAK RUNOFF							REMARKS	
	BASIN	AREA (AC)	COEFF. (C)	Tc (Min.)	C*A	I (in./hr.)	Q (cfs)	Sum Area	Tc (min)	I (in./hr.)	Sum C*A	Total Q (cfs)	SHEETFLOW			
	OS-1	0.27	0.44	10.7	0.12	6.5	0.8									Sheetflow into Sub-Basin EX1
	OS-2	0.28	0.44	6.7	0.12	7.6	0.9									
	OS-3	0.24	0.44	8.1	0.10	7.2	0.8									
1	EX-1	1.04	0.44	11.8	0.45	6.2	2.8	1.59	11.8	6.19	0.69	4.3	4.3			
2	EX-2	1.33	0.44	12.4	0.58	6.1	3.5	1.57	12.4	6.07	0.68	4.1	4.1			

**Urban drainage composite C values have been utilized with rational spreadsheet .
 2 year and 100 year are provided**

STORM DRAINAGE SYSTEM DESIGN
(RATIONAL METHOD PROCEDURE)
DESIGN STORM: 5-YEAR EXISTING

duplicate - delete

Calc. by: VAN

Chk'd by: RCY

Date: 7/6/2021

Smith & Tower Convenience

Preliminary Drainage

Aurora, CO

DESIGN POINT	DIRECT RUNOFF							TOTAL PEAK RUNOFF							REMARKS	
	BASIN	AREA (AC)	COEFF. (C)	T _c (Min.)	C*A	I (in./hr.)	Q (cfs)	Sum Area	T _c (min)	I (in./hr.)	Sum C*A	Total Q (cfs)	SHEETFLOW			
	OS-1	0.27	0.01	10.7	0.00	3.0	0.0									Sheetflow into Sub-Basin EX1
	OS-2	0.28	0.01	6.7	0.00	3.5	0.0									
	OS-3	0.24	0.01	8.1	0.00	3.3	0.0									
1	EX-1	1.04	0.01	11.8	0.01	2.9	0.0	1.59	11.8	2.85	0.02	0.1				
2	EX-2	1.33	0.01	12.4	0.02	2.8	0.0	1.57	12.4	2.80	0.02	0.1	0.1			

Urban drainage composite C values have been utilized with rational spreadsheet . 2 year and 100 year are provided

STORM DRAINAGE SYSTEM DESIGN
(RATIONAL METHOD PROCEDURE)
DESIGN STORM: 2-YEAR EXISTING

Calc. by: VAN

Chk'd by: RCY

Date: 7/6/2021

Smith & Tower Convenience

Preliminary Drainage

Aurora, CO

DESIGN POINT	DIRECT RUNOFF							TOTAL PEAK RUNOFF							REMARKS	
	BASIN	AREA (AC)	COEFF. (C)	Tc (Min.)	C*A	I (in./hr.)	Q (cfs)	Sum Area	T _c (min)	I (in./hr.)	Sum C*A	Total Q (cfs)	SHEETFLOW			
	OS-1	0.27	0.01	10.7	0.00	3.0	0.0									Sheetflow into Sub-Basin EX1
	OS-2	0.28	0.01	6.7	0.00	3.5	0.0									
	OS-3	0.24	0.01	8.1	0.00	3.3	0.0									
1	EX-1	1.04	0.01	11.8	0.01	2.9	0.0	1.59	11.8	2.85	0.02	0.1				
2	EX-2	1.33	0.01	12.4	0.02	2.8	0.0	1.57	12.4	2.80	0.02	0.1	0.1			

Urban drainage composite C values have been utilized with rational spreadsheet . 2 year and 100 year are provided

G.3 Hydraulic Computations

Missing all Proposed Hydrology and Pond Sizing Information - see comments in first submittal

Pond sizing calcs have been provided

G.4 Drainage Plans

delete this page - plans are a separate document

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