CITY OF ANN ARBOR, MICHIGAN

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September 12, 2018

Midwestern Consulting
3815 Plaza Drive
Ann Arbor, Michigan 48108

Attention: Tom Covert

RE: 1140 Broadway
City File No.: CVLP18-003.15

Ladies and Gentlemen:

We have reviewed the construction plans dated August 9, 2018 for the public water main, sanitary sewer, road reconstruction and sidewalks for the above referenced project, and have the following comments:

1. Sheet 01 – Cover Sheet: Sheet 20 appears with a strikeout on this sheet. As Sheet 20 is noted as having been submitted with this plan set, remove the strikeout.

2. Sheet 07 – Site Layout Plan: Comments regarding surface mounted objects and plantings associated with the License Agreement application will be issued under separate cover. Comments regarding grading in the area covered by the License Agreement appear below, however, approval of the Construction plans shall not be construed as an approval to construct any items associated with the License Agreement application.

3. Sheet 11 – Enlarged Grading Plans – Broadway Corridor:

    a. In areas where right-of-way is proposed to be dedicated, show only the final proposed right-of-way/property line on this sheet and subsequent sheets where proposed right-of-way dedication is shown.

b. Label the top of curb elevations as such on this and subsequent grading sheets.

c. Label existing spot elevations as such on this and subsequent grading sheets.

d. Provide a match line and station label for the paved path adjacent to Traver Creek.

e. It appears that the sidewalk ramp at the northern corner of the site along Broadway Street is proposed to be replaced. All ramps within the crosswalk must meet current ADA requirements, and any ramp not meeting ADA must be removed and replaced.

f. The proposed sidewalk cross slope along Broadway Street near Sta. 5+10 calculates as 4.4% in an area that shall meet the requirements of a level landing. Sidewalk cross slopes shall be designed at no more than 1.5%.

g. It appears that the sidewalk across the fire apparatus access drive approach along Broadway Street is designed at the maximum allowable cross slope. To avoid constructability issues, all sidewalk cross slopes shall be designed at no more than 1.5%.

h. Indicate with a plan label whether or not the curb and gutter at the fire apparatus drive approach is intended to be mountable.

i. The sidewalk transverse grade on the northeast side of Broadway Street on the eastern side of the drive approach at Sta. 3+00 calculates as 3.6%. Up to an additional 15' of existing sidewalk north of the site shall be removed and replaced to achieve a transverse slope of 2% or less.

j. A top of curb spot elevation on the southwest side of Broadway Street near Sta. 3+10 is obscured by a longitudinal grade label.

k. It appears that there may be a bench located within the area to be dedicated as public right of way on the eastern side of the Broadway Street at the site entrance. If this is a bench, remove it from the public right-of-way. If it is something else, please label this item.

l. The longitudinal sidewalk slope on the eastern side of the site drive approach along Broadway street between the right-of-way and adjacent sidewalk corner calculates as 6%.

m. The sidewalk transverse grade on the eastern side of Broadway Street at Sta. 0+40 along the leg of Broadway Street that intersects Plymouth Road calculates

as 2%. Sidewalk shall be designed with transverse grades of no more than 1.5% to avoid issues with meeting ADA requirements during construction.

n. The proposed longitudinal crosswalk on the northern leg of the proposed traffic circle calculates to 3% or more. The center of this crosswalk serves as the crown of the roadway, which typically has a cross slope of 2%.

o. The longitudinal slope of the sidewalk on the northern side of the site drive approach appears to have no slope. In addition, the center of the crosswalk appears to be a local low point with no drainage structures. Indicate on the plans how positive drainage at this location will be achieved.

p. The sidewalk across the site entrance off Broadway Street shall be concrete. It appears that asphalt with pavement markings is currently proposed across this drive approach.

q. It appears that a spot elevation label leader for a storm sewer structure rim near the eastern side of the site drive approach is no longer attached to the adjacent structure. Revise this label as needed and revise the label leader location.

r. A spot elevation for the rim of the storm sewer inlet on the western side of the site drive approach on Broadway Street appears to be missing.

s. A spot elevation on the southern side of the western crosswalk is obscured by another spot elevation.

t. A section of sidewalk to the west of Broadway Street, but east of Maiden Lane, and again along the western edge of the sidewalk at the west end of the Broadway Street parking area has longitudinal slopes that calculate in excess of 5%. Level landings are required every 30 feet for each 30” of elevation change.

u. The cross slope of the sidewalk ramp for the Plymouth Road crossing exceeds 2% where the ramp intersects sidewalk for Plymouth Road and Maiden Lane. Revise the elevations to reduce the cross slope to no more than 1.5%.

v. It appears that there is a low point in the sidewalk and surrounding area near Sta. 4+50 along Plymouth Road with no drainage structures proposed. Indicate on the plans how positive drainage will be achieved in this area.

4. Sheet 12 – Enlarged Grading Plan – Maiden Lane Corridor:

a. Provide transverse grade labels in the proposed turn lane tapers shown on this sheet.

b. The city will notify the owner of the property located at Plymouth Road at the location of the proposed turn lane taper for right-hand turns onto Maiden Lane that the drive approach nearest the intersection on Plymouth Road will be eliminated as part of this project. Remove this drive approach from this sheet and show curb and gutter along the Plymouth Road curb line in this area.

c. Show the locations for the pedestrian signals and risers on this sheet.

d. A top of curb spot elevation is missing near Sta. 5+10 along Maiden Lane. In addition, clarify if the proposed concrete shown between the sidewalk and the back of curb between this missing spot elevation and approximately Sta. 5+50 is for a proposed bus pad. Note that bus pads shall be ADA compliant.

5. Sheet 13 – Enlarged Grading Plan – Internal Site: A spot elevation is missing from the front of the sidewalk at the midpoint of the Nielsen Court site drive approach.

6. Sheet 14 – Enlarged Grading Plan – Walking Path:

a. Label the width of the path near the radius labels of each horizontal bend in the path along Traver Creek. Please note that the current standard width for shared-use paths is 10' rather than 8'.

b. Spot elevations are required on the path at all points of curvature (PC), points of tangency (PT), and at the center point along each horizontal curve. In addition, the PC and PT spot elevations shall be labeled as such.

c. Spot elevations are required at 25' minimum intervals. It is noted that this requirement is not met at the approximate midpoint of the path between the east and west property lines.

d. Label the right-of-way line along Broadway Street.

e. Label Broadway Street with its street name and right-of-way width.

f. Show the fire hydrant proposed near Broadway Street.

7. Sheets 19 and 20 – Broadway Plan and Profile, and Broadway Roundabout: Comments regarding geometrics of the proposed roundabout and associated pavement replacement are forthcoming and will be issued under separate cover.

8. Sheet 22 – Storm Sewer Profiles:

a. The storm sewer between proposed structure R50 and existing structure r30 shall be designed with the connection made as close to perpendicular to the

right-of-way line as possible. Extend the pipe between R51 and R50 to the southeast by 5 feet. Detailed review of this sheet will occur once the extension of this run is shown on the plans. Please incorporate general comments for Sheet 23 into the public portion of storm sewer shown on this sheet.

b. Structure r30 shall be labeled with its structure name, station and inverts in the plan view in addition to the profile view. In addition, the existing inverts at r30 shall be labeled as “existing” or “ex.”

c. According to City records, the invert of structure r30 is 762.06. The proposed connection to this structure shall be made as low as possible to maximize depth of bury over the proposed pipe. In addition, it may be necessary to replace r30 with a larger diameter manhole, as the existing structure appears to be a 2’ diameter curb inlet with two existing connections.

9. Sheet 23 – Storm Sewer Profiles:

a. Show and label centerline stationing for the proposed public storm sewer shown on this sheet (R34 to r8).

b. Structure r8 shall be labeled with its structure name, station and inverts in the plan view in addition to the profile view. In addition, the existing inverts at r8 shall be labeled as “existing” or “ex.”

c. Include the station for structure R30 in its plan view label.

d. The profile for the Broadway Storm, R34 to r8, shall run in the same direction of the plan view.

e. Trench details shall be dimensioned along the top of bottom of the profile within the Broadway Storm profile.

f. The class of RCP pipe shall be included in the pipe material labels within the Broadway Storm profile view.

g. The distance between r8 and R29 scales as 28’ in the plan view and 27.5’ in the profile view. Revise the pipe length in the profile and the stationing of R29 and upstream structures accordingly.

h. The existing inverts at structure r8 shall be labeled as “existing” or “ex” in the profile view.

i. The station label for R32 shall reflect the length of pipe shown for the 36” CMP located between R30 and R32. Structure stations upstream of R32 shall also be revised.

j. The minimum pipe slope for 12” RCP pipe is 0.34%. It is noted that this requirement is not met between R32 and R33.

k. The distance between structures R33 and R34 scales as 37’ in both the plan and profile views. Revise the length of pipe and station for structure R34 in both the plan and profile views.

l. Structure R34 appears to be a double inlet in the plan view. Clarify with a note on the plans and show the second inlet in the profile if this is correct.

10. Sheet 24 – Sanitary Lead Profiles:

a. Remove the “connection” labels shown within the plan views of the Bldg A San East and Bldg A San North plan views.

b. Remove the “connection” label for the Bldg B San East plan view currently shown within the Bldg A San South.

c. Provide the 30” existing inverts for the plan labels for the connections to the existing sanitary sewer within the Bldg A San South and Bldg B San East plan views, and the 18” existing inverts within the Bldg B San South plan view.

d. Provide the type of PVC pipe to be used between CO10 and the existing sanitary sewer within the Bldg A San South profile pipe label, and between CO2 and the existing sanitary sewer within the Bldg B San South profile pipe label.

e. The plan view labels for connections to the existing sanitary sewer within the Bldg A San South, Bldg B San East and Bldg B San South plan views shall include the sizes and directions for the proposed connecting sewer leads.

f. Provide the size of the existing sanitary sewer within the Bldg A San South, Bldg B San East and Bldg B San South profile labels.

11. Sheet 25 – Sanitary Lead Profiles:

a. Provide the existing invert elevations within the Bldg C San Southwest and Bldg C San Southeast plan view labels.

b. The wye connection shown within the Bldg C San Southeast plan and profile occurs at Sta. 0+00. Revise the plan and profile labels accordingly.

c. Show the pipe labeled to be abandoned within the Plymouth Rd Connection plan view.

d. The existing pipe label for the sanitary sewer southwest of s1 is obscured by the plan view label for s24. Move either the structure plan view label or the pipe label.

12. Sheet 26 – Water Main Profiles:

a. The plan view label leaders on this sheet are too light and are difficult to discern from surrounding line work. The label leaders shall be made dark enough that they are distinguishable from proposed contour lines.

b. Label the right-of-way line at Broadway Street and Nielsen Court within the Broadway To Nielson Ct plan view. In addition, correct the spelling of Nielsen Court on any sheet where the name of this street appears as “Nielson” Court.

c. Provide a top of pipe elevation for the 12” water main connection in Broadway Street within the Broadway to Nielson Ct profile.

d. The distance between the connection to the existing water main in Broadway Street and the first proposed vertical bend scales as 2’ in the plan view and 4’ in the Broadway to Nielson Ct profile view. Revise the location of the bend or the plan and profile labels, as necessary.

e. The vertical bend labeled as Sta.0+13 in the plan and profile view scales as occurring at Sta. 0+12 in the plan view. The profile view label and location appear to be correct. Revise the plan view label leader accordingly.

f. The top of pipe elevation for W1 is labeled as 772.37 in the profile view and is labeled as 772.32 in the plan view. It appears that the profile view label is correct. The top of pipe elevation may be removed from the plan view labels as it is not required to be notated here.

g. W1 scales as appearing at Sta. 0+16 in the profile view, but scales as occurring at Sta. 0+15 in the plan view. Revise the plan and profile labels or the location of W1 in the profile, as necessary.

h. The pipe distance label between W1 and the vertical bend labeled at Sta. 0+20 shall be revised to 5 feet to match the stationing between these two appurtenances.

i. The pipe distance label between the tee at Sta. 1+06 and the bend at Sta. 1+97 shall be revised to read “tee to bend” after the pipe length.

j. The pipe distance label between the vertical bend at Sta. 3+00 and the vertical bend at Sta.4+04 shall be revised to read “bend to bend” after the pipe length.

k. Valve W10 shall be moved such that it is located 5 feet from the 12”x4”x12” tee at Sta. 4+57. In addition, the plan view label for this appurtenance shall include the rim elevation for the valve box. Revise the profile view label for this valve to provide the rim elevation rather than a finished grade elevation.

l. The location of the tee labeled as occurring at Sta. 5+05 scales as 5+04 in the plan view and as 5+05 in the profile view. The profile view appears to be correct. Revise the location of this tee in the plan view, as necessary.

m. The location of the tee labeled as occurring at Sta. 5+09 scales as 5+08 in the plan view and as 5+09 in the profile view. The profile view appears to be correct. Revise the location of this tee in the plan view, as necessary.

n. Gate valve W2 shall be moved such that it is located 5’ away from the tee at Sta. 5+09. In addition, a rim elevation shall be provided for this valve in the profile view rather than a finished grade elevation.

o. The fire hydrant located off the tee currently located at Sta. 5+17 shall be moved, as necessary, to provide a fire hydrant lead that is perpendicular to the proposed 12” water main.

p. Provide a rim elevation rather than a finished grade elevation for the W3 within the profile view.

q. Two top of pipe elevations are shown within the Bldg A 8 in Fire profile between Sta. 0+22 and Sta. 0+92. Clarify the purpose of these top of pipe labels.

r. Submit DIPRA restrained joint calculations for the vertical offset under object shown in the Building A 6 in Domestic profile. In addition, provide beginning and ending stations for the restrained joints within the profile view label.

s. The Domestic Water Service System Detail shown on this sheet requires revisions:

    i. The upstream isolation valve shall be located a maximum of 24” away from the building wall where the pipe enters the building. This is the total distance from the wall to the isolation valve, not a horizontal distance off the exterior building wall.
    ii. If the make or model of the proposed RPZ changes, the domestic water backflow prevention drawing/detail shall be resubmitted to the City.

iii. As the size of the domestic water service varies between buildings, rather than state the length of pipe, in inches, before and after the City meter, state the pipe lengths as 5 pipe diameters upstream of the meter, and 3 pipe diameters downstream from the meter.
iv. The downstream isolation valve for the City meter assembly shall be located upstream of the 90 degree bend shown within this detail.

t. The Fire Service System Detail shown on this sheet requires revisions:

i. The upstream isolation valve for the backflow prevention device shall be located a maximum of 24" away from the building wall where the pipe enters the building. This is the total distance between the building wall and the upstream isolation valve, not a horizontal measurement off the building wall.
ii. If the make or model of the proposed reduced pressure detector assembly changes, the fire water backflow prevention drawing/detail shall be resubmitted to the City.
iii. The reduced pressure detector assembly appears to be proposed to be equipped with a bypass. Note within the detail that a City supplied meter shall be purchased and installed on the bypass.

13. Sheet 27 – Water Main Profiles:

a. The proposed water main easement shall be labeled with its width in each plan view. This is not met within the Building B 4 in Domestic, Hydrant 2, Hydrant 1 and Hydrant 3 plan view labels.

b. In the Bldg C 8 in Fire and Bldg C 6 in Domestic plans and profiles, move W8 and W9 to be located 10 feet off the proposed 12" water main.

c. The domestic water label obscures the fire service line work in the Bldg C 8 in Fire plan view and in the Bldg C 6 in Domestic plan view.

d. The building connection within the Bldg B 8 in Fire Lead plan and profile view scales as occurring at Sta. 0+21 rather than at Sta 0+22, as currently labeled. Revise the plan and profile station labels, as necessary.

e. It appears that there is an extra label leader above the Sta. 0+08 plan label leader within the Bldg B 4 in Domestic plan view.

f. Label and station the "Hydrant Assembly", which consists of both the hydrant and its companion valve, in both the plan and profile views. Companion valves are shown three feet from the hydrant. Station the reducer six feet from the assembly. Revise the station and pipe length labels, as necessary.

g. As noted in the comments for Sheet 27, fire hydrant 1 shall be located perpendicular to the proposed 12” water main.

h. The connection to the existing 12” water main in Broadway Street for Hydrant 3 shall be made perpendicular to the existing water main. It is noted that this fire hydrant lead is no longer centered within the proposed water main easement for Hydrant 3. The easement sketch and description shall be revised so that the fire hydrant lead is centered within the easement.

i. It appears that there is an extra label leader shown above the plan view label for the proposed 12”x8”x12” tee within the Hydrant 3 plan view.

j. Label Broadway Street with its name and right-of-way width in the Hydrant 3 plan view.

k. Station the reducer for Hydrant 3 six feet from the hydrant assembly in both the plan and profile views. Revise the station and pipe length labels, as necessary.

l. The vertical bend labeled at Sta. 0+18 in the Hydrant 3 plan view scales at Sta. 0+19 in the plan view and at Sta. 0+18 in the profile. Move the leader for this bend in the plan view, as necessary.

m. The vertical bend labeled at Sta 0+40 in the Hydrant 3 plan view scales at Sta. 0+41 in the plan view and at Sta. 0+40 in the profile view. Move the leader for this bend in the plan view, as necessary.

n. In the Hydrant 4 plan view, the labels for Broadway Street are cut off.

o. The top of pipe elevation scales as, and is labeled as 773.06 for the 12”x8”x12” tee in the Hydrant 4 profile view. Revise the plan view label, as the profile label appears to be correct.

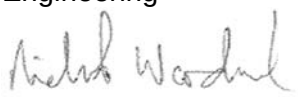
p. Station the reducer for Hydrant 4 six feet from the hydrant assembly in both the plan and profile views. Revise the station and pipe length labels, as necessary.

q. The Hydrant 4 operating valve rim elevation scales as and is labeled as 772.78 in the profile view. Revise the plan view label, as the profile appears to be correct. In addition, the top of pipe label in the plan view for this valve appears to be incorrect in the plan view label.

r. The finished grade for fire hydrant 4 is labeled as 777.94 in the profile view of the Hydrant 4 profile and as 777.81 in the plan view. Revise the plan view label, as the profile view appears to be correct.

Please submit two (2) sets of revised paper plans along with correspondence indicating how each comment was addressed, as well as any other plan changes. In addition, upload the revised plans and response letter in PDF format to eTRAKiT project file CVLP18-003.

Very truly yours,
Engineering



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