

Review Comments and Responses

for

#16-90C

**City of Fort Collins Utility Service Center
5th Filing**

Type I (NLUC) PDP Review

June 24, 1997



**THE
SEAR-BROWN
GROUP**

Standards in Excellence



City of Fort Collins

Current Planning

PROJECT COMMENT SHEET

DATE: April 29, 1997 DEPT: Stormwater Utility

PROJECT: #16-90C City of Fort Collins Utility Service
Center, 5th Filing
Type I (NLUC) PDP Review

PLANNER: Ted Shepard

All comments must be received no later than the staff review meeting
on: Wednesday, May 28, 1997

1. The area downstream of basin 7 was added to the existing conditions model and the proposed conditions model. Please provide supporting topography for this area to justify basin and conveyance element information.

RESPONSE:

2. The City of Fort Collins standard parameters should be used. Please use a surface storage for impervious area of 0.30 and a maximum infiltration rate of 0.51.

RESPONSE:

Date: 5-28-97 Signature: Matthew Fals

CHECK HERE IF YOU WISH TO RECEIVE COPIES OF REVISIONS

Plat Site Drainage Report Other _____
 Utility Redline Utility Landscape



City of Fort Collins

3. Supporting information is needed for the pond 70 rating curve. Please provide supporting topography for the pond and information on the pond outlet. Supporting calculations are needed for the pond stage-discharge rating curve. The proposed conditions HEC-2 exhibit shows a concrete wall along the north side of the pond. Please show more details of the wall.

RESPONSE:

4. The cross-section used for the proposed conditions weir #2 calculations does not reflect the proposed grading of sheet C6 of the utility plans. Please match the calculations with the proposed grading.

RESPONSE:

5. The HEC-2 modeling for the proposed conditions is needed. An exhibit showing the proposed conditions floodplain was provided, but the model was not provided. Please provide all input information for the both the existing and the proposed conditions models.

RESPONSE:

6. Please provide explanations for the warning messages for the HEC-2 analysis. It appears that critical depth was assumed for every cross-section. Is this really correct?

RESPONSE:

7. Please provide an echo of the HEC-2 input files.

RESPONSE:

8. The calculations on page 75 shows flow over the crown of Elm Street for the minor storm. Please divert more flow directly to the channel because flow must not be over the crown for the minor storm. Please document how the flow used for this calculation was determined. The model shows higher flows for this area. The capacity reduction factor from Figure 4-2 of the criteria should be applied to determine the allowable street flow.

RESPONSE:

9. The calculations on page 81 shows a water surface elevation of 95.03'. Please provide more information on the effects of the ponding. Does the ponding encroach into the adjacent properties? Does the ponding exceed six inches over the crown at that location?

RESPONSE:

10. The pond 11 rating curve used for the interim condition model does not reflect the pond grading shown on the plan. Please revise the rating curve to reflect the proposed grading.

RESPONSE:

11. The proposed condition model shows an increased discharge on the downstream property over historic conditions. Typically, off-site drainage easements would be required for increased downstream flows. However since the downstream property owner is the City Parks Department, a letter of agreement from the Park Dept. would be acceptable for the increased runoff through this property.

RESPONSE:

12. A stockpile is shown in the vicinity of pond 11 and the floodplain. The pond and floodplain analysis should account for the stockpile.

RESPONSE:

Please see redlined plans and report for additional comments.

Stormwater Utility

COMMENT:

1. The area downstream of basin 7 was added to the existing condition model and the proposed condition model. Please provide supporting topography for the area to justify basin and conveyance element information.

RESPONSE:

Please refer to the aerial photographs. We have added notes to clarify the Drainage Pattern. This area is in the northwest corner and is drained to northeast corner via to large storm drain pipes. These pipe discharge outside the asphalt storage area to a low marshy area. It in no way impacts the storage yard area.

COMMENT:

2. The City of Fort Collins Standard parameters should be used. Please use a surface storage for impervious area of 0.30 and a maximum infiltration rate of 0.51.

RESPONSE:

We have changed this for the proposed interim condition but not the previously approved existing condition. We did not change the previous work to stay consistent with what was reviewed. But we did account for the extra flow generated in the proposed condition.

COMMENT:

3. Supporting information is needed for the pond 70 rating curve. Please provide supporting topography for the pond and information on the pond outlet. Supporting calculations are needed for the pond stage-discharge rating curve. The proposed conditions HEC-2 exhibit shows a concrete wall along the north side of the pond. Please show more details of the wall.

RESPONSE:

Please see sheet C10 for enlarged topographic detail. Also the aerial photo maps provide extra detail. We have provided the weir calculation. Also refer to sheet C10 for retaining wall detail.

COMMENT:

4. The cross-section used for the proposed conditions weir #2 calculations does not reflect the proposed grading of sheet C6 of the utility plans. Please match the calculations with the proposed grading.

RESPONSE:

We have updated this.

COMMENT:

5. The HEC-2 modeling for the proposed conditions is needed. An exhibit showing the proposed conditions floodplain was provided, but the model was not provided. Please provide all input information for the both the existing and the proposed conditions models.

RESPONSE:

We have provided the above in the drainage report.

COMMENT:

6. Please provide explanations for the warning messages for the HEC-2 analysis. It appears that critical depth was assumed for every cross-section. Is this really correct?

RESPONSE:

We have rerun the model using HEC-RAS and have examined all the comments.

COMMENT:

7. Please provide an echo of the HEC-2 input files.

RESPONSE:

These are provided.

COMMENT:

8. The calculations on page 75 shows flow over the crown of Elm Street for the minor storm. Please divert more flow directly to the channel because flow must not be over the crown for the minor storm. Please document how the flow used for this calculation was determined. The model shows higher flows for this area. The capacity reduction factor from Figure 4-2 of the criteria should be applied to determine the allowable street flow.

RESPONSE:

Following our discussions with yourselves we have provided a Valley Pan at the low point to guide water to the 20 foot Type R inlet on the north side of the Road.

COMMENT:

9. The calculations on page 81 shows a water surface elevation of 95.03'. Please provide more information of the effects of the ponding. Does the ponding encroach into the adjacent properties? Does the ponding exceed six inches over the crown at that location?

RESPONSE:

Following our discussions we now have a depth of 1.58' above flow line at 95.08'. Our understanding is that this is acceptable and a variance is requested. Also lowest openings of adjacent houses are approximately 97' or better.

COMMENT:

10. The pond 11 rating curve used for the interim condition model does not reflect the pond grading.

RESPONSE:

These have been checked and updated

COMMENT:

11. The proposed condition model shows an increased discharge on the downstream property over historic conditions. Typically, off-site drainage easements would be required for increased downstream flows. However since the downstream property owner is the City Parks Department, a letter of agreement from the Park Dept. would be acceptable for the increased runoff through this property.

RESPONSE:

The letter will be provided before final approval.

COMMENT:

12. A stockpile is shown in the vicinity of pond 11 and the floodplain. The pond and flood plain analysis should account for the stockpile.

RESPONSE:

We have relocated the bottom elevation of the stockpile above the floodplain elevation.

Mapping

COMMENT:

The NW corner of NE 1/4 of NW 1/4 does not meet state Requirements.

RESPONSE:

A note has been added to the Drawings/Plans stating that the City of Fort Collins will re-establish this monument with their own personnel. In discussion with Jack Gianola (Project Manager) on this issue and considering that the City is the Developer of this project, it was felt the City was more capable then the Contractor of supplying the professional services required to set this point.

COMMENT:

Please be aware of the new City Subdivision requirement regarding monument records to be submitted with the final plat.

RESPONSE:

We have included with this submittal a copy of the Colorado Land Survey Monument Record for the south quarter corner of Section 2, T7N, R69W.

We were unable to locate documentation on the NW corner of the NE 1/4 of the NW 1/4 of Section 11, T7N, R69W. This corner will be re-established as stated in the previous response and documentation will be submitted at the time of re-establishment.

COMMENT:

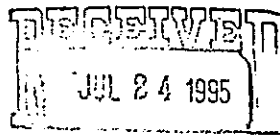
Please show existing R.O.W. widths of Elm & Wood St.

RESPONSE:

Rights-of-way for both streets have been added to the drawings/plans.

COLORADO LAND SURVEY MONUMENT RECORD

Department of Regulatory Agencies
 Board of Registration for Professional Engineers and Professional Land Surveyors
 1560 Broadway, Suite 1370, Denver, CO 80202
 Phone (303)894-7788 Fax (303)894-7790 V/TDD (303)894-7780



COLO. ST. & OF REG.

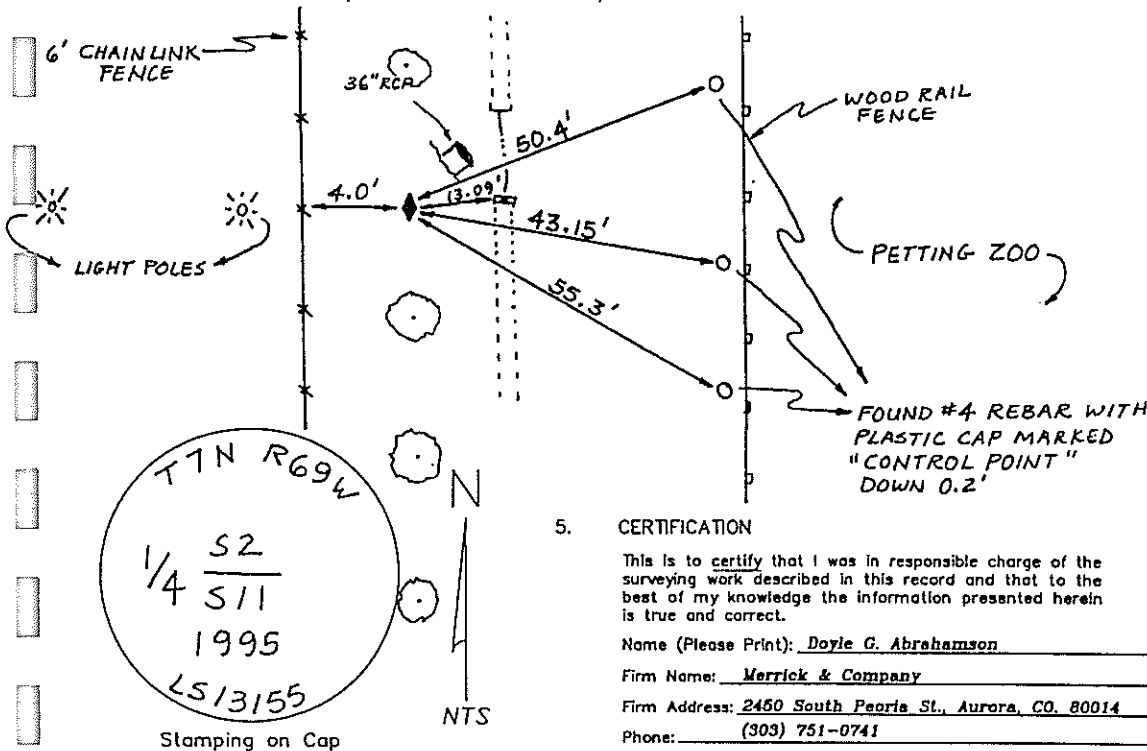
REPORT ONE MONUMENT ONLY ON THIS FORM - REPRODUCTION OF THIS FORM IS AUTHORIZED BY TYPE AND PLS
 All items to be filled in by the Land Surveyor using PERMANENT BLACK LETTERING and lines which can be reproduced

1. TYPE OF MONUMENT: SECTION CORNER QUARTER CORNER BENCH MARK OTHER _____

2. DESCRIPTION OF MONUMENT FOUND: #5 REBAR FLUSH WITH GROUND

3. DESCRIPTION OF MONUMENT ESTABLISHED BY YOU TO PERPETUATE THE LOCATION OF THIS POINT:
 SET #6 REBAR WITH 3/4" ALUMINUM CAP UP 0.3' AT LOCATION OF FOUND #5 REBAR.

4. SKETCH SHOWING RELATIVE LOCATION OF MONUMENT, ACCESSORIES AND REFERENCE POINTS STATING WHETHER FOUND OR SET, SHOW SUPPORTING AND/OR CONTRADICTIONARY EVIDENCE WHERE APPLICABLE:



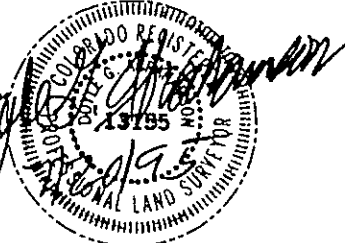
5. CERTIFICATION

This is to certify that I was in responsible charge of the surveying work described in this record and that to the best of my knowledge the information presented herein is true and correct.

Name (Please Print): Doyle G. Abrahamson
 Firm Name: Merrick & Company
 Firm Address: 2450 South Peoria St., Aurora, CO, 80014
 Phone: (303) 751-0741

6. LOCATION DIAGRAM

1" = 1 Mile



● = Location of Monument Signature/Date through Seal

7. SEC 2 T 7N R 69W 6TH P.M.
 COUNTY LARIMER INDEX REF NUMBER 19-V

**8. SEC _____ T _____ R _____ P.M.
 COUNTY _____ INDEX REF NUMBER _____

** To be used only for monuments located on county lines

Date of Field Work 7-10-95
1721 (Do not fill in) 2165/31

ACCEPTED
 JUL 26 1995
 COLO. ST. & OF REG.
 FOR PE AND PLS
 RECEIVED AT OFFICE OF THE COUNTY CLERK
Barbara Y. Polzano COUNTY

BY: Barbara Y. Polzano
 DATE: 8-8-95

Record to be filed by Index Reference Number Numerically, then Alphabetically, under appropriate Township, Range, and Meridian



City of Fort Collins

Current Planning

PROJECT COMMENT SHEET

DATE: April 29, 1997 DEPT: Eng Pvmnt

PROJECT: #16-90C City of Fort Collins Utility Service
Center, 5th Filing
Type I (NLUC) PDP Review
PLANNER: Ted Shepard

All comments must be received no later than the staff review meeting
on: Wednesday, May 28, 1997

Will need a pavement design report for Elm Street. The Soils Report is 4 years old this in not
current need update.

Date: 5-28-97 Signature: *Rec R*

CHECK HERE IF YOU WISH TO RECEIVE COPIES OF REVISIONS

Plat Site Drainage Report Other _____
 Utility Redline Utility Landscape



City of Fort Collins

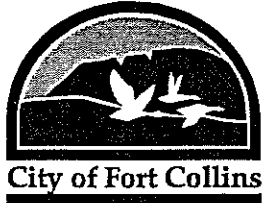
Engineering - Pavement

COMMENT:

Will need a pavement design report for Elm Street. The Soils Report is 4 years old this is not current need update.

RESPONSE:

Per the new City Development guidelines, the pavement thickness will be determined at the time of preparation of the subgrade for Elm Street.



PROJECT COMMENT SHEET

DATE: May 23, 1997 DEPT: **Water & Wastewater**

PROJECT: #16-90C City of Fort Collins Utility Service
Center, 5th Filing - Type I PDP (NLUC)

PLANNER: Ted Shepard

All comments must be received no later than the staff review meeting:
Wednesday, May 28, 1997

- Include standard general note pertaining to shrub and utility separation.
- Will an irrigation tap be needed?
- Existing water services must be used or abandoned at the main.
- Separate grading plans from overall utility plans in order to clarify.
- Include standard general notes pertaining to water line depths and dip with polywrap encasement.
- Show the 8" water main in storm sewer plan and profile. Include note to concrete encase the storm sewer at water main crossing.
- Include the following details on the detail sheet:
 - Thrust block
 - Concrete encasement
 - Manhole adjustment
- See landscape and overall utility plans for other comments.

Date: 5/28/97 Signature: Roger B. [Signature]

CHECK HERE IF YOU WISH TO RECEIVE COPIES OF REVISIONS

Plat Site Drainage Report Other _____
 Utility Redline Utility Landscape





City of Fort Collins

PROJECT COMMENT SHEET

Current Planning

DATE: May 15, 1997 DEPT: W4S

PROJECT: #16-90D City of FTC Utility Service Center -
Amended ODP (LDGS)

PLANNER: Ted Shepard

All comments must be received no later than the staff review meeting:
Wednesday, May 28, 1997

No COMMENTS.

Date: 5/20/97

Signature: [Handwritten Signature]

CHECK HERE IF YOU WISH TO RECEIVE COPIES OF REVISIONS

- Plat
- Site
- Drainage Report
- Other _____
- Utility
- Redline Utility
- Landscape



City of Fort Collins

Water & Wastewater

COMMENT:

Include standard general note pertaining to shrub and utility separation.

RESPONSE:

No such "conflicts" exist on this project.

COMMENT:

Will an irrigation tap be needed?

RESPONSE:

Irrigation flows will be taken from the existing lines that presently serve the southern boundary of the 700 Wood Street property. These two lines are noted on Sheet IR-1 by "Flag Note" #1.

COMMENT:

Existing water services must be used or abandoned at the main.

RESPONSE:

The City of Fort Collins Water and Wastewater Utility Department will install the proposed 8" waterline and appurtenances in Elm Street. In conjunction with this work, they will abandon the water service line in Wood Street.

COMMENT:

Separate grading plans from overall utility plans in order to clarify.

RESPONSE:

The City Water and Wastewater Utility Department will install all waterline and appurtenances in Elm and adjacent streets. As the Contractor will not install the waterline, the line and appurtenances have been shown on this sheet so that he may coordinate his utility improvements and grading with the City's improvements to the water system.

COMMENT:

Include standard general notes pertaining to water line depths and dip with polywrap encasement.

RESPONSE:

Notes addressing the use of polywrap and minimum and maximum depths have been added to Sheet C6 of the drawings/plans.

COMMENT:

Show the 8" water main in storm sewer plan and profile. Include note to concrete encase the storm sewer at water main crossing.

RESPONSE:

Waterline has been shown horizontally in the profile contained on Sheet C8 and a note has been added to indicate a minimum of 18" shall be maintained between the proposed storm sewer and the proposed waterline. Additionally, a note has been added that requires "encasement of all storm sewer joints 10' either side of the waterline crossing.

COMMENT:

Include the following details on the detail sheet:

- *Thrust block
- *Concrete encasement
- *Manhole adjustment

RESPONSE:

"Thrust block" and "Concrete encasement" details have been added to Sheet C11 of the drawings/plans.

"Manhole adjustment" has not been detailed but has been addressed by a note contained on Sheet C6 of the drawings/plans. Adjustments are minimal (i.e. 3" to 6") and will be made by the installation of concrete adjusting rings.

COMMENT:

See landscape and overall utility plans for other comments.

RESPONSE:

All comments contained on these plans have been addressed; with the following exceptions:

Utilities under the proposed Water Addition, shown on Sheet C6, will be addressed on a separate set of drawings/plans and as a separate project.

No further clarification was made to the note: "42" to top of City 6" W" as the "W" indicates this reference is to the water line (fire line to Building C).



City of Fort Collins

Current Planning

PROJECT COMMENT SHEET

DATE: April 29, 1997 DEPT: **Engineering**

PROJECT: #16-90C City of Fort Collins Utility Service
Center, 5th Filing
Type I (NLUC) PDP Review
PLANNER: Ted Shepard

All comments must be received no later than the staff review meeting
on: Wednesday, May 28, 1997

City of Fort Collins Utility Service Center
Site Plan

May 28, 1997

- It is not clear what is existing, what is proposed - what is being approved.
- The southern most spaces in the parking lot need to be labeled as compact spaces or the depth of these spaces increased.
- Elm Street. A 11 foot combined parking bikelane is what should be provided and striped.

Plat

- Provide 9 foot utility easements along the ROW frontages
- Provide the reception number for the existing drainage easement.
- The indications for drainage and access easements have square footage indications with them. These do not correspond with the acreage indications.

Utility Plans

- Provide a striping plan for elm street.
- Is the demolition/ construction work to be done in Phases? If not where will temporary parking be located?

(Continued on next page)

Date: 5/28/97 Signature: S. Wambhoff

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- Plat Site Drainage Report Other _____
 Utility Redline Utility Landscape



City of Fort Collins Utility Service Center (page 2 of 2)

- Revise general notes as shown.
- Add cross section sheets into the index.

Overall Utility and Grading plan

- Is the 8" underdrain paralleling Elm Street existing or is this something new. Is it perforated or solid?

Horizontal control plan

- Only a 4.5 foot walk is required on Wood Street.
- The parking spaces at the south end of the lot need to be labeled as compact or the depth needs to be increased to meet min for standard vehicles.

Cross sections

- Typically the sidewalk and the parkway strip drain to the street. If it is going to drain away need modify the standard detail for curb, gutter and walk showing it sloping away at 2%.
- show curb and gutter on the west.
- Indicate the approximate x-slope.

Wood Street Plan and Profile

- What is the slope that the improvements are being tied into?
- Need to indicate where the sidewalk is located (this may be something that would be best done on the horizontal control plan). For the meandering a 60 foot min is what we want to see.
- Is a cross pan needed across the intersection of Wood and Elm?

Elm Street Plan and Profile

- Provide elevations in the intersection of Wood and Elm per Details D-18 or D-19
- A vertical curve is needed where the proposed and future improvements intersect.
- Provide stationing indications on the plan view.
- Driveway entrance Radii 15 foot max

Details

- Provide changes to details as indicated.
- Details for on site ramps?

Engineering

***SITE PLAN**

COMMENT:

It is not clear what is existing, what is proposed- what is being approved.

RESPONSE:

The Site Plan has been modified to reflect only the proposed improvements. The covered parking and vehicle storage building will be constructed at a future date and under separate contract.

COMMENT:

The southern most spaces in the parking lot need to be labeled as compact spaces or the depth of these spaces increased.

RESPONSE:

These spaces have been increased in depth to 17'.

COMMENT:

Elm Street. A 11 foot combined parking bike lane is what should be provided and striped.

RESPONSE:

The stripe separating the bike lane and parking lane will be deleted and a single stripe at 11' off of the flowline of the gutter will be placed along the north side of Elm Street.

***PLAT**

COMMENT:

Provide 9 foot utility easements along the ROW frontages.

RESPONSE:

This easement has been added to the Plat. See drawing/plan.

COMMENT:

Provide the reception number for the existing drainage easement.

RESPONSE:

The Griffin drain easement is in the process of being filed by the City of Fort Collins. Therefore a Reception Number has not been assigned.

COMMENT:

The indications for drainage and access easements have square footage indications with them. These do not correspond with the acreage indications.

RESPONSE:

This discrepancy has been corrected on the drawings/plans.

***UTILITY PLANS**

COMMENT:

Provide a striping plan for Elm Street.

RESPONSE:

A striping plan will be prepared by Carroll Miller of the City of Fort Collins Traffic Operations Department prior to construction. The City will do the striping of Elm Street with their own personnel. Therefore, we have not included a Striping Plan in the drawings/plans.

COMMENT:

Is the demolition/construction work to be done in Phases? If not where will temporary parking be located?

RESPONSE:

Demolition will be done at one time. Temporary parking will be supplied in the Light and Power Departments vacant lot west of Wood Street and north of Vine Street (directly west of the 700 Wood/utility Service Center site). Additionally, the Water and Wastewater Department's newly constructed parking lot on the northwest corner of the 700 Wood Street/Utility Service Center property will be used.

COMMENT:

Revise general notes as shown.

RESPONSE:

Notes have been revised as suggested in the review comments. See revised Cover Sheet (C1).

COMMENT:

Add cross section sheets into the index.

RESPONSE:

Sheet numbers have been added to the Cover Sheet (C1).

***OVERALL UTILITY AND GRADING PLAN**

COMMENT:

Typically the sidewalk and the parkway strip drain to the street. If it is going to drain away need modify the standard detail for curb, gutter and walk showing it sloping away at 2%.

RESPONSE:

Grading has been modified so ground slopes toward the back of the curb. A typical cross section has been added to the Cross Section sheets.

COMMENT:

Show curb and gutter on the west.

RESPONSE:

Curb and gutter on the west side of Wood Street has not been shown as the scale of the Cross Section sheets will not allow for the full width of the street to be shown and the curb and gutter on the west side will be unaffected by the proposed construction.

COMMENT:

Indicate the approximate x-slope.

RESPONSE:

The cross slope of Wood Street varies and will be unaffected by the construction. It was agreed through previous discussions with Mike Herzog that the cross section of Wood Street will remain as is and therefore the cross slope of the street would not have to meet City criteria.

***WOOD STREET PLAN AND PROFILE**

COMMENT:

What is the slope that the improvements are being tied into?

RESPONSE:

Slope on the north end of the Wood Street improvements is -1.16%.

Slope on the south end of the Wood Street improvements is 0.27%.

COMMENT:

Need to indicate where the sidewalk is located (this may be something that would be best done on the horizontal control plan).

RESPONSE:

The layout of the sidewalk has been geometrically defined on Sheet C7 of the drawings/plans.

COMMENT:

Is a cross pan needed across the intersection of Wood and Elm?

RESPONSE:

It is the intent of the drainage plan to divert flows coming from the north in Wood Street into the north flow line of Elm Street. Installation of a cross pan would not allow this to happen; as the southeast corner of the Wood Street and Elm Street intersection is lower than the northeast corner.

***DETAILS**

COMMENT:

Provide changes to details as indicated.

RESPONSE:

Changes have been made per the review comments. See Detail Sheets C10 and C11.

COMMENT:

Details for on-site ramps?

RESPONSE:

Detail has been added to Sheet C10.

***DRAWINGS**

Sheet C6

COMMENT:

Main Traffic Corridor ?

RESPONSE:

The gravel pavement is not part of the main traffic corridor, but acts as a temporary shoulder until future improvements are made to the eastern portion of Elm Street.

COMMENT:

Need to show additional parking lot / structures if want them approved as a part of these plans.

RESPONSE:

Limits of improvements are as shown on the drawings/plans. No buildings will be constructed as a part of this project. Parking lot improvements to the eastern half of this site will be done at a later date and under separate contract.

COMMENTS:

Off site easement needed

RESPONSE:

The proposed guardrail (CDOT Type 4 concrete barriers) have been deleted from the project. Therefore, no easements will be required.

The 8" underdrain was mis-labeled as "(proposed)". This underdrain is existing.

COMMENT:

Curb and gutter along the north edge of Elm Street between Grant and Loomis Avenue.

RESPONSE:

Improvements to this portion of Elm Street are beyond the scope of this project. Improvements to this portion of Elm Street will be done at a future date and under separate contract.

Sheet C7

COMMENT:

Only 4.5' req.

RESPONSE:

A six foot (6') walk has been shown as this width matches the existing width of the walk at the northwest corner of the project site.

Sheet C8

COMMENT:

How does tis transition to the existing alignment to north?

RESPONSE:

See Sheet C6.

Sheet C9

COMMENT:

Radius? ... of curb at the southeast corner of Wood and Elm.

RESPONSE:

Curb and gutter will not be replaced as part of this project.

COMMENT:

Width from flowline to flowline of Elm Street.

RESPONSE:

This width is shown on Sheet C10.