



City of Piedmont
Planning Commission Meeting

Agenda

Monday January 6, 2020

AGENDA SUMMARY- PLANNING COMMISSION MEETING
Piedmont Civic Center
314 Edmond Road Northwest
Monday, January 6 2020 at 6:30 PM

1. CALL TO ORDER- Chairman
2. ROLL CALL- City Secretary
3. APPOINTMENTS- Appoint a Chair, Vice Chair, and Secretary for Planning Commission.
4. CONSENT AGENDA- All items on the consent agenda are non-controversial and may be approved by one motion for items.
 - a. Approval of Minutes for the Planning Commission meeting held November 4, 2019. **(PAGE 5-8)**
5. CONSIDERATION OF ITEMS REMOVED FROM CONSENT AGENDA
6. HEARING OF CITIZENS- Topics to include those items *not listed in the agenda*.
7. BUSINESS ITEMS
 - a. Discussion, consideration, and possible action on revised Piedmont Drainage Manual. **(PAGE 9-49)**
 - b. Conduct a Public Hearing to consider a formal rezoning application, requested by Ronald Lodes, by requesting a rezoning from the established Agricultural (A-1) Zoning District to Residential Zoning District RE (Rural Residential District) at the following described property: (Also known as Tract 7 in Redland Hills): **(PAGE 50-59)**
Lot Seven (7). Of Block One (1), in Redland Hills to Piedmont, Canadian County, Oklahoma according to the recorded plat thereof.
 - c. Discussion, consideration, and possible action on a formal rezoning application, requested by Ronald Lodes, by requesting a rezoning from the established Agricultural (A-1) Zoning District to Residential Zoning District RE (Rural Residential District) at the following described property: (Also known as Tract 7 in Redland Hills): **(PAGE 50-59)**

See above for full legal description.

- d. Discussion, consideration, and possible action on Final Plat of Autumn Chase Town Central Phase II. **(PAGE 60-62)**

A tract of land in the Northeast Quarter (NE/4) and Northwest Quarter (NW/4) of Section Thirty-three (33), Township Fourteen (14) North, Range Five (5) West of the Indian Meridian, Canadian County, Oklahoma, more particularly described as follows: BEGINNING at the Northwest corner of said Northeast Quarter (NE/4); Thence N 89.38'48" E along the North line of said Northeast Quarter (NE/4), (Basis of Bearing), a distance of 333.56 feet; Thence S 00°00'12" E a distance of 529.44 feet; Thence S 45°00'72" E a distance of 35.36 feet; Thence S 00°00'72" E a distance of 50.00 feet; Thence S 44°59'48" W a distance of 35.36 feet; Thence S 00°00'12" E a distance of 130.56 feet; Thence N 89°59'59" W a distance of 384.82 feet; Thence on a curve to the left with an arc length of 398.46 feet, a radius of 1857.02 feet, a chord bearing of S 83.50'59" W and a chord length of 397.70 feet; Thence S 77°42'10" W a distance of 81.19 feet; Thence on a curve to the right with an arc length of 125.02 feet, a radius of 7325.65 feet, a chord bearing of S 80°24'16" W and a chord length of 124.98 feet to the Southeast corner of the recorded plat of AUTUMN CHASE AT TOWN CENTRAL & HAWKS LANDING AT TOWN CENTRAL PHASE I; Thence N 41°76'53" E along the East line of said recorded plat, a distance of 37.57 feet; Thence N 00°00'12" W continuing along the East line of said recorded plat, a distance of 806.10 feet to a point on the North line of said Northwest Quarter (NW/4); Thence N 89°36'07" E along the North line of said Northwest Quarter (NW/4), a distance of 624.46 feet to the POINT OF BEGINNING.

Said tract having an area of 743764.66 Square Feet, 17.074 Acres, more or less.

- e. Discussion, consideration, and possible action on revisions to the Lot Split Ordinance in the Subdivision Regulations. **(PAGE 63-67)**
 - f. Discussion and possible action on Mother-In-Law Suites on properties.
8. NEW BUSINESS
 - a. "New Business," as used herein shall mean any matter not known about or which could not have been reasonable foreseen prior to the time of posting. (25 O.S. 311 a9)
 9. ADMINISTRATION REPORT- (Oral) City Manager, Engineer, Community Development, and Attorney.
 10. COMMISSIONER'S COMMENTS- (Oral)

11. ADJOURN- Chairman

All regular meetings of the City Council of Piedmont for the 2020 calendar year, were set on December 15, 2019. This agenda was posted at the Piedmont Civic Center – Front door, as of January 3, 2020. The above Agenda was posted on the City of Piedmont Website as of January 3, 2020, at 5:00pm.

Posted by the City Clerk

A handwritten signature in blue ink, appearing to read "Dennis Finton", is written over a horizontal line.

**PLANNING COMMISSION MEETING
Piedmont Civic Center
314 Edmond Road Northwest
Monday, November 4, 2019 at 6:30 PM**

MEMBERS PRESENT: Commissioner Craig Eidson, Commissioner Jeff Rycroft, Commissioner Bryan Seale, and Commissioner Robin Hopkins.

ABSENT: Chairman Richard Felton

STAFF PRESENT: Community Development Supervisor Kayla Cornett, City Secretary Valorie Cumming, and Attorney Mr. Wheatley.

1. **CALL TO ORDER-** Commissioner Craig Eidson called the meeting to order at 6:33pm.
2. **ROLL CALL-** City Secretary Valorie Cumming called roll and a quorum was present.
3. **CONSENT AGENDA-** All items on the consent agenda are non-controversial and may be approved by one motion for items.
 - a. **Approval of Minutes for the Planning Commission meeting held October 7, 2019.**
 - b. **Approval of the 2020 Planning Commission Calendar of Meeting Dates.**

Commissioner Jeff Rycroft made a motion to approve the consent agenda. Motion was **seconded** by Commissioner Robin Hopkins.

The Vote was:

AYE: Commissioner Craig Eidson, Commissioner Jeff Rycroft, Commissioner Bryan Seale, and Commissioner Robin Hopkins.

NAY: None

4. CONSIDERATION OF ITEMS REMOVED FROM CONSENT AGENDA

None

5. HEARING OF CITIZENS- Topics to include those items not listed in the agenda.

None

6. BUSINESS ITEMS

- a. **Conduct a Public Hearing to consider a formal rezoning application, requested by Lindsay R. Smith, by requesting a rezoning from the established Agricultural (A-1) Zoning District to Residential Zoning District RE (Rural Residential District) at the following described property: (Also known as 5510 Hart Dr NE):**

Part of the South Half of the East Half of the Northeast Quarter (S12 E/2 NE/4) of Section Sixteen (16), Township Fourteen (14) North, Range Five (5) West of the Indian Meridian, Canadian County, Oklahoma, more particularly described as follows; Beginning at a found 3/8" I.P. for the SE Corner of said S/2 E/2 NE/4; thence N 89°42'41" W along the West line

of said S/2 E/2 NE/4 a distance of 655.75 feet to a set 1/2" I.P. with CA 3948 Cap; thence North 00°13'01" East a distance of 332.05 feet to a set 1/2" I.P. with CA 3948 Cap; thence South 89°42'41" East a distance of 855.93 feet to a set 1/2" I.P. with CA 3948 Cap; thence South 00°14'55" West a distance of 332.05 feet to the point of beginning.

No one wished to speak.

- b. Discussion, consideration, and possible action on a formal rezoning application, requested by Lindsay R. Smith, by requesting a rezoning from the established Agricultural (A-1) Zoning District to Residential Zoning District RE (Rural Residential District) at the following described property: (Also known as 5510 Hart Dr NE):

See above for full legal description.

Commissioner Jeff Rycroft verified it meets the 2030 comp plan.

Community Development Supervisor Kayla Cornett addressed the board
-these items are just a lot split and then rezoning of the two lots

Commissioner Jeff Rycroft made a motion to approve item b. Motion was **seconded** by Commissioner Bryan Seale.

The Vote was:

AYE: Commissioner Craig Eidson, Commissioner Jeff Rycroft,
Commissioner Bryan Seale, and Commissioner Robin Hopkins.

NAY: None

- c. Conduct a Public Hearing to consider a formal rezoning application, requested by Lindsay R. Smith, by requesting a rezoning from the established Agricultural (A-1) Zoning District to Residential Zoning District RE (Rural Residential District) at the following described property: (Also known as 5510 Hart Dr NE):

Part of the South Half of the East Half of the Northeast Quarter (S/2 E/2 NE/4) of Section Sixteen (16), Township Fourteen (14) North, Range Five (5) West of the Indian Meridian, Canadian County, Oklahoma, more particularly described as follows:

Commencing at a found 3/8" I.P. for the S.E. Comer of said S/2 E/2 NE/4; Thence N 89°42'41" West along the West line of said S/2 E/2 NE/4 a distance of 655.75 feet to a set 1/2" I.P. with CA 3948 cap for the Point of Beginning; Thence North 89°42'41" West, a distance of 655.75 feet to a set 1/2" J.P. with CA 3948 cap; Thence North 00°11'08" East, a distance of 332.05 feet to a set 1/2" I.P. with a CA 3948 cap; Thence South 89°42'41" East, a distance of 655.93 feet to a set W I.P. with CA 3948 cap; Thence South 00°13'01" West, a distance of 332.05 feet to the point of beginning.

Containing In total 217,772 square feet, or 4.9994 acres, more or less.

No one wished to speak.

- d. Discussion, consideration, and possible action on a formal rezoning application, requested by Lindsay R. Smith, by requesting a rezoning from the established Agricultural (A-1)

Zoning District to Residential Zoning District RE (Rural Residential District) at the following described property: (Also known as 5510 Hart Dr NE):

See above for full legal description.

Community Development Supervisor Kayla Cornett addressed the board

- recommend approving
- meets 2030 comp plan

Commissioner Jeff Rycroft made a motion to approve item d. Motion was **seconded** by Commissioner Bryan Seale.

The Vote was:

AYE: Commissioner Craig Eidson, Commissioner Jeff Rycroft, Commissioner Bryan Seale, and Commissioner Robin Hopkins.

NAY: None

7. NEW BUSINESS

- a. **“New Business,” as used herein shall mean any matter not known about or which could not have been reasonable foreseen prior to the time of posting. (25 O.S. 311 a9)**

None

8. ADMINISTRATION REPORT- (Oral) City Manager, Engineer, Community Development, and Attorney.

None

9. COMMISSIONER’S COMMENTS- (Oral)

Commissioner Robin Hopkins addressed the board

- can anyone tell me where we have an ordinance that shows these flags aren’t allowed
- why don’t we allow them
- keep getting comments that the City is anti-business

Community Development Supervisor Kayla Cornett addressed the board

- it is a part of our zoning ordinance book
- website, community development, forms & docs. zoning/ordinance book. chapter 3 page 23
- not sure why the ordinance was created by the Council
- assume due to visual appeal of our City
- we are pro-business
- will pick up on lot splits when Chairman Richard Felton and City Attorney Mike Segler gets back

Commissioner Jeff Rycroft addressed the board

- when will we be working on lot splits again
- go talk to City Councilman if you are wanting to change ordinance

10. ADJOURN- Commissioner Craig Eidson adjourned the meeting at 6:45pm.

Chairman, Richard Felton

Secretary, Valorie Cumming



CITY OF PIEDMONT, OKLAHOMA
STORMWATER CRITERIA MANUAL
AUGUST 2010

PREPARED BY
DR. ELLEN STEVENS, PHD, PE
AND
MESHEK & ASSOCIATES, PLC

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I. Policies

A. Drainage policies.

1. Stormwater drainage system design

The stormwater drainage system shall be designed to pass the peak stormwater run-off received from upstream and from the subject property for storms with durations up to twenty-four (24) hours and return periods of up to one hundred (100) years.

2. Development impact on flooding

All development, redevelopment, and earth changes shall be constructed such that it will not increase the frequency of flooding or the depth of inundation of structures during the 50% (2-year), 20% (5-year), 10% (10-year), 2% (50-year), and 1% (100-year) flood events. A commercial or multi-family development site under 5 acres shall be constructed such that it will not increase the frequency of flooding or the depth of inundation of structures during the 20% (5-year), 10% (10-year), 2% (50-year), and 1% (100-year) flood events.

3. Development impact on peak flow rates

Peak flows shall not be increased at any location, upstream or downstream of any development for the 50% (2-year), 20% (5-year), 10% (10-year), 2% (50-year), and 1% (100-year) flood events unless approved by the City Engineer and provisions of Sec 1.A.(4) are met. In order to compare the effects of the project, existing conditions shall be computed and compared to the "with proposed project" conditions at all points of discharge from the project and at points downstream as specified by the City Engineer to ensure that there is no increase in the discharges.

4. Offsite drainage requirements

The City may require improvements, provision of drainage easements, provision of improvements, agreements, and/or easements beyond the boundaries of the development. The required construction of offsite drainage improvements are:

- a. to facilitate flow of storm water from or through the property,
- b. to avoid damage from changed runoff conditions,
- c. to provide continuous improvement of the overall storm drainage system, and
- d. to accommodate other drainage conditions or requirements.

Where storm water runoff flows require the logical extension of any street and its associated drainage in order to prevent flooding, ponding, or uncontrolled runoff the extension shall be provided by the developer.

5. Stormwater management control

No action shall be taken in any land improvement by any developer, contractor, or lot owner that will alter or otherwise change existing designed and installed storm water management control, nor shall any action be taken on existing property that shall adversely affect storm water runoff in any manner contrary to the provisions of this Chapter. Whether temporary in nature to service only the construction phase of development, or whether a combination of temporary and permanent serving a dual purpose, the first techniques to be employed in the development of a site shall be the management of storm water and drainage in a manner consistent with the requirements of this Chapter.

6. Completion of stormwater facilities

Developers shall complete construction of stormwater facilities to control runoff and erosion prior to issuance of any building permits.

7. Use of Design Criteria

Regulation of peak flows to allowable levels, as determined by subparagraphs (2) and (3) herein, shall be achieved by on-site or off-site storage and/or other water management facilities as provided in these Drainage Criteria.

8. Downstream improvements and easements

Subject to requirements in the City Drainage Standards for a drainage plan or earth change permit, downstream conveyance may be improved or easements obtained for inundated areas to compensate for increased flow depths if such improvements comply with the policies of this chapter.

9. Concentration of flows

All development, redevelopment, and earth changes shall be constructed so that it will not cause harm to other properties as a result of concentrating flows.

10. Requirement for hydraulic analyses

If a tract of land under development has a drainage basin of 10 acres or larger within its boundary, then a hydraulic (backwater) analysis of the existing and proposed drainage system shall be provided to show any impact the proposed development has on the floodplain area and elevation.

11. Compensatory storage

Compensation shall be provided for filling or development which diminishes the flood storage capacity of the flood plain area from drainage basins of 10 acres or larger, by providing compensatory storage or other method as determined by the City Engineer.

12. Use of natural channels and streams

The design of any development shall provide for the maximum use of open channels and natural streams for drainage areas of 40 acres or more, and detention storage to control runoff rates. Natural drainage channels and techniques shall be given priority consideration in preparation of stormwater drainage system designs and shall be designed or improved as an integral part of the landscape of the area in accordance with the following guidelines:

a) Drainage channel improvements shall be developed and designed to preserve and protect trees and other worthy botanical and geological features to the maximum extent practicable. Vegetation shall be preserved when feasible. Riparian habitat shall be maintained when feasible, during improvements

b) Wherever channel improvements are required to accommodate storm runoff in a specified manner, the designs shall provide maximum practical utilization of turf, sodding, and natural ground surface protection techniques in order to protect the environment by reducing erosion potential.

c) Water quality control measures shall be incorporated into stormwater management designs, subject to approval of the City Engineer. Additionally, impacts on receiving water quality shall be assessed for all flood management projects.

d) The City Engineer may require open channels for other drainageways for just cause.

13. **Open section roads and borrow ditches**

Open section roads and bar ditches may be used in Zoning Districts A-1, RE, RE-1, I-2, I-3 or in developments where the road frontage for every lot is at least 145 feet. The conditions identified in Section V.C.7.

14. **Storm sewer requirements**

Storm sewers shall be used for all developments wherein the conditions given in this manual for use of open section roads are not met. Storm sewers may be used in any development at the developer's discretion and may be required by the City Engineer where there are no viable alternatives to fit the site or geographic conditions. Storm sewers may be used to alleviate existing drainage problems, subject to the approval of the City Engineer. Open ditches may be used at the discretion of the City Engineer in specific locations where green solutions are more desirable within the maintenance requirements of the City.

B. Erosion and sediment control policies.

1. **Requirements for construction**

All development, redevelopment, and earth changes shall be designed, constructed and completed in a manner which minimizes the exposure of bare earth to precipitation. Contractor shall file NOI, develop SWPPP and otherwise comply with applicable local, state, or federal regulations. Contractor shall provide a copy of the NOI and SWPPP to the city.

2. **Minimize sediment-related pollution**

All development, redevelopment, and earth changes shall be constructed in a manner that will minimize soil dispersal, sedimentation, erosion, or other similar forms of pollution:

- a) From any surface of the site into drainage channel provided or created within the development;
- b) From the site into drainage channels adjacent to and remote from the site.

3. Sedimentation facilities

All development, redevelopment, and earth changes shall be constructed only if appropriate sedimentation facilities are installed and maintained throughout the construction period.

4. Best Management Practices

All development, redevelopment, and earth changes shall be accompanied by Best Management Practices for controlling sediment and erosion so as to minimize the amount of sediment leaving the site.

II. General Requirements

A. Lot Drainage

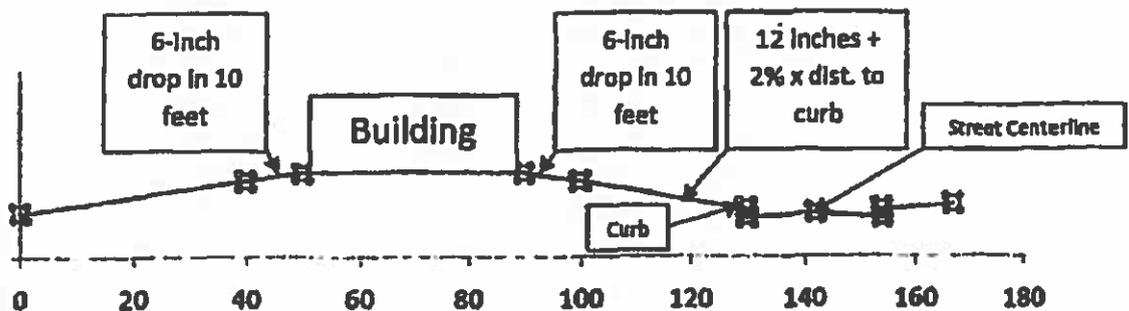
1. Conveyance of surface drainage

Surface drainage shall be diverted to a designated stormwater conveyance or other approved point of collection that does not create a hazard. No more than 2 lots or 1/2 acre shall be allowed to drain onto an adjacent lot unless it drains into a designated stormwater drainage system component.

2. Grading adjacent to foundations

Lots shall be graded to drain surface water away from foundation walls, as follows:

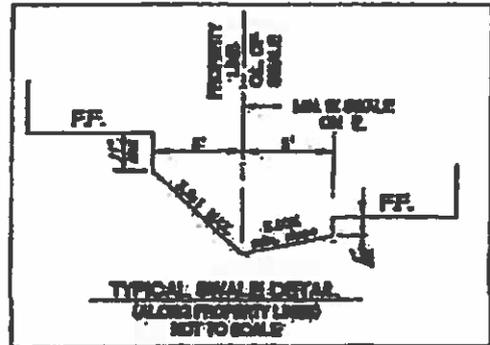
- a) The grade shall fall a minimum of 6 inches within the first 10 feet.
- b) The top of any exterior foundation shall extend above the elevation of the street gutter at point of discharge or the inlet of an approved drainage device a minimum of 12 inches plus 2 percent times the distance from the gutter to the building. The drawing below illustrates these requirements.



3. Grading adjacent to foundations under special circumstances

Where lot lines, walls, slopes or other physical barriers prohibit 6 inches of fall within 10 feet, the following applies:

- a) Drains or swales shall be constructed to ensure drainage away from the structure.
- b) Impervious surfaces within 10 feet of the building foundation shall be sloped a minimum of 2 percent away from the building.
- c) Between buildings, the sketch to the right shows the minimum requirements for drainage.



4. Equipment or storage under crawlspaces

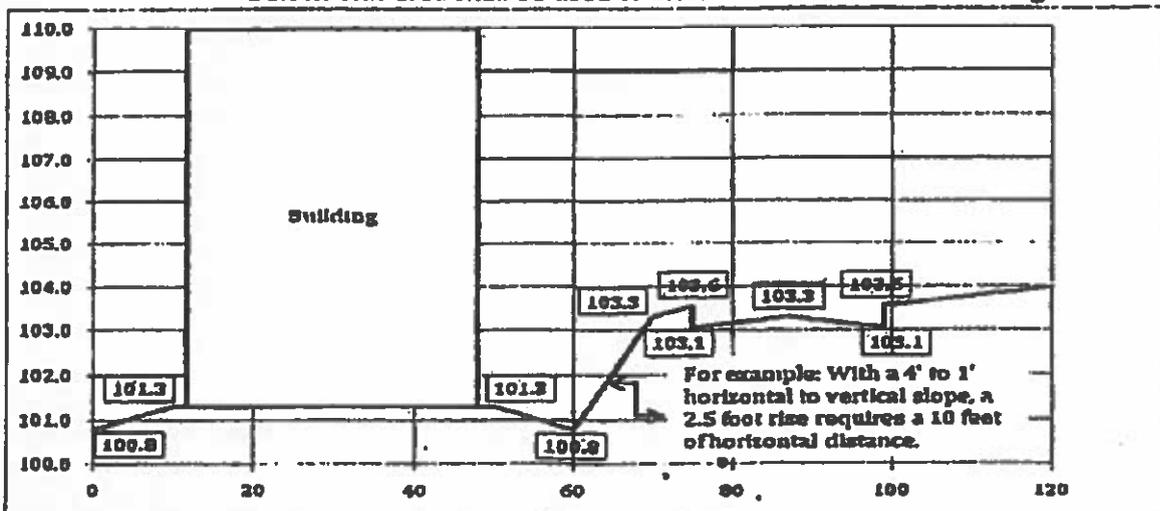
Crawlspaces shall not be used for mechanical and electrical equipment or storage purposes of any kind lower than the following:

- a) An elevation of one foot above the lowest curb (in a curb and gutter section) or street elevation (in an open paving section) adjacent to the lot; or
- b) An elevation one foot above the lowest ground elevation adjacent to the lot.

5. Buildings located below street grade

In a curb and gutter roadway section where buildings are located below the grade of the street, the following applies:

- a) There shall be a horizontal distance between the toe of the slope and the building equal to the vertical component of the slope, shown below. This area shall be used to divert water around the building.



b) If a wall is used to separate the curb elevation from the elevation in front of the building, the horizontal distance between the wall and the building shall be equal to or greater than the difference in elevation between the curb elevation and the building finished floor.

c) The drive shall be shaped so that the high point between the gutter and downhill portion of the driveway slope is at or above the highest adjacent curb elevation.

6. **Building elevations along open paving sections**

The elevation of the front of buildings adjacent to the street will not be allowed below roadway elevations in an open section.

B. Operation and Maintenance of Stormwater Detention Facilities

Operation and Maintenance of Stormwater Detention Facilities shall be provided as follows:

1. **Access to stormwater facilities**

The City of Piedmont requires that maintenance access be provided to all storm drainage facilities for operational and maintenance purposes through acceptance of the project by the City. After acceptance, private maintenance of the facilities shall be continued, with permanent access protected by a dedicated easement. The easement shall be shown on final plats or final development plans and shall clearly state that the purpose is for private stormwater management facilities maintenance.

2. **Maintenance during construction**

Drainage facilities provided by the developer shall be fully and properly maintained from construction through final acceptance of the development improvements by the City of Piedmont. Following acceptance, private maintenance of the facilities shall be governed by II.B.4.

3. **Maintenance by property owners**

It shall be the responsibility of all property owners to maintain drainage facilities as follows:

- a) Mow and provide maintenance of drainage channels and their slopes for that portion of the channel lying within their property limits
- b) Keep clear all drainage channels within the boundaries of their properties in accordance with the requirements of this MANUAL
- c) Prevent any and all drainage interferences, obstructions, blockages, or other adverse effects upon drainage into, through, or out of the property
- d) Control the erosion of the drainage channels and the deposition of materials into the drainage channels from the property.
- e) Permanent access as described in B.1 shall be provided whether the stormwater facilities are public or private.

4. Maintenance of completed stormwater detention facilities

Stormwater detention facilities shall be maintained as follows:

- a) Remedial activities to be provided include erosion control, sediment removal and minor reconstruction of side slopes, areas subject to turbulence, and detention pond outlet works.
- b) Mowing shall be provided at least once a month during the 7-month growing season from March 15 to October 15.

C. Easements:

1. Drainage and Detention Easements

a) Drainage easements shall be sized to carry, at minimum, a one percent (1%) storm. Such easements shall be continuous and contiguous from one property to the next.

b) A drainage easement shall be required:

(1) Where storm water runoff is designed to exit the public right-of-way and enter private property. Such easement shall be located at and extend from the point of entry onto private property to the point where the runoff enters another property, intersects another drainage easement, or enters a drainage facility or another public right-of-way.

(2) Where storm water runoff from a drainage basin of 1/2 acre or larger enters a property from an adjacent property. Such easement shall be located at and extend from the point of entry onto the site to the point where the runoff enters another property, intersects another drainage easement, or enters a drainage facility.

(3) Around the boundaries of drainage/retention facilities. Such easement shall be adequate in size to permit access to such

facility from a public right-of-way and around the perimeter of such facility.

- c) Easements shall be required for all stormwater management facilities not in public rights of way; including:
 - (1) Storm sewers
 - (2) Channels
 - (3) Storage areas
 - (4) Other hydraulic structures
 - (5) All portions of the public stormwater drainage system with a drainage area of 1/2 acre or more.
- d) Easements shall:
 - (1) Allow no restriction of the drainage purposes.
 - (2) Clearly identify that the purpose includes operation and maintenance of stormwater management facilities
 - (3) Be shown on all plats, including widths and specific purposes (i.e.: storm sewer, maintenance access, channel, etc.)
- e) The widths of easements are determined by:
 - (1) The size of the storm sewer, its depth, and the equipment needed to remove, replace or repair the sewer.
 - (2) The width of the easement for channels, storage areas and other structures is generally determined by the size of the facility and the equipment needed for maintenance, typically covering the entire facility plus 20 feet for maintenance access.
- f) Drainage easements
Drainage easements (see Table below) shall be shown on the Final Plats and Final Development Plan and shall state that the City has the right of access on the easements which shall be kept clear of obstructions to the flow and/or maintenance access.

REQUIRED OPERATIONS, MAINTENANCE EASEMENTS & OUTLOT AREAS (NOT WITHIN A PUBLIC RIGHT OF WAY)				
DRAINAGE FACILITY	MINIMUM EASEMENT/OUTLOT AREA WIDTH			
Pipe Diameter	Width of Easement for Trench Depth to Pipe Invert (Feet) of:			
Inches	5	10	15	20
18"	15	15	20	30
24"	15	15	25	35
30"	15	15	25	35
36"	-1	15	25	35
42"	-1	15	25	35
48"	-1	15	25	35
54"	-1	15	25	35
60"	-1	20	30	35
>60" (2)	-1	30	30	30
	(1) Area of minimum cover, depending on structural requirements and easement location.			
	(2) For pipe diameters greater than 60 inches, repairs can be made internally and the ROW width is not dependent of excavation for repairs.			
Storm Sewer Overflow, Where Required	As required to contain the top width of the surface overflow from a 1% storm in an overland drainage easement.			
Open Channel	Top width plus 20 feet; five feet on one side and 15 feet on the side with the maintenance access road.			
Post-development 1% (100-year) Regulatory Floodplain	Area sufficient to contain the regulatory 1% (100-year) post-development floodplain			
Open Space Detention Facilities	As required to access and contain storage volume and associated facilities plus 20 feet of maintenance access around the perimeter.			
Parking Lot and Underground Detention Facilities	As required to access and contain storage volume and associated facilities.			

g) The City Engineer may approve a reduction in the required easement area for open channels and open space detention facilities that will be contained within private drainage easements and be privately maintained.

h) Regulatory floodplain

Regardless of what is shown as floodplain boundary on the adopted floodplain maps, all areas within the development having an elevation lower than the 1% (100-year) water surface elevation shall be platted as common area or outlot.

D. Revisions to Floodplain Maps

1. CLOMR and LOMR requirements

Changes to the boundaries of a flood plain, floodway, flood insurance zone, flood elevation, flood depth and other information shown on the officially adopted floodplain maps must be approved by the Federal Emergency Management Agency (FEMA) through the Conditional Letter of Map Revision (CLOMR) and/or Letter of Map Revision (LOMR) process.

2. LOMR-F requirements

The Floodplain Administrator (FPA) will not approve a Letter of Map Revision based on Fill (LOMR-F) in the City of Piedmont without supporting documentation verifying compliance with City ORDINANCES. The placement of fill in the floodplain shall require hydraulic studies to determine the upstream and downstream effect.

3. CLOMR requirements

A CLOMR is required to be obtained from FEMA before a project can be built if the project includes any work within the designated floodway. If the project would require any change in the effective hydraulic model, the delineated 1% (100-year) flood floodplain, or the effective flood profiles, then duplicate effective, existing, and proposed conditions hydraulic models shall be submitted to the city for review. The City may request any other analysis or documentation deemed necessary to demonstrate that the project is in compliance with the City Flood Damage Reduction ordinance and requirements of the NFIP. The City may require a CLOMR for any project if needed to ensure compliance with the NFIP.

4. LOMR requirements

A LOMR is required as a follow-up to the CLOMR, or if any work has been completed within the designated floodway, or if the project requires any change in the effective hydraulic model, the delineated 1% (100-year) floodplain, or the effective flood profiles. No occupancy permits will be approved until the LOMR is approved by the City for submittal to FEMA.

5. Mapping requirements

The new floodplain boundaries must be submitted to the City in AutoCAD or GIS format in order to update the City's floodplain mapping. Submittal shall include

the 1% (100-year) and 0.2% (500-year) floodplain boundaries, cross sections used in the hydraulic model, and the stream centerline used in the hydraulic model.

E. Acceptance of Existing Stormwater Drainage Facilities

1. Guidelines for acceptance of stormwater drainage facilities

The City of Piedmont will consider acceptance of existing stormwater drainage facilities not constructed under these criteria for ownership and maintenance without modification to the system using the following guidelines:

- a) The system must be capable of conveying the regulatory 1% (100-year) storm flow using the criteria presented in this MANUAL.
- b) The system must be reasonably maintainable with legal access to all facilities using the standards for access presented in these criteria.
- c) Facilities submitted as part of previously approved plats, but not building permits, will be considered for acceptance.

2. Guidelines for acceptance of channels

Channels must meet the minimum standards of:

- a) The channel must have a concrete liner that is structurally sound and not subject to imminent failure.
- b) The Froude number for the 1% (100-year) storm flow must be less than 0.85 or greater than 1.15.
- c) The 1% (100-year) storm flow must be contained within the channel banks

3. Guidelines for acceptance of storm sewer systems

Storm sewer systems must meet the minimum standards of:

- a) Manholes at changes in pipe sizes and vertical alignment.
- b) Manholes at changes in horizontal alignment are required unless and exception is approved by the City Engineer.
- c) Manholes or other appropriate maintenance access must not be spaced farther apart than 500 feet.
- d) The sewer must be structurally sound and not subject to imminent failure.

III. Construction and approval of drainage facilities.

A. Scheduling of construction of stormwater facilities

All drainage facilities shown as part of an accepted drainage plan for any portion of a development shall be installed as a part of the first phase of construction or earth moving activity on that portion of the development. If only a portion of the drainage facilities are installed on any development due to phased construction of the development, these facilities shall be constructed to function in such a manner as to be consistent with the purpose of this chapter. The use of

temporary drainage facilities may be permitted so long as they function in such a manner as to be consistent with the purpose of this chapter and that they are replaced with permanent drainage facilities prior to occupancy or use of the development. Minor deviations from the requirement for installing the drainage facilities as a part of the first phase of construction or earth moving activity may be granted by the city engineer if deemed necessary for technical reasons related to the construction as long as the purpose of this chapter is met.

B. *Maintenance of stormwater facilities during construction*

Improvements provided by the developer shall be fully and properly maintained from initial approval of facilities through either final approval of the development improvements by the City Council or the point at which the maintenance is turned over to the Homeowners Association, whichever is later. The continuing maintenance of detention or retention facilities shall be assured by the developer in the manner described for other drainage facilities.

C. *As-built drawings.*

As-built drawings shall be prepared and sealed by a professional engineer registered in the State of Oklahoma and shall be submitted to the city engineer upon completion of the construction of the final drainage plan. As-built drawings shall clearly show any changes from the accepted final drainage plan. The as-built drawings shall be reviewed by the city engineer. This review is to determine if information required by the City for future use is included and is not intended to verify that dimensions and elevations are correct. If the submitted "as-built" drawings cannot be accepted, the certifying engineer and applicant shall be advised in writing of the reasons for their disapproval. "As-built" drawings must be accepted prior to the issuance of a certificate of occupancy and the use or occupancy of a site, development, or other improvement.

D. *Maintenance bond.*

Before approval by the City Council of any improvement for public or private maintenance, a maintenance bond for the total cost of the improvement and for a period of one year shall be filed with the city clerk to ensure the correction of any defect in materials or workmanship that may be found in the improvement.

IV. CONTENTS OF DRAINAGE PLANS AND STUDIES

A. *General Requirements*

1. Requirement for Professional Engineer Licensure.

All final drainage studies shall be formulated under the direct supervision of a registered professional engineer licensed by the State of Oklahoma. Studies submitted for final acceptance shall be accompanied by payment of a fee in accordance with the schedule approved by the City Council and bear the signature and seal of the submitting engineer and, additionally, the following statement shall immediately precede the signature and seal of the submitting engineer:

"I hereby certify that I am familiar with the adopted ordinances and regulations of the City of Piedmont governing drainage facilities; that this final drainage study has been prepared under my direct engineering supervision; and that the above and foregoing final drainage study complies with all governing ordinances and the adopted drainage standards of the City of Piedmont pertaining to drainage facilities to the best of my knowledge, information and belief."

2. Certification statement

All final drainage plans shall be formulated under the direct supervision of a registered professional engineer licensed by the State of Oklahoma. Plans submitted for final acceptance shall bear the signature and seal of the submitting engineer and, additionally, the following statement shall immediately precede the signature and seal of the submitting engineer:

"I hereby certify that I am familiar with the adopted ordinances and regulations of the City of Piedmont governing drainage facilities; that the final drainage plan has been prepared under my direct engineering supervision; and that the above and foregoing final drainage plan complies with all governing ordinances and the adopted drainage standards of the City of Piedmont pertaining to drainage facilities to the best of my knowledge, information and belief."

3. Owner's Statement

Following the signature and seal of the submitting engineer, the drainage plan shall bear the name, address, phone number, and signature of the owner which shall be subscribed below the following statement:

"I (We) hereby certify that the accepted drainage plan will be implemented as designed and "as-built" drawings prepared of the completed drainage facilities under the general supervision of a professional engineer licensed by the State of Oklahoma. I (We) further certify that I am (we are) aware of my (our) responsibilities as the owner(s) of record for this piece of property, and that I (we) may be held personally (corporately) liable for any violations on this property resulting from the failure to comply with the provisions of the adopted ordinances and regulations of the City of Piedmont governing drainage facilities. Said provisions include, but are not limited to, responsibilities for proper construction, construction procedures and maintenance of the drainage facilities upon completion."

4. Property owned by a corporation

In the case of property owned by a corporation, the statement shall use the parenthetical language and the owner's information shall also include the title of the authorized person signing the owner's certification and a notarized corporate seal.

B. SUBMITTAL REQUIREMENTS

The submittal requirements for drainage reports and plans are set forth in this section.

1. Summary Statement

The cover letter for the Drainage Reports shall include the following:

a) Goals and Policies

(1) Discuss how the proposed drainage plan meets the Stormwater Management goals and adheres to the floodplain policy(ies) of this Chapter.

(2) Discuss any deviation of the proposed drainage plan from the above goals and policies.

b) Drainage System Components

(1) Discuss the overall concept of the proposed system.

(2) Discuss the interaction of the major drainage and the proposed system.

c) Criteria

(1) Discuss any proposed deviation from the Chapter and methodology, as set forth in the standards, for consideration by the City for approval, if appropriate.

(2) Discuss the design criteria for the storm drainage design of the proposed system.

2. Drainage Report

a) Contents

The Drainage and Detention Report will identify and define solutions to the problems which may occur on site and off site as a result of the development. In addition, those problems that exist on site prior to development must be addressed during design. All reports shall be typed on 8 1/2" x 11" paper and bound together. The drawings, figures, plates, and tables shall be bound with the report or included in a folder/pocket at the back of the report. The report shall include a cover letter presenting the preliminary design for review and the report shall be prepared by or supervised by an engineer licensed in Oklahoma.

b) Certification:

The report shall contain a certification sheet as follows:

"I hereby certify that this report (plan) for the preliminary drainage design of (Name of Development) was prepared by me (or under my direct supervision) in accordance with the provisions of the City code of Piedmont for the owners thereof."

Licensed Professional Engineer

State of Oklahoma No. _____

(Affix Seal)

3. Report Contents:

The Drainage Report shall be formatted in accordance with the following outline and contain all of the applicable information listed:

a) GENERAL LOCATION AND DESCRIPTION

(1) Location

- (a) Name and address of Legal Owner**
- (b) Vicinity Sketch**
- (c) Legal description of property**
- (d) Boundary line survey**
- (e) Township, range, section, 1/4 section**
- (f) Local streets within and adjacent to the subdivision**
- (g) Major drainageways and facilities**
- (h) Names of surrounding developments**

(2) Description of Property

- (a) Area in acres**
- (b) Ground cover (type of trees, shrubs, vegetation)**
- (c) Major drainageways and floodplains.**
- (d) Soil Types and Hydrologic Soil Groups**

b) DRAINAGE BASINS AND SUB-BASINS

(1) Major Basin Description

- (a) Reference to major drainageway planning studies such as Stormwater Master Plan, flood damage prevention ordinance, and flood insurance rate maps**
- (b) Major basin drainage characteristics**
- (c) Identification of all drainage system components within 50-feet of the property boundary.**
- (d) Overall drainage area boundary and drainage sub-area boundaries.**

(2) Sub-Basin Description

- (a) Historic drainage patterns of the property in question**
- (b) Off-site drainage flow patterns and their impact on the proposed development**

c) DRAINAGE DESIGN CRITERIA

(1) Regulations:

(a) Discussion of the optional criteria selected or the deviation from the Chapter, if any

(2) Development Criteria Reference and Constraints

(a) Previous drainage studies (i.e., project master plans) for the site in question that influence or are influenced by the drainage design and how the plan will affect drainage design for the site

(b) Discussion of the drainage impact of site constraints such as streets, utilities, railways, existing structures, and development of site plan

(3) Hydrological Criteria

(a) Design rainfall

(b) Hydrologic analysis for runoff and on-site or regional stormwater detention facilities as required.

(c) Hydrologic analysis for compensatory storage requirements for any alterations of the floodplain.

(d) Runoff calculation method

(e) Hydrologic analysis for runoff to ensure conveyance.

(f) Detention discharge and storage calculation method

(g) Design storm recurrence intervals

(4) Hydraulic Criteria

(a) Routing of off-site drainage flow through the development.

(b) Location of watercourse and the appropriate hydraulic analysis for any alteration of a watercourse.

(c) Hydraulic analysis for runoff to ensure conveyance.

(d) Hydraulic analysis for compensatory storage requirements for any alterations of the floodplain.

(e) References for calculation of facility capacity

(f) Detention outlet type

(g) Grade control structure criteria used

d) DRAINAGE FACILITY DESIGN

(1) General Discussion of:

(a) Proposed and typical drainage patterns

- (b) Compliance with off-site runoff considerations
- (c) The content of tables, charts, figures, plates, or drawings presented in the report
- (d) Anticipated and proposed drainage patterns
- (2) Specific Discussion of:
 - (a) Drainage problems encountered and solutions at specific design points
 - (b) Detention storage and outlet design
 - (c) Photographs of downstream channel condition
 - (d) Maintenance access and aspects of the design
 - (e) Proposed maintenance agreement
 - (f) Easements and/or ROW dedications required
- e) **IMPACT ON AREA OF SPECIAL FLOOD HAZARD**
 - (1) Location of watercourse and the appropriate hydraulic analysis for any alteration of a watercourse
 - (2) Hydraulic and Hydrologic analysis for run-off to ensure conveyance
 - (3) Hydraulic and Hydrologic analysis for compensatory storage requirements for any alterations of the floodplain
 - (4) Hydraulic and Hydrologic analysis for run-off and on-site or regional stormwater detention facilities, if required
 - (5) Floodplain boundaries with elevations to 1988 NAVD
 - (6) Estimate of the quantity of excavation and fill with drawings indicating each separate excavation or fill (cross sections may be required)
 - (7) All appropriate FEMA (Federal Emergency Management Agency) submittal data to achieve a map revision (LOMR)
 - (8) No Rise certification for offsite properties.
- f) **CONCLUSIONS**
 - (1) Compliance with the City code of Piedmont
 - (a) Stormwater Master Plan
 - (b) Best Management Practices Plan provided and implemented
 - (2) Drainage Concept
 - (a) Effectiveness of drainage design to control damage from storm runoff
 - (b) Influence of proposed development on the Stormwater Master Plan recommendation(s)

g) REFERENCES

- (1) Reference all criteria and technical information used

h) APPENDICES

(1) Hydrologic Computations

- (a) Land use assumptions regarding adjacent properties
- (b) Path(s) chosen for computation of time-of-concentration.
- (c) Stormwater runoff at specific design points onsite and offsite.
- (d) Historic and fully developed runoff computations at specific design points
- (e) Hydrographs at critical design points if applicable

(2) Hydraulic Computations

- (a) Culvert capacities
- (b) Storm sewer capacity – including profile plots showing flow line, size, material and grade. Profiles shall show the natural and proposed ground line at the center line of the storm sewer. The energy grade line and hydraulic grade line for the 10, 25, and 100-year events shall be shown.
- (c) Street capacity
- (d) Storm inlet capacity including inlet control rating at connection to storm sewer
- (e) Open channel design
- (f) Check and/or channel drop design
- (g) Detention area/volume capacity and outlet capacity calculations

i) COMPLETED DRAINAGE AND DETENTION CHECK LIST ASSURING THAT ALL ITEMS HAVE BEEN ADDRESSED.

4. DRAWING CONTENTS

- a) **Sheet-1 General Location Map:** A map shall be provided in sufficient detail to identify drainage flows entering and leaving the development and general drainage patterns. The map should be at a scale of 1" = 200' to 1" = 400' and show the path of all drainage from the upper end of any off-site basins to the defined major drainageways. The map shall identify any major construction (i.e., developments, irrigation ditches, existing detention facilities, culverts, main storm sewers), along

the entire path of drainage. The size of the drawings shall be 8 1/2" x 11", 11" x 17", or 22" x 34".

b) **Sheet-2 Floodplain Information:** A copy of the regulatory floodplain map showing the location of the subject property shall be included with the report.

c) **Sheet-3 Drainage Plan:** Map(s) of the proposed development at a scale of 1" = 20' to 1" = 200' on a 22" x 34" drawing shall be included.

The plan shall show the following:

d) Existing and proposed contours at 2 foot maximum intervals. In terrain where the slope is relatively flat, spot elevations and drainage arrows must be shown.

e) **Property lines and easements with purposes noted:** Name, address and telephone number of legal owner of property; vicinity sketch

f) Streets, roads and highways adjacent to the property

g) Existing drainage facilities and structures, natural or man-made, including, roadside ditches, drainageways, gutter flow directions, and culverts. All pertinent information such as material, size, shape, slope, and location shall also be included.

h) Overall drainage area boundary and drainage sub-area boundaries

i) Proposed type of street flow (i.e., vertical or combination curb and gutter), roadside ditch, gutter flow directions, and cross pans. Include street classifications.

j) Proposed storm sewers and open drainageways, including inlets, manholes, culverts, retaining walls, erosion control measures, and other appurtenances

k) Proposed outfall point for runoff from the developed area and facilities to convey flows to the final outfall point without damage to downstream properties

l) Routing and accumulation of flows at various critical points for the minor storm runoff

m) Path(s) chosen for computation of time-of-concentration

n) Details of detention storage facilities and outlet works

o) Location and elevations of all defined floodplains affecting the property

p) Location and elevations of all existing and proposed utilities affected by or affecting the drainage design

q) Routing of off-site drainage flow through the development

V. Technical Requirements

A. Technical Requirements – Rainfall

1. Rainfall intensity – duration – frequency data for the City of Piedmont may be developed from the following sources. Where the cited reference has been superseded by a subsequent version, the most recent version shall be used.
 - a. "Depth-Duration Frequency of Precipitation for Oklahoma," (USGS WRI Report 99-4232).
 - b. The ODOT Zone II IDF curves or equations (Te Anh Ngo, 1988)
 - c. The IDF equations developed for Oklahoma City, as follows:

$$I = A/(B + T_c)^E \text{ where } T_c \text{ is in minutes and } I \text{ is in } I_{ph}$$

Where: T_c = time of concentration (minutes)
 I = rainfall intensity (inches per hour)

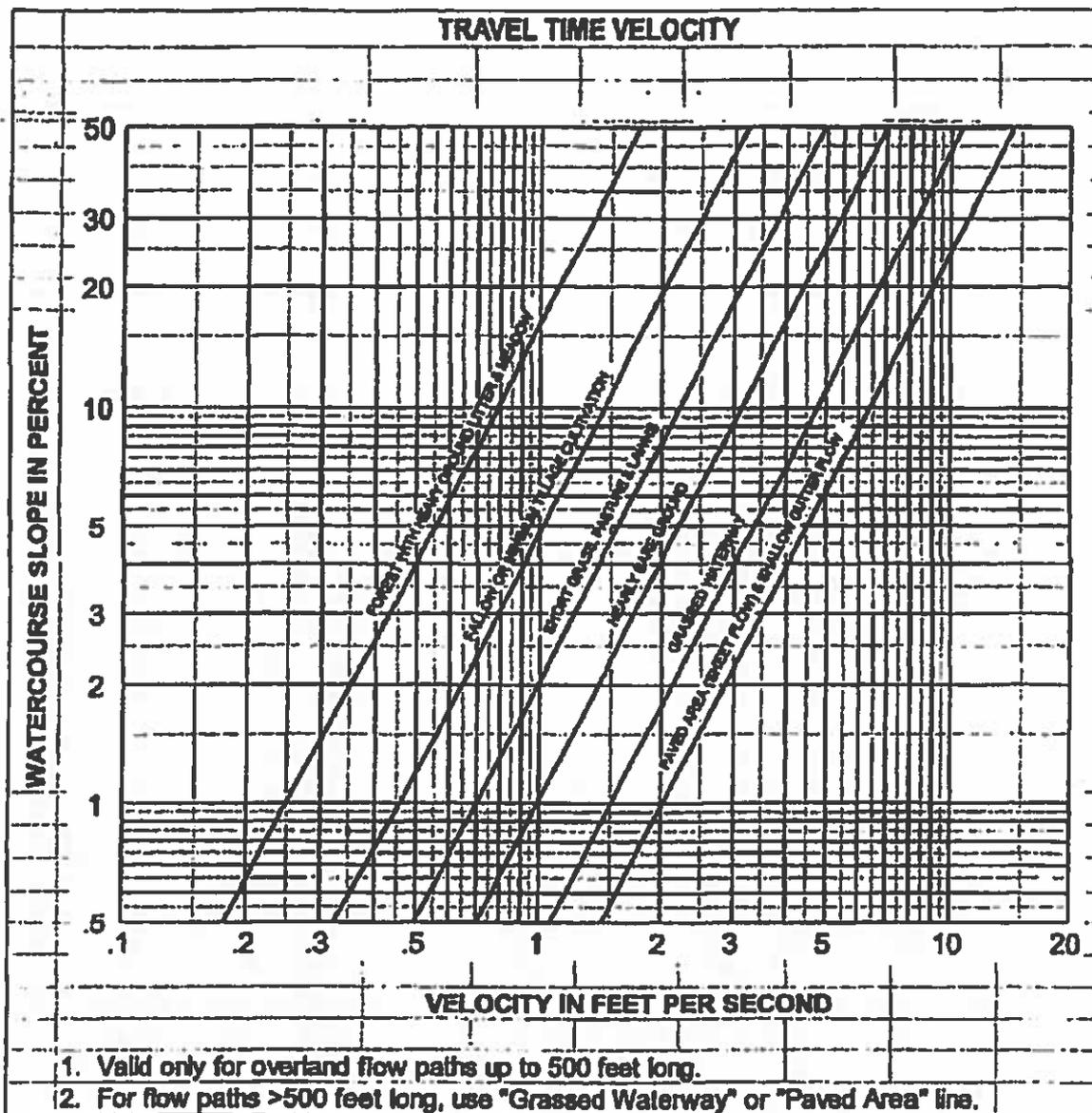
Storm Exceedance Probability	Recurrence Interval (years)	A	B	E
50%	2	104.332663	17.298017	0.934857
20%	5	79.655486	14.827708	0.825124
10%	10	87.535303	15.882422	0.811341
4%	25	101.481871	16.773612	0.805881
2%	50	98.924724	15.864806	0.775353
1%	100	102.769257	15.860016	0.760373

2. All computed hydrographs for stormwater detention shall use a storm duration of 24 hours and the NRCS Type II distribution.

B. Technical Requirements - Runoff

1. All stormwater runoff shall be subject to review and approval by the City Engineer with regard to analysis, design and construction of drainageway facilities. The appropriate public authority shall have the right of maintenance or to cause to be maintained the drainageway system for its intended purposes. If a stormwater master drainage plan is adopted for the area under consideration, then the provisions of the plan shall be adhered to.
2. Use of the Rational Method:
 - a) The Rational Method may be used to determine the peak discharge from a single, homogeneous watershed with an area of 40 acres or less or a time of concentration of 15 minutes or less.

- b) **Additionally, the Wright-McLaughlin Method for adjustment of the larger storm frequencies is required, as described in the Oklahoma Department of Transportation Drainage Design Manual (February 1988 or as amended).**
 - c) **A brief description of the Rational Method is shown below:**
 - (1) **Values for "C", the runoff coefficient, shall be obtained from the Oklahoma Department of Transportation Drainage Design Manual (February 1988 or as amended). Values for I, the rainfall intensity, shall be obtained as described in Section VII-A-1-b or c.**
 - (2) **Times of concentration shall be calculated based on the velocities obtained from travel time velocity chart contained herein.**
 - (3) **For strictly overland flow, not channelized, of 1500 feet or less, the Overland Flow nomograph or equation in the Oklahoma Department of Transportation Drainage Design Manual (February 1988 or as amended) may be used.**
3. **All stormwater drainage facilities for which the contributing drainage area does not meet the criteria for use of the Rational Method or which receive runoff from multiple subwatersheds shall be designed using the SCS (NRCS) Method, using the rainfall pattern approved for this unit hydrograph method. The user is referred to Section 4, Hydrology, National Engineering Handbook, Soil Conservation Service, Washington, D.C., July 1966, for specific details on SCS Unit Hydrographs.**
4. **Floodplain storage must be taken into consideration for drainage basins of 40 acres or larger by storage routing of sub basin hydrographs.**



5. For all hydrologic studies submitted to the City of Piedmont which involve routing of sub basin hydrographs, the following routing methods shall be used as indicated:
 - a. Kinematic Wave is approved where the flow is completely contained in the channel or in a storm sewer for the 1% (100-year) storm.

b) The Storage-Discharge (Modified Puls) method is approved for areas of overbank flow, for computing reach storage for hydrograph routing and for reservoir routing.

c) The Lag method is approved when the 1% (100-year) storm is completely contained in a storm sewer flowing full.

C. Technical Requirements - Hydraulics of Open channels

1. Trapezoidal channels shall be designed with a hard lined low flow channel, such as concrete.

a) The low flow channel shall branch off to pick up any storm sewers discharging into the channel.

b) The top of the sides of the low flow channel shall be a minimum of 6 inches lower than the adjacent main channel bottom. This is to ensure that the drainage runs over and into the low flow channel and not erodes around it.

c) The minimum cross slope on the bottom of the trapezoidal channel shall be 2 percent.

d) The easement for the trapezoidal channel shall include 15 feet additional width along one side of the top of the bank for an access road and 5 feet on the other side of the channel.

2. Roughness coefficients for drainage design will be as listed in tables 5-5 and 5-6, figure 5-5, pages 109 through 123, of "Open Channel Hydraulics" by Ven Te Chow (published by McGraw-Hill Book Company, 1959, or latest edition).

3. The minimum velocity in any drainage system shall be 2.5 feet per second, for all events of 20% (5 year) frequency and greater. The maximum velocity in an unlined ditch shall be as specified in "Limiting Velocities and Tractive Forces for Open Channels," (Lane, 1955) or as specified in "Permissible Velocities for Vegetated Channels," (Ree, 1949). Velocity for all storm events up to and including the 1% (100-year) shall not exceed 6 feet per second.

4. The centerline radius of a curve on an improved open channel shall be a minimum of 3 times the top width at the design flow or 100 feet, whichever is greater.

5. All improved channels shall be provided with a minimum of one foot of freeboard above normal depth of the runoff from a 1% (100-year) frequency rainstorm.

6. At all bends in improved channels, the amount of freeboard shall be increased by the following conditions:

a) The increased freeboard height shall be maintained a minimum of one channel width upstream and downstream of the bend.

7. Where borrow ditches are allowed (see Section I.A.13) the following requirements apply:

- a) Borrow ditches may be used if the 4% (25-year) storm can be contained in a trapezoidal ditch (or equivalent) with a maximum bottom width of 4 feet; side slopes 3:1 or flatter; depth of flow no greater than 2.5 feet with 0.5 feet of freeboard between the water surface and top of bank as shown below.

D. Technical Requirements - Hydraulics of Bridges

New bridges shall be constructed with adequate capacity to pass the 1% (100-year) storm with one foot of freeboard from the water surface to the low chord. A backwater analysis shall be required to illustrate compliance with this requirement.

E. Technical Requirements - Hydraulics of Culverts

1. The following Oklahoma Department of Transportation Standards shall apply except as modified by this MANUAL.
 - a) "ODOT, Office of Design, Section 6, Policies and Procedures".
 - b) "Standard Specifications for Highway Construction", ODOT.
 - c) FHWA publication: Hydraulic Design of Highway Culverts (HDS-5).
2. FEMA Requirements - All bridges that cross FEMA studied streams shall follow the FEMA and Floodplain Administrator's submission and review requirements.
3. Zero Rise - There shall be no adverse impact (zero rise in water surface elevation) for the design discharge and the existing conditions 100-year discharge upstream or downstream of the bridge.
4. Culvert Hydraulic Design Program - HEC-RAS is the preferred hydraulic design program for culverts. HY-8 may be used if the total opening width is 20 feet or less. Nomographs in HDS-5 may be used if an assessment documenting that the method is applicable is included.
5. Design Discharge - The design discharge for all roadway culverts with a drainage basin of 40 acres or larger, or for arterial and residential roadways, shall be the 1% (100-year) discharge.
6. Headwater - the maximum headwater to culvert diameter (or rise) ratio shall be 1.5 for the 1% (100-year) storm.
7. Backwater, or the rise in the 1% (100-year) flood water surface due to the restrictions created by the construction of the culvert, shall be 1 foot or less within the owner/developer's property. No increase in water surface elevation or increase in the extent of the floodplain boundaries is allowed outside of the boundary of the owner/developer's property.
8. Velocity
 - a) The minimum velocity in the culvert shall be 3 feet per second for any studied flow rate to assure a self cleaning condition.
 - b) The maximum velocity in the culvert shall be 20 feet per second.

- c) The velocity at the outlet of the culvert will require channel protection or an energy dissipater according to the design guidelines applicable for the downstream channel type.
- 9. The hydraulic design calculations for all culverts must be prepared and certified by a licensed Oklahoma Professional Engineer using the hydraulic modeling program HEC-RAS or HEC-2 (or other program approved by the City Engineer). HY-8 may be used if the conditions in Section VII-D-?? are met.
- 10. The radius of curve for a long box structure shall be a minimum of 3 times the maximum width of the box structure, but not less than 50 feet.
- 11. Inlet and Outlet Configurations
 - a) Culverts are to be designed with erosion protection at the inlet and outlet areas.
 - b) The headwalls or end sections are to be located a sufficient distance from the edge of the shoulder or back of walk to allow for a maximum slope of 3H:1V to the back of the structure.
- 12. Construction Materials
 - a) All roadway culverts within the CITY shall be constructed of reinforced concrete. Reinforced Concrete Box (RCB) culverts or Reinforced Concrete Pipe (RCP) culverts are acceptable. The City Engineer may accept alternative materials.
- 13. Driveway culverts shall be sized to pass the 10% (10-year) design flow. CMP may be used for driveway pipe as long as a concrete slope wall or other approved end treatment is provided. Minimum diameter for driveway pipes is 15". The City Engineer may accept alternative materials.
- 14. The minimum size roadway culvert shall be an 18" RCP (or equivalent).

F. Technical Requirements - Street and Overland Stormwater Drainage

- 1. The roadway and overland stormwater drainage systems shall be designed to receive and pass the runoff from a 1% (100-year) frequency rainstorm. The entire flow shall be confined within the said stormwater drainage system.
- 2. A storm sewer shall be required for all drainage basins wherein the requirements of this manual cannot be met through use of open channels. Open section streets are not allowed in residential development with average density greater than 1 home per 0.75 acres.
- 3. The street and storm sewer system shall be designed to pass the 1% (100-year) storm within the right of way. Inlets shall be designed to pass a minimum of the 4% (25-year) discharge.
- 4. The flow from a 4% (25-year) storm shall not exceed any of the following criteria:
 - a) curb height,
 - b) the crown of the street

- c) the depth required to inundate the outside lane in a 4-lane or wider street.
- 5. Once the criteria listed in V.F.4 are exceeded, a storm sewer with a minimum capacity for the 10% (10-year) storm and sufficient additional capacity (if needed) to meet the requirements of V.F.3 and V.F.4 .
- 6. For non-residential streets, the first inlet shall be located no more than 400 feet from the high point in the street profile or at the point where the outside lane would be inundated, whichever is less.
- 7. Cross-over Flow:
 - a) In the upstream sections of a drainage basin, above which the 25% storm flow is lower than the depth where the outside lane would be inundated, cross flow is allowed at intersections only.
 - b) Otherwise, no cross-over flow is allowed. Inlets shall be located at intersections to collect the flow from crossing the intersection. Inlets at intersections shall be located so they do not encroach upon the curb return. No drainage structure shall be permitted at a wheelchair ramp.
- 8. Hydraulic design procedures may be obtained from the following sources:
- 9. The current state-of-the-practice for designing non-recessed storm inlets is presented in the FHWA publication Urban Drainage Design Manual Second Edition.
 - a) Guidelines for design of recessed concrete inlets are presented the FHWA publication Hydraulic Characteristics of Recessed Curb Inlets and Bridge Drains.
 - b) The guidelines for design of recessed metal curb openings without grates are based on the Kansas City Engineer of Transportation (KDOT) publication K-TRAN Research Project KU-98-3, Hydraulic Performance of Set-Back Curb Inlets.
- 10. Grated Inlets:
 - a) Grated inlets without a curb opening are not permitted within City of Piedmont streets. Hydraulic information is provided for analysis of existing conditions.
 - (1) The vane grate (in combination with a curb opening) is the only grate approved by the City of Piedmont within the street ROW.
 - b) When a grate is used in conjunction with a curb opening directly behind the grate, only the hydraulic capacity of the grate shall be utilized to estimate the flow that is intercepted, since the curb opening portion is reserved to collect debris.
- 11. Paved ditches or flumes, commonly call beaver slides, shall not be allowed in lieu of inlets.

12. The overland flow portion of the collector system shall be confined to dedicated rights of way, or restricted drainage easements to assure that stormwater can pass through the development without inundating the lowest level of any building, dwelling, or structure. Restricted drainage easements shall be shown on the plat.
13. The overflow portion of the flow in a sump area shall be designed for 100% blockage of the sump area. This overflow route shall be identified as an overland drainage easement with language prohibiting blockage of flow.
14. Runoff from areas greater than one half (1/2) acre outside the roadway shall be collected before it reaches the roadway. Parking lots shall have internal drainage systems so as to reduce concentrated flow into streets. This item does not apply to single family residential lots.
15. Drainage areas, runoff from 25% (10-year) and 1% (100-year) frequency rainstorms, time of concentration, and inlet design for each inlet shall be summarized and tabulated on the plans. This summary table shall also be a part of the drainage calculations.
16. The flows and velocities for each pipe and open channel shall be summarized and tabulated as above on the plans as well as in the drainage calculations.
17. No pipe shall be installed downstream having a diameter smaller than the pipe from which it is receiving water.
18. All pipe shall meet one of the following requirements:
 - a) Concrete pipe shall not be less than ASTM C-76 Class III. Corrugated metal pipes shall meet Oklahoma Department of Transportation gauge requirements for fill heights, and be bituminous coated and lined.
 - b) Polyvinyl chloride (PVC) and smooth walled polyethylene (HDPE) pipe may be utilized, in sizes from 15-inches to 30 inches, in storm drainage systems. This material, however, may not be used under City streets or alley ways. Pipe must meet ODOT specifications.
19. Junctions between different pipe sizes shall be made with the top inside of the downstream pipe no higher than the top inside of the upstream pipe.
20. A manhole or junction box shall be required at all changes of grade, changes in alignment, and junctions between two or more different size pipe.
21. The horizontal distance between pipes being placed in the same trench shall be a minimum of two feet or one third the diameter of the larger pipe, whichever is greater. This would include multiple pipe crossings for culvert purposes.
22. The minimum storm sewer pipe size shall be 15 inches. Use of smaller pipes, such as for detention pond outlets, shall require prior approval by the City Engineer.

23. A minimum of 6 inches cover shall be provided over pipes and box culverts to the bottom of the subgrade in paved areas except when the box culverts are built with the top at grade.
24. All storm sewers shall be shown in profile, showing flow line, size, type and grade. Profiles shall show the natural and proposed ground line at the center line of the storm sewer. Stationing shall be continuous through manholes, along the main (longest) line, to the top of the system. Branch lines shall be stationed, starting from 0+00, from their connection with the main line. Lines shall be stationed in the profile drawing from left to right increasing upstream.
25. New box culverts and bridges with a drainage basin of 40 acres or larger shall have adequate capacity to pass 100 year fully urbanized flows with one foot of free board under the low chord. A backwater analysis shall be provided to illustrate compliance with this requirement.
26. Pipes discharging at a steep gradient into drainageways and detention facilities shall be provided with a headwall and energy dissipaters. A pipe with a steep gradient is defined as one having an energy grade line producing an outlet velocity is greater than six feet per second.
27. When storm sewers are constructed in fill areas, all materials in fill areas shall be compacted to a 95 percent standard proctor density prior to the trenching and laying of the pipe.
28. Maximum spacing between manholes or junction boxes shall not exceed 400 feet for pipes of 15 inches and 500 feet for pipes greater than 15 inches.
29. All junction boxes and manholes shall be built with one standard manhole ring and cover at grade.
30. A manhole or junction box shall be constructed at the P.C. or P.T. of all curves in large, long culverts.

G. *Technical Requirements - Storage Requirements*

1. For all stormwater detention facilities, the releases shall not exceed the pre-development runoff conditions for the 50% (2-year), 20% (5-year), 10% (10-year), 2% (50-year), and 1% (100-year), 24 hour storms, and must be conveyed to a public stormwater conveyance system with no negative impact downstream.
2. The provisions of the stormwater detention plan shall adhere to any stormwater master drainage plan that is adopted in the area under consideration.
3. The intent of the stormwater detention requirements shall be identified at the preliminary plat stage of the project review. The 1% (100-year) storm floodplain areas and stormwater detention site locations shall be shown on the preliminary plat to illustrate how these areas will be managed during and after construction.

4. All detention storage volume shall be located above the BFE in FEMA mapped areas, or above the 1% (100-year) floodplains as mapped by the City for regulatory floodplains.
5. Additional detention storage, in excess of the required storage for a drainage area, shall not be acceptable to satisfy the detention requirements for a tract of land downstream of the detention facility.
6. All stormwater detention facilities shall be located at the downstream end of the development to ensure that "flash" runoff from uncontrolled areas does not contribute to adverse conditions offsite.
7. If a tract of land being developed is located in more than one drainage area, then grading work to divert flows from one drainage area to another will not be permitted. Compensatory storage will not generally be permitted in one drainage area for that required in another. Exceptions may be granted by the City Engineer.
8. Detention facilities shall not be used for compensatory storage and shall not encroach into any floodplain area.
9. All dikes and spillways on detention facilities shall have a longitudinal profile of the outlet showing the 1% (100-year) water elevation in the pond and the tailwater elevation downstream.
10. All dikes and spillways on detention facilities shall have typical cross sections shown on the plans.
11. Side slopes on detention facilities shall not be steeper than 4:1 horizontal to vertical. Steeper side slopes may be allowed should the site conditions necessitate; however, methods for proper erosion control must be established and illustrated, and the procedures for maintaining these steeper side slopes must be established and shown on the plan.
12. Detention facilities shall be provided with a low flow channel from the inlet to the outlet structure to transmit low flows and the low flow channel shall be approved by the City, the low flow channel shall be concrete lined and of sufficient width and geometry to allow for proper maintenance. The maintenance procedure shall be shown on the plans.
13. The easements for the storm sewers and detention ponds shall appear on the plat.
14. An accessway at least 20 feet wide shall be provided to any detention area. Access may be provided by frontage on a dedicated public street or by an access easement from a dedicated public street to the detention area.
If a detention area is larger than ½ acre with a depth of 3 or more feet, the access road shall continue into the pond and shall have a maximum grade of 10 percent. The access road shall be paved, 12 feet wide, from the top of the bank to the bottom of the detention pond and in the bottom of the detention pond to locations of high maintenance.

15. An operations and maintenance guide shall be prepared to illustrate the proper use and care of the detention facility, and by whom, when and how. The guide shall include text and diagrams.
16. Any dam or berm constructed shall be designed and constructed under the supervision of a Registered Professional Engineer.
17. The pipe exiting the outlet structure through the dam shall be a 15" RCP or larger pipe. Alternative materials or an equivalent arch pipe section may be allowed on a case-by-case basis. If a smaller outlet is required, an upstream orifice plate shall be used to constrict the outflow.
18. Spillways on detention facility dams shall be constructed to pass the 500 year flood event with a minimum of one (1) foot of freeboard on the earth dam structure.
19. All detention facilities shall meet the Oklahoma Water Resources Board's requirements. The design of detention facilities that have a certain storage volume and/or dam height are subject to regulation by the Oklahoma Water Resources Board.
20. The classification criteria and design requirements are available for download at the OWRB website on the Rules and Regulations page:
<http://www.owrb.ok.gov/util/rules/rules.php>.
21. Freeboard Requirements -all detention facilities shall be designed to meet OWRB requirements or the requirements set forth in this Manual, whichever is stricter. Freeboard requirements are shown in the table below:

Freeboard Requirements for Stormwater Detention Facilities			
Embankment or Excavated Pond	1% (100-year) water surface elevation depth	1% (100-year) water surface elevation	0.2% (500-year) water surface elevation
Embankment or Excavated	< 18-inches	Contained within a dedicated Stormwater detention easement.	
Embankment	18-inches to 6 feet	Contained within the detention facility with one foot of freeboard to the top of the embankment.*	

Freeboard Requirements for Stormwater Detention Facilities			
Embankment or Excavated Pond	1% (100-year) water surface elevation depth	1% (100-year) water surface elevation	0.2% (500-year) water surface elevation
Embankment	> 6 feet		Contained within the detention facility with one foot of freeboard to the top of the embankment.*
Excavated	>18-inches	Contained within the detention facility with one foot of freeboard to the top of the embankment.*	

*unless more stringent OWRB dam safety requirements control, as outlined in Title 785:25-3-3 of the Oklahoma Administrative Code, found at http://www.oar.state.ok.us/viewhtml/785_25-3-3.htm.

H. Design Standards – Stormwater Detention Facilities

1. General Design Criteria

All calculations and plans for detention facilities shall be presented to the CITY for review and approval. Information submitted shall include:

- a) Inflow and outflow hydrographs.
- b) A comparison of the pre-project and with-project peak discharges at the point(s) of discharge from the development and at points downstream as required by the City Engineer.
- c) Elevation-Storage-Discharge relationships.
- d) Discharge rating curves for each component of the outflow structure.
- e) Tailwater rating curves at the outlet. Tailwater shall be considered when designing the outlet structure.
- f) Erosion protection measures at the outlets and spillway.
- g) Embankment design in accordance with OWRB guidelines, including slope protection in case of overtopping, slope stability, and maintenance access.
- h) Multiple use plans (parks, playgrounds, sports fields, etc.).

- i) **Trash rack design.**
- 2. **On-Site Stormwater Detention**
 - a) **On-site detention facilities shall shown to be effective in controlling the peak discharges from the development immediately downstream of the development.**
 - b) **The volume of on-site detention required is calculated by comparing the total runoff volume, in acre-feet, of the existing condition 1% (100-year) flood with the volume of the proposed conditions 1% (100-year) flood. The comparison is made using the existing conditions and proposed conditions hydrographs, calculated as specified in Section V-B and subsections. . The Modified Rational Method may be used to determine detention volume required for a single, homogeneous watershed no larger than 40 acres or with a time of concentration of no more than 15 minutes. The detention must discharge directly off-site to a borrow ditch or other major storm drainage component. Hydrograph methods shall be used if the discharge from the detention is to be combined with discharge from another sub-watershed for purposes of routing through or off the site or sizing downstream structures.**
 - c) **On-site detention facilities shall be designed so that there is no increase in the peak discharge from any point of the development during the 50% (2-year), 20% (5-year), 10% (10-year), 2% (50-year), and 1% (100-year) flood events. This applies at the point(s) of discharge from the development as well as at points downstream, as required by the City Engineer.**
 - d) **The erosive effects of the increased runoff volume from the on-site detention facility shall be mitigated by armoring the stream bank downstream.**
 - e) **Mitigation for other water quality impacts of the urban runoff leaving the on-site detention facility shall be provided.**
- 3. **Design Standards for Open Space Detention**
 - a) **All earth slopes and areas subject to erosion, such as, adjacent to trickle channels, inlet structures, and outlet structures, shall be slab sodded with Bermuda sod or protected with other erosion control measures. All other earth surfaces, within the area designated for detention pond site, shall have an established growth of bermuda grass or other approved species. All grass covered areas shall be fertilized, to current recommendations, watered and in an established growing condition prior to completion and approval of the detention pond.**
 - b) **Detention facilities shall be environmentally sound and compatible with the area (neighborhood). Where feasible, multiple uses for the facilities should be established.**

c) The city will accept dedication and maintenance responsibilities for drainage and detention facilities on a case-by-case basis under advisement of the City Attorney and Engineer. Otherwise, the maintenance responsibility shall belong to the private sector. A written agreement between the development and the City defining the maintenance requirements and responsible parties shall be made prior to the development's acceptance by the City.

4. Design Standards for Parking Lot Detention

a) Parking Lot detention may be used on properties that do not receive offsite water.

b) The maximum depth in the detention pond shall be 12 inches, occurring during the 1% (100-year) storm.

c) The total flooded area during the 100-year storm shall not exceed 25% of the parking areas and drives.

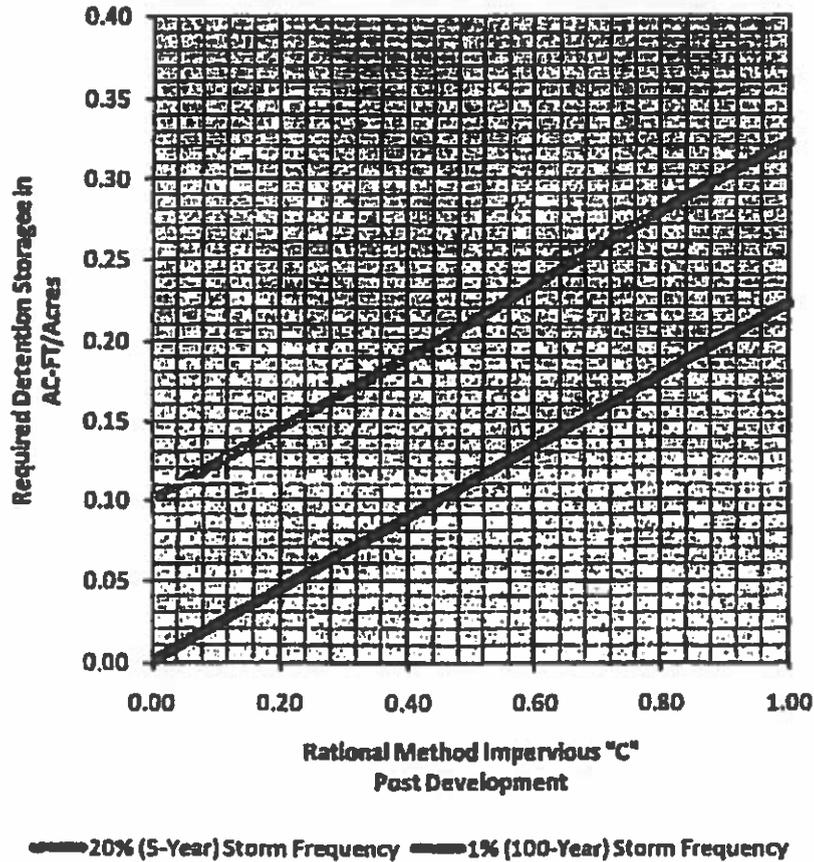
d) The unit volume curves included herein may be used to design the outlet if a two-stage weir is used.

e) The 20% (5-year) storm must completely fill the bottom 6 inches up to the first weir.

f) The 1% (100-year) volume must fill the entire 12-inch depth of water.

g) There must be a 6-inch drop off from the outlet elevation to the ground immediately downstream.

UNIT VOLUME DETENTION CURVES



Pre-Developed 1% (100-Year) Rational Method "C"	Outflow Rate for Drainage CFS/AC	
	20% (5-Year)	1% (100-Year)
0.1	0.0	0.6
0.2	0.1	1.3
0.3	0.2	2.0
0.4	0.6	2.9
0.5	1.8	4.9
0.6	3.6	7.5

Reference: City of Tulsa Stormwater Management Criteria Manual, Updated 1993

- h) If a pipe and weir outlet is used, the same criteria apply, with the weir set at the 20% (5-year) elevation.
- i) If a pipe outlet is used, a City-approved trash rack must be placed upstream.

VI. Green Development

- A. The City encourages developers to incorporate stormwater management techniques that include water quality benefits, also known as "Green Infrastructure" or "Low Impact Development."
- B. Specific structural requirements of this manual, such as requirements for concrete liners, may be waived by the City Engineer to accommodate use of low impact development techniques. In no case will any requirements dealing with off-site, upstream, or downstream impacts be waived.
- C. Proposals for Green Development shall be presented to the City as an application for a Planned Unit Development (PUD). The PUD design statement shall include specific water quality goals and analysis demonstrating that they will be achieved through the methods proposed.



**City of Piedmont, Oklahoma
Stormwater Criteria Manual Checklist**

Project Name: _____
 Submission No.: _____
 Submittal Date: _____ Submitted By: _____

Section	Checklist Completed	Designer	Quality Assurance Review	
			Reviewer	Date
I	<input type="checkbox"/> H&H Report	_____	_____	_____
II	<input type="checkbox"/> Hydrology	_____	_____	_____
III	<input type="checkbox"/> Hydraulics	_____	_____	_____
IV	<input type="checkbox"/> Site Civil Plans	_____	_____	_____

Instructions:

1. These checklists are intended to provide documentation that a quality review is performed. All applicable items are included within the submittal by the developer/owner/engineer of record.
2. Complete the "Instructions Summary Sheet" prior to commencing to the "Checklist Sheet". When filling out the checklists electronically, the heading information (i.e. project name, submission no., submittal date, and submitted by) is automatically updated based on the information entered on the "Instructions Summary Sheet."
3. The boxes to the right of the form above are used to evaluate the presence in the submittal. The boxes in the other forms are used to indicate a positive or negative response. The boxes should be marked with an "X" to indicate the response.
4. **Printing Instructions:** The "Instructions Summary" sheet should ALWAYS be printed with the "Checklist". When the checklist has been completed, select the worksheets and select from the pull down menu at the top of the excel screen "file" then "print". (To select multiple worksheets, hold down the shift key and select the worksheet tabs at the bottom of the screen.) The pages will be numbered based on the total number of pages included in the selected checklists.



**City of Piedmont, Oklahoma
Stormwater Criteria Manual Checklist**

Project Name: _____ 0
 Submission No.: _____
 Submittal Date: _____ 0 Submitted By: _____ 0

CONTENTS OF DRAINAGE PLANS AND STUDIES

GENERAL REQUIREMENTS	ITEMS INCLUDED		
	YES	NO	N/A
A.1 Requirement for Professional Engineer Licensure with State of Oklahoma?			
a. Submitting Professional Engineer Signature and Seal			
b. Presence of Certification Statement, from engineer			
c. Presence of Certification Statement, for final drainage plans			
d. Presence of Certification Statement, for Owner's Statement			
e. Presence of Certification Statement, for Property owned by a Corporation			
B.1 Submittal Requirements, required information:			
(a) Summary Statement			
(b) Drainage Report			
(c) Site Civil Drainage Plans			
B.1.a Summary Statement, Cover Letter includes:			
1. Goals and Policies			
2. Drainage System Components			
3. Criteria used			
B.1.b Drainage Report includes:			
a) Narrative that describes the project scope, problems, and solutions, including but not limited too, all design alternatives, assumptions, criteria used, analysis considerations, recommendations, tables, figures, drawings, and calculations.			
b) Report Contents:			
1) General Location and Description			
2) Drainage Basins and Subbasins, descriptions, parameters, and maps			
3) Drainage Design Criteria, regulations, reference and constraints, hydrological criteria and parameters, hydraulic criteria and parameters			
4) Drainage Facility Design, general discussion and specific discussion			
5) Impact of Area of Special Flood Hazard with accompanied criteria and results			
6) Conclusions, compliance with city code, drainage concept and design			
7) References			
8) Appendices			
B.1.c Drawing Contents:			
a) Sheet 1. General Location Map			
b) Sheet 2. Floodplain Information			
c) Sheet 3. Drainage Plan			

**PLANNING COMMISSION MEETING
AGENDA ITEM COMMENTARY**

MEETING DATE: January 6, 2020 Item: 7b

TITLE: Discussion, consideration, and possible action on a formal rezoning application, requested by Ronald Lodes, by requesting a rezoning from the established Agricultural (A-1) Zoning District to Residential Zoning District RE (Rural Residential District) at the following described property: (Also known as Tract 7 in Redland Hills).

DEPARTMENT: Community Development

BRIEF: Discussion, consideration, and possible action on a formal rezoning application, requested by Ronald Lodes, by requesting a rezoning from the established Agricultural (A-1) Zoning District to Residential Zoning District RE (Rural Residential District) at the following described property: (Also known as Tract 7 in Redland Hills).

Lot Seven (7) Of Block One (1), in Redland Hills to Piedmont, Canadian County, Oklahoma according to the recorded plat thereof.

ATTACHMENTS: Application
Map
Letter written by George Fina

STAFF RECOMMENDATION: City staff recommends approving zoning application as it meets the 2030 Comprehensive Map.

PROPOSED MOTION(S): Motion to approve or reject.

ELRENO
262-5577



City of Piedmont Zoning Application

Required Documentation for Zoning Request

Items required to include with application:

- Legal Description of property to be rezoned, including the deed or survey.
- Fee based on Fee Schedule
- Certified list of all property owners within a 300' radius of the property to be rezoned. The list shall be current and certified by a registered professional engineer, a registered land surveyor, an attorney, or a bonded abstractor. Responsible party must complete the attached Affirmation.
- Map of area to be rezoned, no larger than 8.5" x 11"
- If a representative is making the request to rezone on behalf of a property owner, a letter of authorization from the property owner(s) must be submitted indicating their desire to rezone and who is to represent them in this matter.

Applicant Name: Ronald Lodes Applicant Phone Number: 405 255-8072

Applicant Address: 738 S. Willowood Dr. Yukon, OK 73099

If Applicant is not the property owner, check here:

Name(s) of Property Owner: Ronald and Susan Lodes

Address of Property Owner: 735 S. Willowood Dr Yukon, OK 73099

Phone Number(s) of Property Owner(s): 405 255-8072 405 255-8071

Address/Legal Description of property to be rezoned: Lot (7) of Block (1) in Redland Hills
Piedmont, Canadian County, OK

Current Zoning District: A-1 Requested Zoning District: RE

Proposed Use of Land: Home + Storage Shop Building

All payments are non-refundable and must be submitted at the time of application submittal.

Check one of the following:

Straight Zoning

- \$500 (up to and including 5 acres)
- \$800 (over 5.001 acres- 9.99 acres)
- \$1,250 (10 acres or higher)

PUD Zoning

- \$1,000 (10 acres or less)
- \$1,350 (between 10.01 and 40 acres)
- \$1,650.00 (40.01 acres or more)

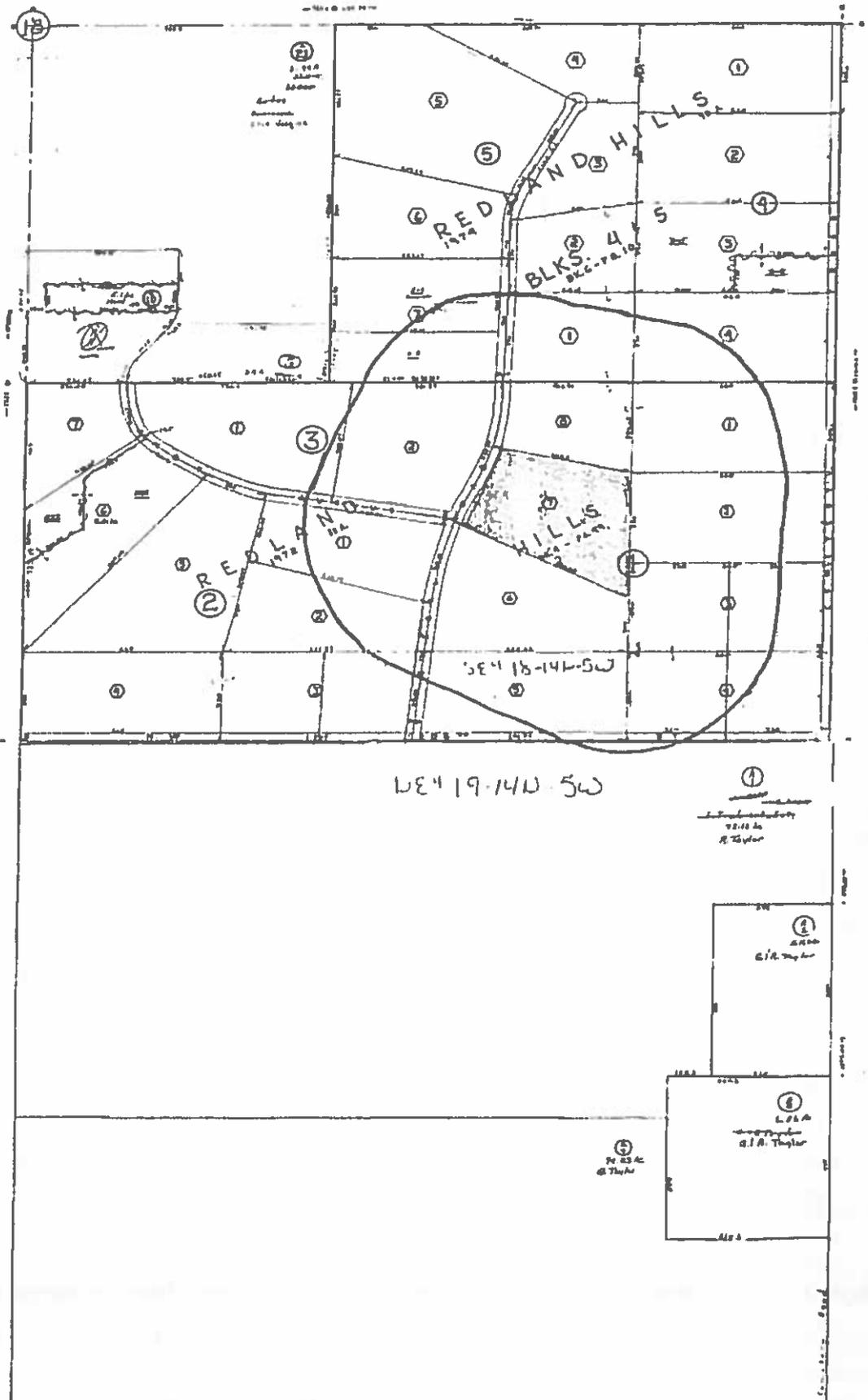
STAFF MAY ASK FOR ADDITIONAL INFORMATION. PLEASE CONTACT THE COMMUNITY DEVELOPMENT DEPARTMENT FOR ANY ADDITIONAL QUESTIONS.

Date Filed: 11/4/19 Staff Use Only PC Meeting Date: 12/2/19 CC Meeting Date: _____
 Date Letters Mailed to Adjacent Property Owners: _____
 Date Notice Sent to Paper/Published: _____
 Filing Fee: \$ 500.00

Ke
Community Development

Rec: Ovell 19

Updated
9-7-27
18-21-14
1 No 10



Updated
1-3-26

CERTIFICATE OF BONDED ABTRACTOR
(500 FEET RADIUS REPORT)

STATE OF OKLAHOMA)
) §:
COUNTY OF CANADIAN)

The undersigned bonded abstractor in and for Canadian County, State of Oklahoma, does hereby certify that the following Ownership is true and correct according to the current year's tax rolls in the office of the County Treasurer of Canadian County, Oklahoma, as updated by the records of the County Clerk of Canadian County, Oklahoma; that the owners, as reflected by said records, are based on the last conveyance or final decree of record of certain properties located within 500 feet in all directions of the following described land:

Lot Seven (7), of Block One (1), in REDLAND HILLS to Piedmont, Canadian County, Oklahoma, according to the recorded plat thereof.

and find the following owners, addresses and brief legal descriptions on the attached pages numbered from (1) to (2), both inclusive.

NOTICE TO CUSTOMERS: This report is released with the understanding that the information is strictly confidential. This report contains information from public land records only and is not to be construed as an abstract of title, opinion of title, title commitment, title insurance policy, or environmental research report. As used herein, the term "public land records" means those land records which under the recording laws of the applicable state, impart constructive notice to the third parties with respect to recorded, unreleased or record instruments memorializing legal interests in real estate. The company suggests that you contact your attorney for matters of a legal nature or legal opinion. We have exercised due care and diligence in preparing this report, however, the Abstractor does not guarantee validity of the title and acceptance of this report by the Company or person(s) for whom this report is made, constitutes agreement and confirmation of the limitation of this report.

Dated: October 23, 2019 at 7:30 AM

First American Title Insurance Company

By: *Robin Reed*
Robin Reed
Abstractor License No. 4746
OAB Certificate of Authority # 0058
File No. 2452062-WA99

SURFACE OWNERSHIP LIST

ORDER NO.2452062

DATE PREPARED: November 1, 2019
EFFECTIVE DATE: October 23, 2019

OWNER	LOT	BLK	ADDITION OR STR
Ronald W Lodes & Susan K Lodes 733 S. Willowood Dr. Yukon, OK 73099	7	1	REDLAND HILLS (Subject Property)
George C Fina 5120 Fina Dr. NW Piedmont, OK 73078	1, 8	1	REDLAND HILLS
Lyndall M Crowe & Dayna L Crowe 5017 Cemetery Rd. Piedmont, OK 73078	2	1	REDLAND HILLS
Terry J Mueggenborg & Barbara Mueggenborg, as Co-Trustees of the Terry J Mueggenborg Trust, u/t/a 5/5/17 & Barbara Mueggenborg & Terry J Mueggenborg, as Co-Trustees of the Barbara Mueggenborg Trust, u/t/a 5/5/17 1705 Apache Rd. NW Piedmont, OK 73078	W/2 3-4	1	REDLAND HILLS
William E Hendrickson & Donna M Hendrickson 4875 Cemetery Rd. N. Piedmont, OK 73078	E/2 3-4	1	REDLAND HILLS
Raul Puga, Jr. & Ashlyn B Puga 1825 Apache Rd. NW Piedmont, OK 73078	5	1	REDLAND HILLS
Rebecca Hamilton 1317 SW 115 th Pl. Oklahoma City, OK 73170	6	1	REDLAND HILLS
Sharon J Allen 5009 Fina Dr. NW Piedmont, OK 73078	1	2	REDLAND HILLS
Sean A Bramblett 4935 Fina Dr. NW Piedmont, OK 73078	2	2	REDLAND HILLS
Alan Devere Ridgely 2109 Apache Rd. NW Piedmont, OK 73078	3	2	REDLAND HILLS
Bryan Stark & Christina Stark 2101 Andy Ave NW Piedmont, OK 73078	1	3	REDLAND HILLS
Ronald E Angelman & Dawn Angelman 5103 Fina Dr. Piedmont, OK 73078	2	3	REDLAND HILLS
Glen Reddick & Renea Reddick 5517 Cemetery Rd. Piedmont, OK 73078	1	4	REDLAND HILLS BLKS. 4 & 5
Robert Frederick & Loretta Frederick 5417 Cemetery Rd. Piedmont, OK 73078	2	4	REDLAND HILLS BLKS. 4 & 5

Robert D Harris P.O. Box 124 Piedmont, OK 73078	4	4	REDLAND HILLS BLKS. 4 & 5
Ronald R Jaye & Andrea L Jaye 5315 Fina Dr. NW Piedmont, OK 73078	7-A-1	5	REDLAND HILLS BLKS. 4 & 5
Anthony Wellens Hyde & Patricia Nell Hyde, Trustee of the Hyde Family Revocable Living Trust 7304 NW 110 th St. Oklahoma City, OK 73162	7-A-2	5	REDLAND HILLS BLKS. 4 & 5
Gregory A Taylor P.O. Box 305 Piedmont, OK 73078			Pt. NE/4 19-14N-5W (A-1 on map)
City of Piedmont- Office of City Clerk 314 Edmond Rd. NW Piedmont, OK 73078			Streets and Easements in subject area not set out above.

State Of Oklahoma
Canadian County
Documentary Stamps
\$79.50



Doc#: R 2019 22559
BkPg: RB 4944 54-54
Filed: 08-29-2019 DAA
09:25:06 AM WD
Canadian County, OK 18

OLD REPUBLIC TITLE
4040 N. TULSA
Oklahoma City, OK 73112

**JOINT TENANCY
WARRANTY DEED
(INDIVIDUAL)**

KNOW ALL MEN BY THESE PRESENTS:

That **LYNDALL CROWE** and **DAYNA J CROWE**, husband and wife party(IES) of the first part, in consideration of the sum of **TEN AND NO/100** dollars, and other valuable considerations, in hand paid, the receipt of which is hereby acknowledged, do(ES) hereby grant, bargain, sell and convey unto **RONALD W LODES** and **SUSAN K LODES**, husband and wife as joint tenants and not as tenants in common, with the right of survivorship, the whole estate in vest in the survivor in event of the death of either, parties of the second part, the following described real property and premises situated in Canadian County, State of Oklahoma, to-wit:

Lot **SEVEN (7)**, of
Block **ONE (1)**, in
REDLAND HILLS to
Platmost, Canadian County, Oklahoma
according to the recorded plat thereof.

LESS AND EXCEPT any interest in and to all of the oil, gas and mineral rights which have been previously conveyed or reserved of record and subject to easements, restrictive covenants and rights of way of record.

Streets are Private and are not maintained by the City.

RETURN TO:
RONALD W LODES and **SUSAN K LODES**
733 S WILLOWOOD DRIVE
YUKON, OK 73099

TAXES TO:
RONALD W LODES and **SUSAN K LODES**
733 S WILLOWOOD DRIVE
YUKON, OK 73099

together with all the improvements thereon, and the appurtenances thereto belong ng, and warrant the title to the same **TO HAVE AND TO HOLD** said described premises unto the said parties of the second part, as such joint tenants, and to the heirs and assigns of the survivor, forever, free, clear and discharged of and from all former grants, charges, taxes, judgments, mortgages and other liens and encumbrances of whatsoever nature.

Signed and delivered 28th day of August, 2019


LYNDALL CROWE


DAYNA J CROWE

STATE OF OKLAHOMA)
) ss
COUNTY OF OKLAHOMA)

This instrument was acknowledged before me on this 28th day of August, 2019, by **LYNDALL CROWE** and **DAYNA J CROWE**, husband and wife.

Notarial Stamp Or Seal (Or Other Title Or Rank)



Signatory Of Notary Public Or Other Official

Deed presented for filing by: Old Republic Title Company of Oklahoma
Form 19222312
Underwriter: American Guaranty Title Insurance Company



Joint Tenancy Warranty Deed (Individual)

State Of Oklahoma
Canadian County
Documentary Stamps
\$79.50



Doc#: R 2019 22559
Sk#: Pg: RB 4944 54-54
Filed: 08-29-2019
09:25:06 AM
Canadian County, OK

DAR
RD
LE

OLD REPUBLIC TITLE
4040 N. TULSA
Oklahoma City, OK 73112

**JOINT TENANCY
WARRANTY DEED
(INDIVIDUAL)**

KNOW ALL MEN BY THESE PRESENTS:

That **LYNDALL CROWE** and **DAYNA J CROWE**, husband and wife party(IES) of the first part, in consideration of the sum of **TEN AND NO/100** dollars, and other valuable considerations, in hand paid, the receipt of which is hereby acknowledged, do(ES) hereby grant, bargain, sell and convey unto **RONALD W LODES** and **SUSAN K LODES**, husband and wife as joint tenants and not as tenants in common, with the right of survivorship, the whole estate to vest in the survivor in event of the death of either, parties of the second part, the following described real property and premises situated in Canadian County, State of Oklahoma, to-wit:

Lot **SEVEN (7)**, of Block **ONE (1)**, in **REDLAND HILLS** to **Piedmont, Canadian County, Oklahoma** according to the recorded plat thereof.

LESS AND EXCEPT any interest in and to all of the oil, gas and mineral rights which have been previously conveyed or reserved of record and subject to easements, restrictive covenants and rights of way of record.

Streets are Private and are not maintained by the City.

RETURN TO:
RONALD W LODES and SUSAN K LODES
733 S WILLOWOOD DRIVE
YUKON, OK 73099

TAXES TO:
RONALD W LODES and SUSAN K LODES
733 S WILLOWOOD DRIVE
YUKON, OK 73099

together with all the improvements thereon, and the appurtenances thereunto belonging, and warrant the title to the same **TO HAVE AND TO HOLD** said described premises unto the said parties of the second part, as such joint tenants, and to the heirs and assigns of the survivor, forever, free, clear and discharged of and from all former grants, charges, taxes, judgments, mortgages and other liens and encumbrances of whatsoever nature.

Signed and delivered 28th day of August, 2019

LYNDALL CROWE

DAYNA J CROWE

STATE OF OKLAHOMA)
) ss
COUNTY OF OKLAHOMA)

This instrument was acknowledged before me on this 28th day of August, 2019, by **LYNDALL CROWE** and **DAYNA J CROWE**, husband and wife.

Notarial Stamp Or Seal (Or Other Title Or Rank)

Signature Of Notary Public Or Other Official

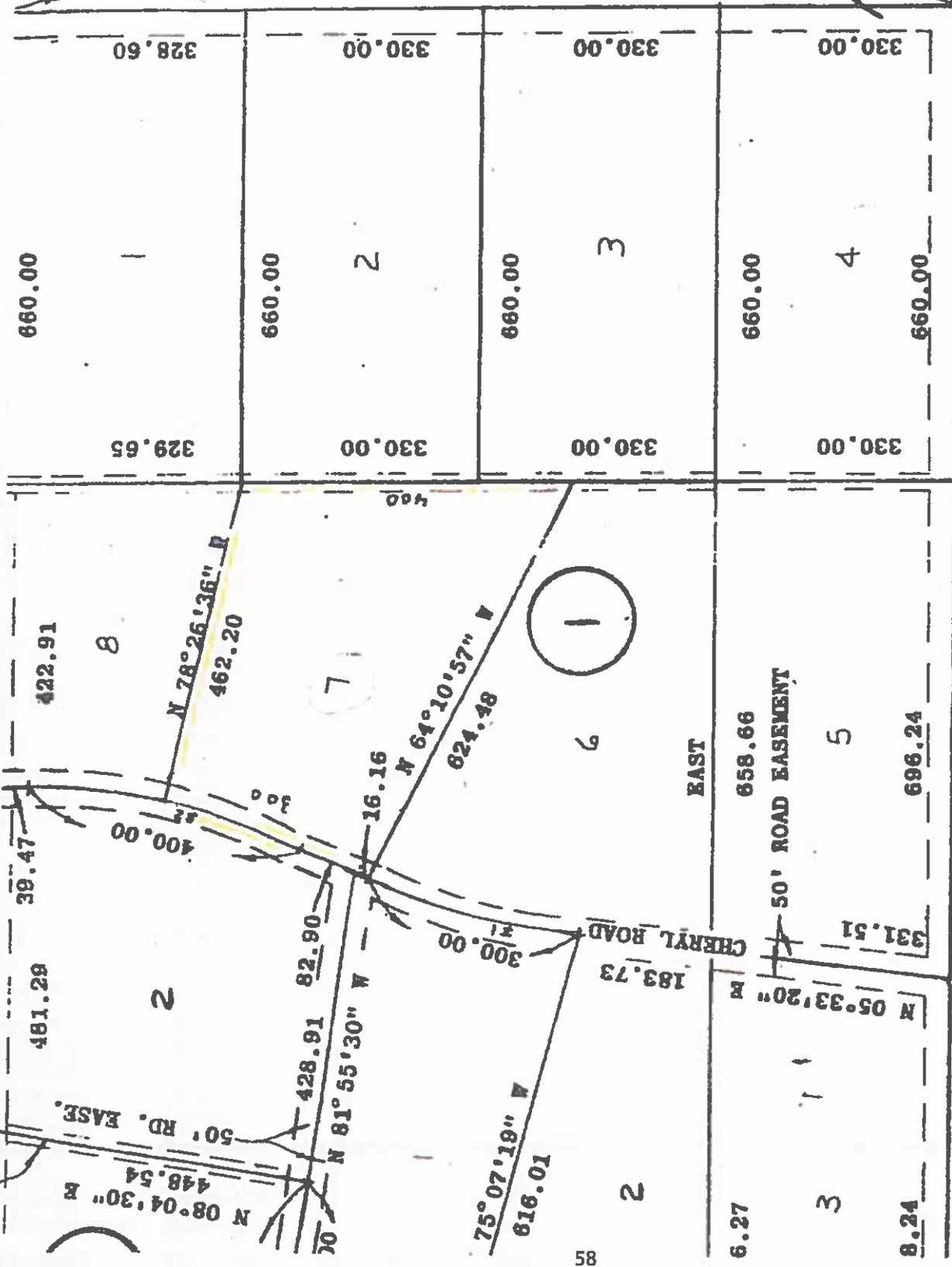
Deed presented for filing by: Old Republic Title Company of Oklahoma
File# 19232312
Underwriter: American Guaranty Title Insurance Company



Joint Tenancy Warranty Deed (Individual)

1318 60

721 B D/W



SE COR. S 1/2 SE 1/4
SEC. 18, T 14 N, R 5 W IN

206 Apache

EAST
2634.48

Nov 20 20674



City of Piedmont

P.O. Box 240
314 Edmond Road NW
Piedmont, OK 73078

City Hall (405) 373-2621
City Hall Fax (405) 373-3243
www.piedmont-ok.gov

MEMORANDUM

TO: Kayla Cornett, Community Development Director
FROM: Jason Orr, City Manager
DATE: 26 November 2019
RE: Lot 7 of block 1 in Redland Hills

I spoke with Mr. George Fina today regarding the rezoning of this property. He will not be able to attend the meeting in which this matter is to be considered, but would like the Planning Commission and City Council to know he is in full support of the rezoning. Mr. Fina said the owners have made valuable improvements to the property and he feels it is in noticeably better condition than before.

FINAL PLAT OF AUTUMN CHASE AT TOWN CENTRAL PHASE II

A PART OF THE NW/4 & NE/4 OF SECTION 33, T-14-N, R-5-W, 1.M.
CITY OF PIEDMONT, CANADIAN COUNTY, OKLAHOMA

PLANNING COMMISSION CERTIFICATE:
I, the undersigned, Planning Commissioner of the City of Piedmont, Oklahoma, do hereby certify that I am the Chairman of the Planning Commission of the City of Piedmont, Oklahoma, and that the Final Plat of Autumn Chase at Town Central Phase II has been reviewed by the Planning Commission and was approved on _____ day of _____, 20____.

COMMISSION OF THE PLANNING COMMISSION:
I, _____, Mayor of the City of Piedmont, Oklahoma, do hereby certify that I am the Mayor of the City of Piedmont and that the Final Plat of Autumn Chase at Town Central Phase II has been reviewed by the City Council and was approved on _____ day of _____, 20____.

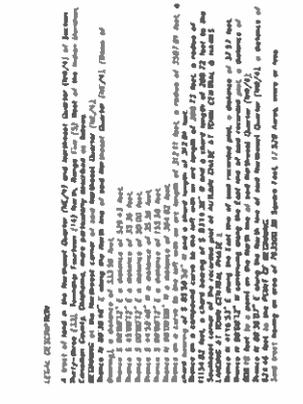
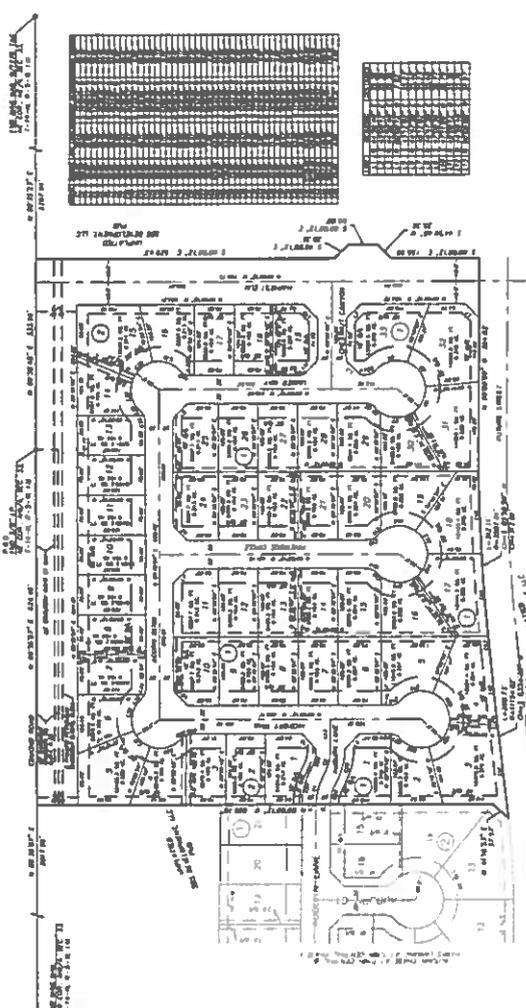
CITY OF PIEDMONT:
I, _____, Mayor of the City of Piedmont, Oklahoma, do hereby certify that I am the Mayor of the City of Piedmont and that the Final Plat of Autumn Chase at Town Central Phase II has been reviewed by the City Council and was approved on _____ day of _____, 20____.

ACCEPTANCE OF DECLARATION BY THE CITY OF PIEDMONT:
As it required by the City Council of the City of Piedmont, that the declaration shown on the plat of Autumn Chase at Town Central Phase II, City of Piedmont, Canadian County, Oklahoma, and hereby approved by the City Council and approved by the City Council on _____ day of _____, 20____.

CITY TREASURER'S CERTIFICATE:
I do hereby certify that I am the City Treasurer, qualified and acting as such, Treasurer of Canadian County, Oklahoma, and that the Final Plat of Autumn Chase at Town Central Phase II, City of Piedmont, Canadian County, Oklahoma, and hereby approved by the City Council and approved by the City Council on _____ day of _____, 20____.

NOTARY PUBLIC:
I, _____, Notary Public, do hereby certify that I am a Notary Public in and for the State of Oklahoma, and that the Final Plat of Autumn Chase at Town Central Phase II, City of Piedmont, Canadian County, Oklahoma, and hereby approved by the City Council and approved by the City Council on _____ day of _____, 20____.

LEGAL DESCRIPTION:
A part of the NW/4 and NE/4 of Section 33, Township 14 North, Range 5 West, 1st Meridian, Canadian County, Oklahoma, containing approximately 113.42 acres, more or less, as shown on the plat of Autumn Chase at Town Central Phase II, City of Piedmont, Canadian County, Oklahoma, and hereby approved by the City Council and approved by the City Council on _____ day of _____, 20____.



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OWNER:
SRS Development, LLC
1725 Piedmont Blvd
Piedmont, OK 74068

LEGAL:
UNIVERSITY OF OKLAHOMA
SCHOOL OF LAW
150 EAST DELAWARE STREET
NORMAN, OKLAHOMA 73069-1203

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12509 S. 71ST EAST AVE.
BIXBY, OK 74008
PH: (405) 821-5656
PH: (918) 220-6787
web site: www.oklahomasurveycompany.com
email: jyon@oklahomasurveycompany.com
CA #1717 Expires June 30, 2021

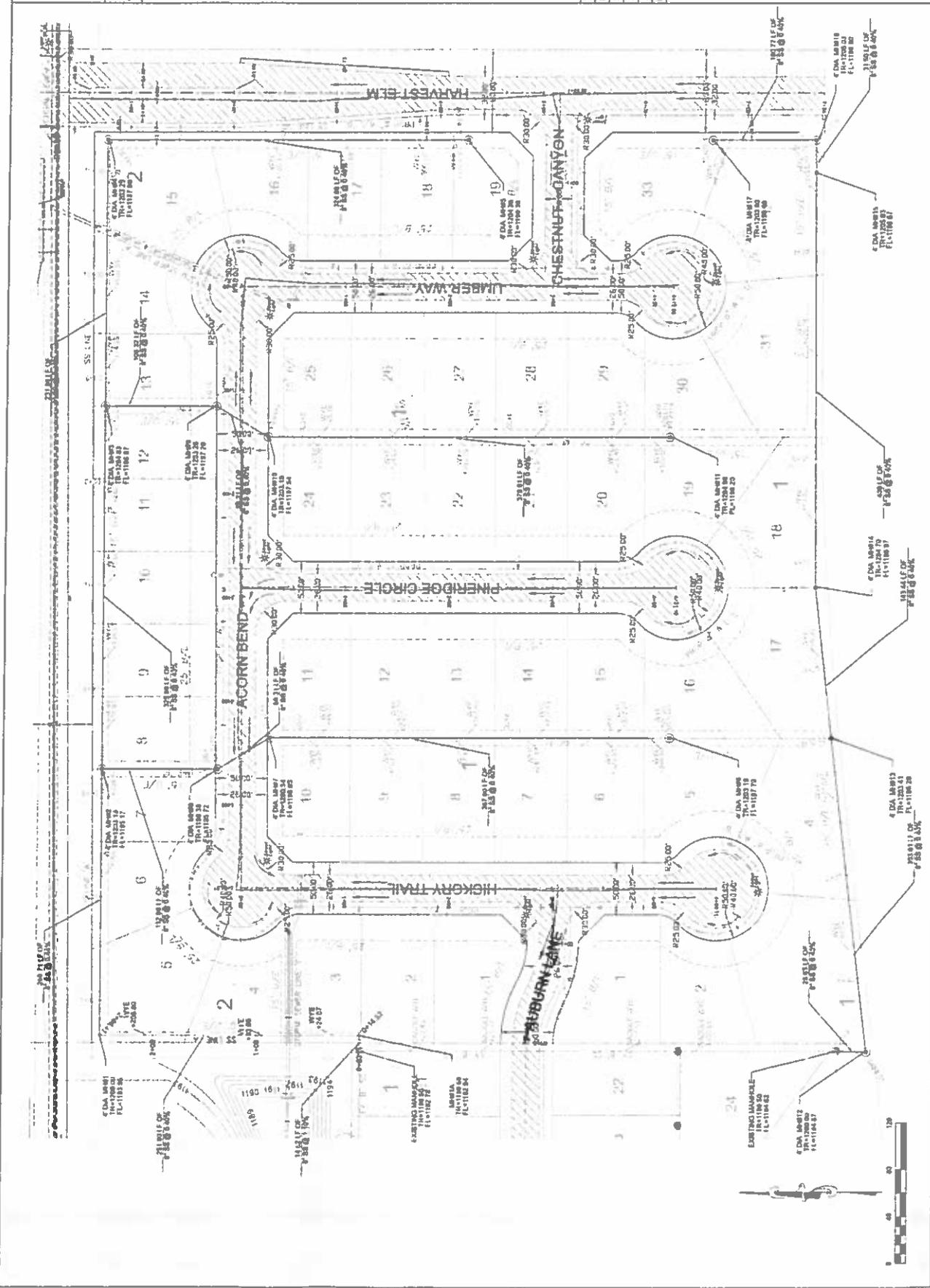


THIS PLAN IS THE PROPERTY OF THE ENGINEER AND IS NOT TO BE REPRODUCED OR COPIED IN ANY MANNER WITHOUT THE WRITTEN CONSENT OF THE ENGINEER.

NEW PROJECT PLANS FOR
AUTUMN CHASE AT TOWN
 CENTRAL PHASE II
 PROJECT NO. 200-20-0000
 COUNTY OF DISTRICT OF COLUMBIA

DATE: 11/11/2010
 SHEET NO. 140
 SHEET NAME: SITE PLAN
 SHEET NO. 3
 PROJECT NO. 200-20-0000

W&A
 WASHINGTON GROUP, P.C.
 1100 K STREET, N.W.
 WASHINGTON, D.C. 20004
 TEL: 202-331-1000
 FAX: 202-331-1001
 WWW.WAANDAGROUP.COM



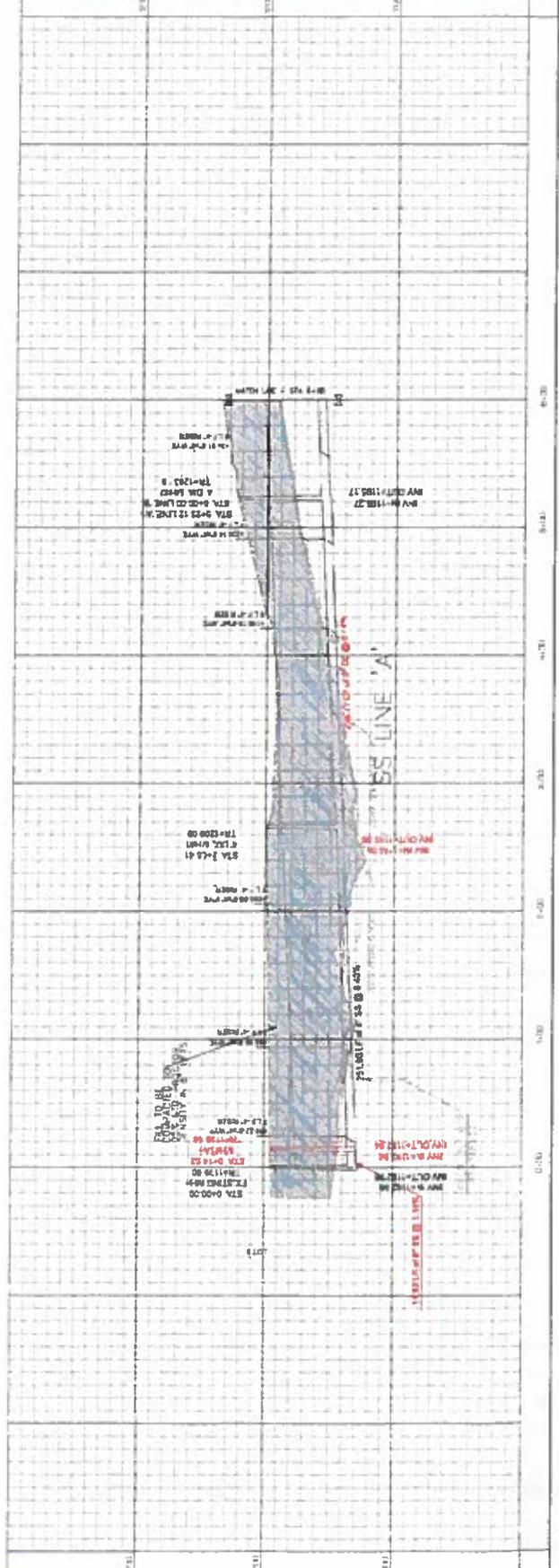
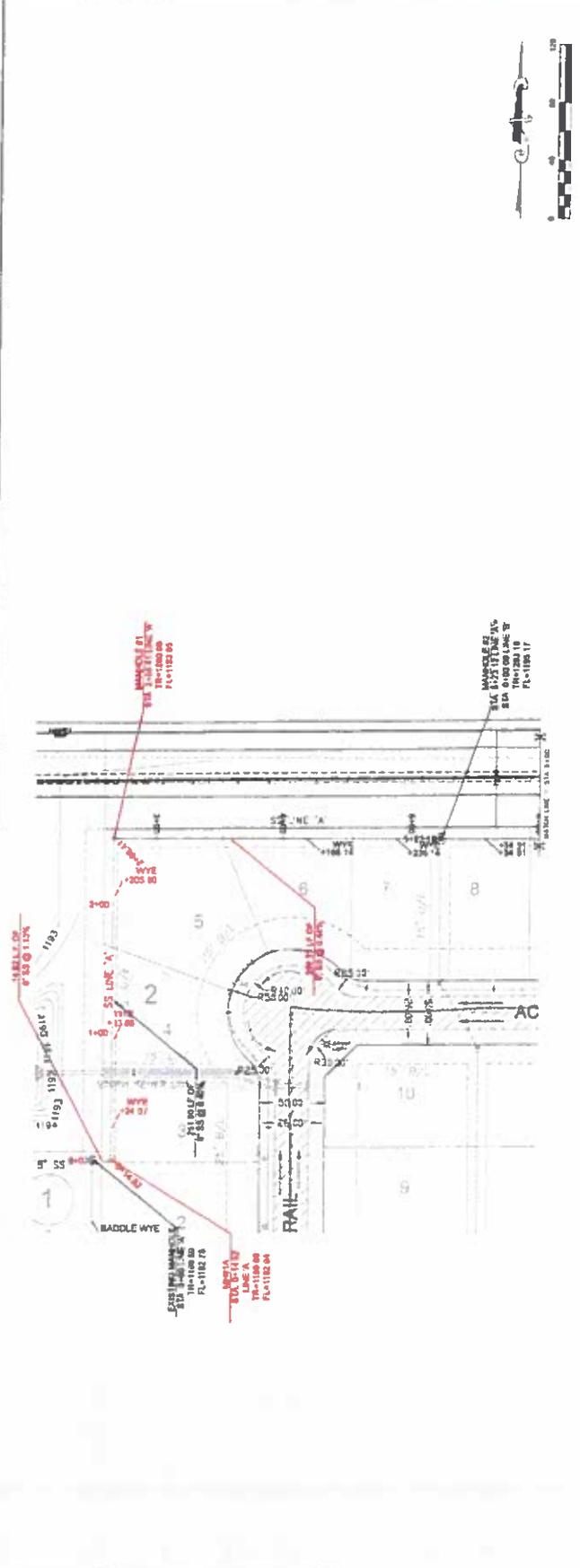


Professional Engineer
 License No. 1111
 State of Michigan
 Civil Engineering

NEW PROJECT PAVEMENT
 AUTUMN CHASE ATTOWN
 CENTRAL PHASE II
 EXISTING ROAD AND SIDEWALK
 EXHIBIT 04

DATE	03/11/2014
SCALE	1"=40'
DESIGNER	DAVID L. WILSON
CHECKER	DAVID L. WILSON
DATE	03/11/2014
PROJECT	NEW PROJECT PAVEMENT

W&A DESIGN GROUP P.C.
 10000 WOODLAND AVENUE
 SUITE 100
 ANN ARBOR, MI 48106
 TEL: 734.769.1100
 FAX: 734.769.1101
 WWW.WANDASIGN.COM



- **SHORT FORM SUBDIVISION**

- **Sec. _____-261. - Eligibility.**

- (a) Whenever there is a tract or previously subdivided parcel under single ownership which is to be resubdivided into three or fewer lots, the proposed subdivision may be exempt from the procedural provisions of this chapter, and a preliminary and final plat may not be required.

- (b) Subdivision of a tract, parcel or lot shall be defined as a short form subdivision under the following conditions and must meet the requirements described in this division:

- (1) No more than three tracts, parcels or lots shall be created or approved based on the original legal description submitted at the time of original application for land subdivision; and

- (2) For the land subdivision described in subsection (b)(1) of this section, the land shall not be resubdivided for a period of one year from the date of creation or approval of the short form subdivision, unless it is fully platted under article III of this chapter.

- **Sec. _____-262. - Purpose and intent.**

- (a) The purpose of the short form subdivision process is not to allow extensive subdividing and/or resubdividing of large tracts, parcels or lots. Whenever a short form subdivision shows one or more tracts, lots or parcels containing more than one acre of land and there are indications that such tracts, lots or parcels will eventually be resubdivided or extensive improvements are required, the director and/or planning commission may require the applicant to submit a preliminary and

final plat. Platting procedures and requirements shall be followed as specified in article III of this chapter.

- (b) The classification of a subdivision as short form subdivision shall not be construed as a waiver of any requirement of this chapter or the provisions of any other ordinance or statute pertaining to the property.

- **Sec. _____-263. - Application for approval.**

(a) Application for short form subdivision approval shall be filed with the director on forms supplied by the city. The application shall consist of the following:

(1) A deed on each tract to be approved, with legal description, shall be submitted.

(2) A certified survey, prepared by a land surveyor registered in the state, shall be submitted on the proposed tract and the resubdivision thereof. The survey shall show the following:

- a. Each new tract being formed shall be labeled "Tract A," "Tract B" and/or "Tract C";
- b. The legal description of the original tract of land and each new tract being created by the subdivision shall be shown;
- c. The scale, north point and date shall be shown;
- d. The name and address of the owner of record shall be shown;
- e. A key map showing the location of the reference to existing and proposed major streets and government section lines shall be included;

- f. The location of existing buildings and dedicated streets at the point where they adjoin and/or are immediately adjacent to the subdivision shall be shown;
 - g. The length of boundaries of the tracts created, measured to the nearest foot, and proposed location and width of streets, alleys and easements and building setback lines, where applicable, shall be shown; and
 - h. The original signature and seal of the registered land surveyor preparing the plat of survey, properly notarized, shall be included.
- (3) A copy of the original deed showing the legal description of the tract, site or parcel proposed as a short form subdivision shall be submitted.
 - (4) Deeds of tracts, parcels or lots bordering the proposed short form subdivision shall be submitted if deemed necessary by the director.
 - (5) All instruments for the dedication of required public easements and rights-of-way shall be submitted. This shall mean, in cases where private easements are required, that the applicant must submit certified copies of the instruments filed of record with the county clerk.
 - (6) Percolation test results approved by the health department shall be submitted if applicable.
- (b) A filing fee in the amount set forth in _____ shall accompany the short form subdivision application. The filing fee is not refundable.

- **Sec. _____-264. - Review.**

The director and city staff shall review the proposed short form subdivision to ensure compliance with all design and improvement requirements of this chapter. The director may submit the application for review and comment to other agencies and/or city departments as he deems necessary.

- **Sec. _____-265. - Approval procedure.**

- (a) *Staff level approval.*

- (1) For short form subdivisions of lots, blocks or parcels approved for commercial, industrial or high density multiple-family residential land uses in an approved planned unit development, approval may be granted at staff level under the following conditions:

- a. All other requirements of this section are met; or
 - b. The proposed short form subdivision is in substantial conformance with the approved planned unit development master development plan map. Substantial conformance shall be determined by the director and based on the provisions in _____.

- (2) If subsections (a)(1)a and b of this section are not met, the director may require the applicant to submit a preliminary and final plan and/or a revised planned unit development application to be reviewed and approved by the planning commission and city council.

- (3) After review of the application, and within five working days of the official date of application, the director shall approve or not approve the application for short form subdivision and shall notify the applicant of the decision. The applicant may waive this requirement and consent to an extension of such period. If the application is approved, each

deed shall be certified by the director as the designated representative of the planning commission. If the application is denied, the director shall inform the applicant of the reasons for denial and shall advise him on appropriate alternate procedures.

(b) *Planning commission approval.*

(1) In all cases where staff level approval is not allowed, the director or his designate shall prepare a written report thereon, which shall be forwarded to the planning commission not more than 21 days after receipt of the short form subdivision application for consideration at the next regular meeting of the planning commission.

(2) Upon approval by the planning commission, each deed shall be certified by the signature of the chairperson or his designate. If the application is denied, the reasons for denial shall be stated in writing, with reference made to the express provision of the regulations to which the proposed short form subdivision does not conform, and shall be transmitted to the applicant.

(3) Whenever a deviation is required from the improvement requirements contained in this chapter or an easement or other element is to be dedicated, the action of the planning commission shall be forwarded to the city council for its approval and acceptance of dedications. For all other types of short form subdivision applications, the action of the planning commission is final.