OFFICE OF THE

Appanoose County Auditor

KELLY HOWARD

COURTHOUSE
201 N. 12th St., Rm 11
CENTERVILLE, IOWA 52544

Phone (641) 856-6191
Fax (641) 856-8023
khoward@appanoosecounty.net

Meeting Agenda
January 4, 2021

The Appanoose County Board of Supervisors will meet Monday, January 4, 2021 at 9:00 A.M. in the Boardroom of the Courthouse. Items on the agenda include:

1. Pledge
2. Declaration of items to be added to the agenda
3. Approve minutes of the December 21, 2020 meeting
4. Appoint Chairman and Vice-Chairman
5. Set meeting dates
6. Appoint legal publications
7. Approve 2021 holidays
8. Approve committee appointments
9. Approve reports (12/23 payroll)
10. Approve bills
11. Compensation Board Recommendations – Approve Elected Official's FY22 Salaries
12. Approve Resolution 2021-01: Construction Evaluation (Master Matrix)
13. Accept Preliminary Plat: Timber and Times Subdivision
14. Approve Deputy Appointments
15. 9:15 John Hansen (call): Project Progress update and formal final approval of civil engineering contract with Hall Engineering
16. Accept Veteran Affairs Administrator Resignation
17. Discuss Servpro estimate: DHS Building
18. COVID-19 Paid Leave Extension
19. County Engineer report
    a. Adopt Iowa Statewide Urban Design and Specifications (SUDAS) Chapter 5I – Access Management for Commercial and Business Applications
    b. Discussion of 5 year plan
20. Public Comments
21. Adjourn

Posted 12/31/20

December 21, 2020

Judge Gregory G. Milani administrated the oath of office to Supervisor Linda Demry, Supervisor Mark McGill, Auditor Kelly Howard and Sheriff Gary D. Anderson.

Appanoose County Board of Supervisors met in regular session December 21, 2020 at 9:00 A.M. in the Boardroom of the Courthouse. Present: Linda Demry, Chairperson, Neal Smith and Jeff Kulmatycki, Boardmembers. Absent: none.

Meeting started with the Pledge.

Demry requested #20 (Appoint Medical Examiner Adam Rowland) be scratched. Smith motioned to approve the amended agenda. Seconded by Kulmatycki. All voted aye.

Kulmatycki motioned to approve the minutes from the December 2 and 14, 2020 meetings. Seconded by Smith. All voted aye.

Smith motioned to approve 12/11 payroll and 11/2020 Prisoner Room and Board. Seconded by Kulmatycki. All voted aye.

Kulmatycki motioned to approve the bills. Seconded by Smith. All voted aye.

Access Sys	Typing-Print.-Bind.Serv.	134.88
ADLM EH	Off. Supplies & Forms	22500.00
Agriland FS	Engineering Services	13183.73
Albia PreK & Daycare	Community Support Program	1481.00
Alliant	Engineering Services	1440.24
App Co ISU Ext	Community Support Program	1292.92
Sec Rds	Fuels	1940.94
Serv Agency	Salary-Regular Employees	2344.01
App Comm Care	Homemaker-Home Health Aid	3815.99
Aramark	Engineering Services	188.56
Atomic Pest Control	Building Repair & Maintce	160.00
Bailey Off	Off. Supplies & Forms	306.94
Banleaco	Off. Supplies & Forms	185.72
Baty Elec	E911 Other Capital Expens	260.00
Blake Hershberger Ent	Bridge & Culvert Maint.	908.00
Bob Barker	Jail Equip. & Furniture	140.30
Bratz Oil	Tires & Tubes	806.68
P Breeding	Rent Payments	380.00
F Brockus	Engineering Services	403.40
Brownells	Law Enf. Equip & Weapons	78.03
J Burg	Educational & Train.Serv.	70.00
C-D Supply	Off. Supplies & Forms	160.52
Calhoun Burns	Engineering Services	23196.00
Cantera Aggregates	Engineering Services	12782.74
Capital Sanitary Supply	Off. Supplies & Forms	65.30
Card Services	Engineering Services	256.25
CarQuest	Engineering Services	612.97
Cville Iron	Bridge & Culvert Maint.	330.90
Cville Wtrwks	Engineering Services	135.75
C'ville Produce & Feed	Park Maint. & Supplies	362.31
Centurylink	E911 Telephone Expense	253.31
Chariton Valley Elec	Engineering Services	760.19
City Cville	Salary-Regular Employees	6459.92
Clark's Auto Rpr	Engineering Services	65.00
Coleman Moore Co	Bridge & Culvert Maint.	765.00
Corydon Vet Clinic	Park Maint. & Supplies	74.76

Davis Co Sch	Community Support Program	800.00
Davis Co Daycare	Community Support Program	888.00
Davis Co ISU Ext	Community Support Program	39.35
Davis Co Sheriff	Food Preparation Service	8200.00
Discount Doors & More	Building Repair & Maintce	589.00
Election Source	Election Supplies	6300.00
Fareway	Food & Provisions	188.95
Fielding Funeral Home	Funeral Services	900.00
Finish Line	Fuels	230.98
Fogle TV	Engineering Services	895.02
Forbes Office Solutions	Contract Services	38.72
Four Oaks Family Serv	Juvenile Detention & Shel	1446.15
Henderson Truck	Engineering Services	3024.12
Hills San	Engineering Services	385.00
Hy-Vee	Educational & Train.Serv.	1613.50
Hy-Vee	Food Preparation Service	4649.00
Iowa AEYC	Community Support Program	595.66
IA Cancer Consortium	Dues & Memberships	20.00
IA Emerg Mgmt	Educational & Train.Serv.	200.00
IALNS	Acct.-Audit.-Cler.Serv.	560.00
IA Outdoors	Park Maint. & Supplies	15.00
IA Police Chiefs Assn	Dues & Memberships	125.00
ISSDA	Dues & Memberships	400.00
John Deere	Engineering Services	338.89
Kids World	Community Support Program	1705.20
Kimball	Engineering Services	241.72
K Laurson	Office Equip. & Furniture	89.99
Lee Co Hlth	Community Support Program	285.18
LexisNexis	Dues & Memberships	100.00
Lockridge	Engineering Services	1125.28
The Machinery Barn	Park Maint. & Supplies	12.67
Marion Co Pub Hlth	Community Support Program	1747.62
Menards	Engineering Services	199.96
Metal Culverts	Bridge & Culvert Maint.	6253.72
MMIT	Off. Supplies & Forms	110.07
MMIT	Off. Equip Repair & Maint	90.31
Monroe Co ISU Ext	Community Support Program	1687.10
Monroe Pub Hlth	Community Support Program	4320.00
Moravia Union	Off. Supplies & Forms	438.84
NAPA	Engineering Services	231.11
Natel	Telephone & Telegr.Serv.	829.47
O'Halloran Int'l	Engineering Services	255.88
O'Reilly	Engineering Services	788.25
Orchard Pl	Community Support Program	6420.49
Pattison Sand	Engineering Services	620.64
Petty C-Sheriff	Postage & Mailing	8.35
Prof Computer	Off. Equip Repair & Maint	1484.93
ProKare Carpet Cleaning	Building Repair & Maintce	138.75
Quill	Off. Supplies & Forms	185.96
Rainbo Oil	Engineering Services	645.40
RRWA	Water & Sewer	103.80
Ray O'Herron	Uniforms	477.39
RICOH	Off. Supplies & Forms	27.29
River Hills	Medical & Health Services	130.00
SCICAP	Community Support Program	20764.70
R Sebolt	Engineering Services	421.00
SJ Smith Co Inc	Bridge & Culvert Maint.	171.02

SNAP-ON TOOLS BRANDON WARNER	Engineering Services	46.00
Solutions	Off. Supplies & Forms	230.80
Spilman Auto Parts	Engineering Services	2700.00
Storey Kenworthy	Off. Supplies & Forms	196.24
Summit Co	Engineering Services	1539.25
R Tisue	Mileage & Transp. Expense	16.20
UMB Bank, N.A.	G.O. Bonds Principal	250.00
US Bank	Off. Supplies & Forms	136.57
US Cellular	Off. Supplies & Forms	929.44
Vanguard Appraisals	Appraisal & Consultant Se	2187.50
VERIZON	Contrib. & Purchase Serv	40.00
Walmart	Engineering Supplies	242.88
Warren Co Sheriff	Legal Serv. Dep-Subp-Tran	43.00
Watson & Ryan	Legal & Ct-Related Serv.	1475.00
Wex Bank	Mileage & Transp. Expense	44.97
J Willier	Legal & Ct-Related Serv.	288.00
Windstream	Off. Supplies & Forms	2166.94
Ziegler	Engineering Services	4147.12
Grand Total		199536.60

Molly Revers from the YMCA provided a report, thanked the board for their past support and requested $15,000 in funding next fiscal year.

JeNel Allen Barth provided an update on the Drake Public Library, thanked the board for their past support and requested an increase in funding next fiscal year.

Kulmatycki motioned to open the public hearing for ZOMA 0615-04 (from Ag to Commercial) at 9:15 A.M. Seconded by Smith. All voted aye. Zoning Administrator, Beth Burgin, stated the zoning board recommended the change. Smith motioned to close the public hearing at 9:17 A.M. Seconded by Kulmatycki. All voted aye. The Auditor read ZOMA 0615-04. Smith motioned to approve the first reading of ZOMA 0615-04. Seconded by Kulmatycki. All voted aye. Smith motioned to waive the second and third readings of ZOMA 0615-04. Seconded by Kulmatycki. All voted aye.

Kulmatycki motioned to open the public hearing for the Final Plat for Main Station Subdivision at 9:20 A.M. Seconded by Smith. All voted aye. Jimmy Lindsey and Lisa Robb (via phone) were present to discuss the subdivision. There was discussion regarding lot 3 (Hawk will purchase) and driveway access for the remaining lots. County Engineer, Brad Skinner, did not recommend approval of the subdivision as currently presented. Kulmatycki motioned to close the public hearing at 9:36 A.M. Seconded by Smith. All voted aye. Kulmatycki motioned to approve the Final Plat of Main Station Subdivision. Seconded by Smith. All voted aye. The governing body approval documents were not presented during the meeting for signatures.

Smith motioned to open the public hearing for Ordinance 51: EMS Surtax at 9:37 A.M. Seconded by Kulmatycki. All voted aye. There were no public comments. Kulmatycki motioned to close the public hearing at 9:38 A.M. Seconded by Smith. All voted aye. The auditor read Ordinance 51. Smith motioned to approve the first reading of Ordinance 51. Seconded by Kulmatycki. All voted aye. Smith motioned to waive the second and third readings of Ordinance 51. Seconded by Kulmatycki. All voted aye.

Kulmatycki motioned to open the public hearing for FY21 Budget Amendment at 9:40 A.M. Seconded by Smith. All voted aye. The amendment consists of grant revenues and equal expenses with no draw on ending fund balances. Smith motioned to close the public hearing at 9:41 A.M. Seconded by Kulmatycki. All voted aye. Kulmatycki motioned to approve the FY21 Budget Amendment. Seconded by Smith. All voted aye.

Smith motioned to table the approval of the Iowa Statewide Urban Design and Specifications (SUDAS) Chapter 5I until the next board meeting (due to new board member). Seconded by Kulmatycki. All voted aye.

Skinner discussed the Highway J5T Speed Study. No need for formal approval.

Smith motioned to approve Resolution #2020-34. Seconded by Kulmatycki. All voted aye.

RESOLUTION NO. 2020-34

RESOLUTION FOR ESTABLISHING SPEED LIMITS

WHEREAS, the Board of Supervisors is empowered under the authority of the Code of Iowa Sections 321.255 and 321.285 of the Code of Iowa, to determine upon the basis of an engineering and traffic investigation, that the speed limit of any secondary road is greater than is reasonably proper under the conditions existing, and may determine and declare a reasonable and proper speed limit, and

WHEREAS, such an investigation has been requested and has been completed by the Appanoose County Engineer.

NOW THEREFORE BE IT RESOLVED BY THE BOARD OF SUPERVISORS OF APPANOOSE COUNTY that the speed limit be established and appropriate signs be erected at the location described as follows:

45 mph speed limit - from the NE end of Rathbun Dam (end of USACE Jurisdiction) near the SE Corner of Section 18, T70N, R17W, to a point 1.5 miles north, also known as the West Corner of Section 18, T70N, R17W

Resolution adopted this 21st day of December, 2020

Appanoose County Board of Supervisors

/s/: Linda Demry, Neal Smith, Jeff Kulmatycki

Kulmatycki motioned to approve Resolution #2020-32. Seconded by Smith. All voted aye.

RESOLUTION NO 2020-32

APPROPRIATIONS AMENDMENT

WHEREAS, Resolution No 2020-16 dated June 15, 2020 set appropriations by department for Fiscal Year 2021, and

NOW THEREFORE, BE IT RESOLVED, by the Board of Supervisors of Appanoose County, Iowa to amend department appropriations by the following amounts:

Dept# & Name	Amount	Dept# & Name	Amount
02-Auditor	$26,700	05-Sheriff	$143,003
23-Public Health	$26,349	99-Nondept	$493,280

The above and foregoing resolution was adopted by the Board of Supervisors of Appanoose County, Iowa on December 21 2020, the vote thereon being as follows:

AYES: /s/Linda Demry, Neal Smith, Jeff Kulmatycki

/s/: Linda Demry, Chairperson, Board of Supervisors

Attest:/s/ Kelly Howard, Appanoose County Auditor

Smith motioned to approve the Depository Trust Company Blanket Issuer Letter of Representation. Seconded by Kulmatycki. All voted aye.

Kulmatycki motioned to the Simmons Hanly Conroy LLC, Crueger Dickinson LLC, and von Briesen & Roper engagement letter. Seconded by Smith. All voted aye.

Smith motioned to approve Resolution #2020-33. Seconded by Kulmatycki. All voted aye.

RESOLUTION #2020-33 FOR INTERFUND OPERATING TRANSFER

Whereas, it is desired to transfer monies from the Rural Services Fund to the Secondary Road Fund, and

Whereas, said operating transfer is in accordance with section 331.432, Code of Iowa,

Now, therefore, be it resolved by the Board of Supervisors of Appanoose County, Iowa as follows:

Section 1. The sum of $ 197,109.50 is ordered to be transferred from the Rural Services Fund to the Secondary Road Fund, effective 12-21-2020.

Section 2. The Auditor is directed to correct her books accordingly and to notify the Treasurer of this operating transfer.

The above and foregoing resolution was adopted by the Board of Supervisors of Appanoose County, Iowa, on 12-21-2020 the vote being as follows:

Ayes:/s/Linda Demry, Neal Smith, Jeff Kulmatycki

Attest:/s/Kelly Howard, County Auditor

Kulmatycki motioned to approve the Bond to Insure Against Double Payment for Ottumwa Courier (check #36038 for $11.70). Seconded by Smith. All voted aye.

Kulmatycki motioned to approve the construction plans for RCB Culvert Replacement, Project No. BROS-SWAP-C004(112)-FE-04. Seconded by Smith. All voted aye.

Skinner recommended the following bridge replacements in order: 150th as planned, 550th as previously discussed, 135th Ave, Boothill, and then 265th Ave.

Skinner provided an update to the board. The Northshore Bridge is open to traffic. He is getting quotes on railroad flatcars. A group is headed to Buchanan County to look at their railroad flatcar bridges. They have finished their construction program for the fiscal year. More projects could be added next spring but it will require a budget amendment.

Stephanie Koch, CDC Coordinator, provided an update for the board. The next Advisory Council meeting will be 1/6/2021 at 1 P.M. The Governing Board will meet 1/20/21 at 1:30 via Zoom. She has moved into a back office in the old lowegian Building. On the 27th and 28th Waypoint will be looking at homelessness in the county.

John Hansen provided an update on the law center project. Bids for civil engineering received from French-Reneker and Hall Engineering were compared. Kulmatycki motioned to approve the Hall Engineering bid for topographic survey and civil engineering for a price not to exceed $3,970 and meet the schedule requirements. Seconded by Smith. All voted aye. Hansen presented a current bill for architectural, construction management fees and soil reports for approval. Smith motioned to approve the bills. Seconded by Kulmatycki. They will be paid at the next board meeting.

Demry stated there are 145 active COVID cases, 734 recovered, 27 deaths for a total of 906 cases.

Public Comments: Auditor Howard stated the City of Mystic received a petition for a special election to fill a council seat. The election will be held 1/19/2021. The filing period to appear on the ballot is 12/28/2020 at 5 P.M. In addition, the courthouse will be closed Thursday and Friday for Christmas.

Kulmatycki motioned to adjourn. Seconded by Smith. All voted aye.

The Board adjourned to meet at the call of the Auditor at 10:49 A.M.

Appanoose County Board of Supervisors

_____

_____

_____

Attest:

_____

Moravia Union

109 Benton Ave. E
Albia, Iowa 52531
641-932-7121
albianews.com

To Appanoose County Board of Supervisors:

The Moravia Union is requesting to be designated the official newspaper for county legal publications for the year 2021. We have had a long relationship with the county and would like to see this continue.

We **meet all 4 of the requirements** outlined in chapter 618.3 of the Iowa Code.

We are now distributing single copy sells of the Moravia Union at Centerville locations and will continue to do so for citizens of Appanoose County to be able to purchase The Union.

Sincerely,

Becky Maxwell
Publisher

2021 Holidays

January 1	New Year's
February 15	President's Day
May 31	Memorial Day
July 5	Independence Day
September 6	Labor Day
November 11	Veteran's Day
November 25 & 26	Thanksgiving
December 24 & 27	Christmas
December 31, 2022	New Year's

Appanoose County Compensation Board Meeting
December 16, 2020
5:00 PM
Appanoose County Courthouse

Present: Ed Cox, Dr. Kathy Lange, Larry Golic, Patsy Dudenhoeffer, Mike Craver, Ray Tresemer, Ann Young (via conference call)
Absent: Dr. Kathy Lange

Note: After meeting earlier in the month, the Appanoose County Compensation Board reconvened at this time with the correct roster of members to consider county official salaries.

Meeting was called to order by temporary chairman Mike Craver. The minutes of the 2019 meeting were reviewed. Motion by Patsy Dudenhoeffer, 2nd by Ed Cox to approve the minutes. All ayes.

Election of Officers: Motion by Ray Tresemer, 2nd by Larry Golic to elect the following officers – Mike Craver, Chairperson; Ed Cox, Vice-Chairperson; Ann Young, Secretary. All ayes.

Vice Chair Ed Cox read the instructions to the compensation board from Iowa Code section 331.907.

Salary Review & Discussion: The board reviewed Iowa county salary rankings for each office as well as materials submitted by the office holders. The board also considered the U.S. Department of Labor, Bureau of Labor Statistics, and CPI - All Urban Consumers, Midwest Region, and ACPI average increase from July 2019 to July 2020 of 1%. The Compensation Board has been trying over the last years to advance salary rankings at least to the Appanoose population rank of 60th. Review of current data shows we are still behind in some areas. The historical practice of setting the Auditor, Treasurer and Recorder at the same salary each year to make it equitable, contributes to disparity of the individual rankings in those positions as many other counties set the salaries individually based on comparison within that job category. The group unanimously agreed to review and consider job category individually by position this year.

Salary Recommendation for Board of Supervisors: Motion by Ray Tresemer, 2nd by Patsy Dudenhoeffer to recommend a $1500 increase for the board of supervisors. All ayes.

Board of Supervisors Chairman: Motion by Ann Young, 2nd by Ed Cox to continue $500 additional salary for the board chairman. All ayes.

Salary Recommendation for Sheriff: The group reviewed not only county sheriff salary comparisons but also comparisons with state law enforcement personnel both trooper and captain level as specified in the code. Based on that comparison, the sheriff is about 20% below state law enforcement personnel. Motion by Ray Tresemer, 2nd by Patsy Dudenhoeffer to recommend a $10,000 increase for the Sheriff. All ayes.

Salary Recommendation for County Attorney: The group reviewed county comparisons and discussed the high criminal load in Appanoose County as well as the fact that many other counties have part-time attorneys that allow them to have an outside practice as well. They also discussed the difficulty of trying to replace a county attorney. Motion by Ed Cox, 2nd by Ray Tresemer to recommend a $12,000 increase for the County Attorney. All ayes.

Salary Recommendation for Treasurer: The county treasurer current salary ranks 76th. The county treasurer appeared in person to discuss the demands of her office and reminded the board that their recommendations affect the people who work for her as well. Motion by Ed Cox, 2nd by Patsy Dudenhoeffer to recommend a $4500 increase. All ayes.

Salary Recommendation for Auditor: The county auditor current salary ranks 75th. The county auditor and deputy appeared in person to discuss the increasing election demand of the office as well as the depth of responsibility of the county auditor. Motion by Patsy Dudenhoeffer, 2nd by Ed Cox to recommend a $6,500 increase. All ayes.

Salary Recommendation for Recorder: The county recorder current salary ranks 74th. The county recorder appeared in person and discussion was held among the board about the number of transactions going through the 2 person office. Motion by Ann Young, 2nd by Ed Cox to recommend a $4500 increase. All ayes.

Other Business: Ray Tresemer recommended that the compensation board appear before the board of supervisors to request the county board seriously consider the accepting the recommendations made based on the facts and needs as presented. Mike, Ray and Ed agreed to attend the board meeting when compensation is reviewed.

Next Meeting Date: The compensation board set the next regular meeting for December 1, 2021 at 5 PM at the Appanoose County Courthouse.

With no further business the meeting was adjourned.

Respectfully submitted,

Ann E. Young

Ann Young
Secretary

RESOLUTION #2021-01

CONSTRUCTION EVALUATION RESOLUTION

WHEREAS, Iowa Code section 459.304(3) sets out the procedure if a board of supervisors wishes to adopt a "construction evaluation resolution" relating to the construction of a confinement feeding operation structure; and

WHEREAS, only counties that have adopted a construction evaluation resolution can submit to the Department of Natural Resources (DNR) an adopted recommendation to approve or disapprove a construction permit application regarding a proposed confinement feeding operation structure; and

WHEREAS, only counties that have adopted a construction evaluation resolution and submitted an adopted recommendation may contest the DNR's decision regarding a specific application; and

WHEREAS, by adopting a construction evaluation resolution the board of supervisors agrees to evaluate every construction permit application for a proposed confinement feeding operation structure received by the board of supervisors between February 1, 2021 and January 31, 2022 and submit an adopted recommendation regarding that application to the DNR; and

WHEREAS, the board of supervisors must conduct an evaluation of every construction permit application using the master matrix created in Iowa Code section 459.305, but the board's recommendation to the DNR may be based on the final score on the master matrix or may be based on reasons other than the final score on the master matrix;

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF SUPERVISORS OF APPANOOSE COUNTY that the Board of Supervisors hereby adopts this construction evaluation resolution pursuant to Iowa Code section 459.304(3).

_____
Chair, Board of Supervisors

Date:_____

ATTEST:

_____
County Auditor

Date:_____

HALL ENGINEERING COMPANY
Consulting Engineers
Since 1903

P.O. Box 825
Alliant Building • Suite 101
300 Sheridan Avenue
Centerville, IA 52544
641-437-4477 • fax 641-437-4479

December 23, 2020

Kelly Howard
Appanoose County Auditor
201 North 12th Street
Centerville, IA 52544
Hand Delivered 12/23/2020

Dear Kelly,

Enclosed are ten copies of a Preliminary Plat of Timber and Tines Subdivision located in Section 3, Township 70 North, Range 18 West in Appanoose County for review and consideration of approval by the Appanoose County Board of Supervisors (BOS).

The subdivision is necessary for the property owner, Bentley Development LLC, to sell Assessor Parcel Number 040142000461000, 040142000474000, 040142000463000, and 040142000470000.

We request the consideration of approval be placed on the agenda for the Board of Supervisors meeting on January 4, 2021.

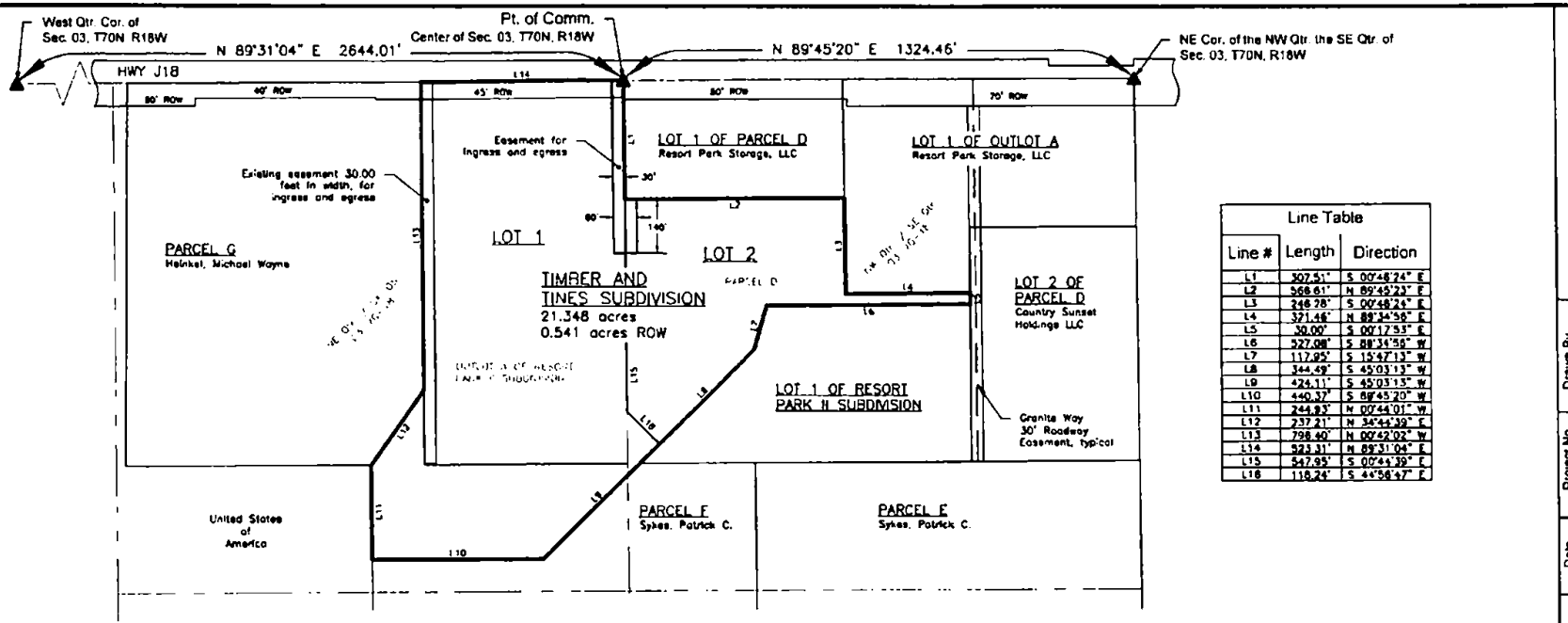
Would you distribute the preliminary plats to the appropriate County departments and BOS.

Thank You,

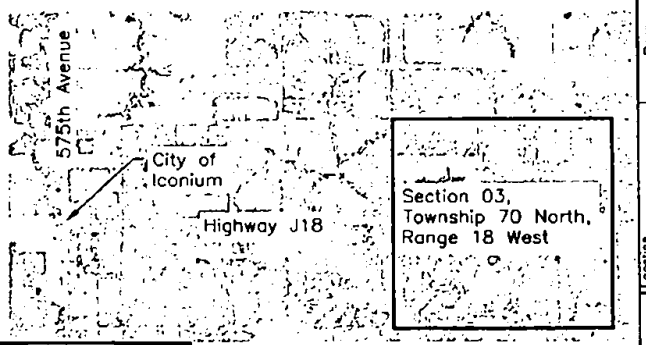
HALL ENGINEERING COMPANY

P.P. Ashley Cink

Ronda Cink, P.E., L.S.I.T



Line Table		
Line #	Length	Direction
L1	307.51'	S 00°46'24" E
L2	568.61'	N 89°45'23" E
L3	246.78'	S 00°48'24" E
L4	371.46'	N 88°34'56" E
L5	30.00'	S 00°17'53" E
L6	527.08'	S 88°34'56" W
L7	117.95'	S 15°47'13" W
L8	344.49'	S 45°03'13" W
L9	424.11'	S 45°03'13" W
L10	440.37'	S 88°45'20" W
L11	244.93'	N 00°44'01" W
L12	237.21'	N 34°44'39" E
L13	798.40'	N 00°42'02" W
L14	923.31'	N 89°31'04" E
L15	547.95'	S 00°44'39" E
L16	118.24'	S 44°58'47" E



LOCATION MAP

SCALE 1" = 3000'
0
3000'
6000'
N

Land Use: Zoned Commercial
Source: Appanoose County Zoning Map, Dated 7/31/2012
Owner: Bentley Development, LLC
Iowa Development, LLC
Engineer: Ronda Cink, PE, LSIT
Surveyor: Wendell Folkerts, PE, LS

AREAS BY ¼-¼ SECTION		
¼ ¼	TOTAL	R.O.W.
NE - SW	15.403 acres	0.541 acres
NW - SE	5.945 acres	0.000 acres
TOTAL	21.348 acres	0.541 acres

Survey Notes

Basis for Bearing is IARTN Network Iowa South State Plane Coordinates

MONUMENT LEGEND

- ▲ Found Monument as Noted at U.S.P.L.S. Corner
- △ Set ½" bar with plastic cap at U.S.P.L.S. Corner
- ● Found Monument as noted
- ○ Set ½" bar with plastic cap PLS 6366

PRELIMINARY PLAT OF TIMBER AND TINES SUBDIVISION

I hereby certify that this land surveying document was prepared by me or under my direct personal supervision and that I am a duly licensed Land Surveyor under the laws of the State of Iowa.

Date. _____

Wendell W. Folkerts, P.E. & L.S. Registration No. 6366

My registration renewal date is December 31, 2021

Pages covered by this certification: Page 1

PROFESSIONAL ENGINEER LICENSED Wendell W. Folkerts 6366 IOWA LAND SURVEYOR

INDEX LEGEND	
Property Location	NE Qtr./SW Qtr. & NW Qtr./SE Qtr. Sec. 03, T70N, R18W Appanoose County, Iowa
Surveyor /	Wendell Folkerts P.E. and P.L.S.
Return Document to	B&T Engineering Services P.O. Box 825, Centerville, IA 52544
Survey Requested by	Carl Gulley - Hometown Realty
Proprietor	
Survey Date	12/21/2020

B & T ENGINEERING SERVICES, INC., P.O. Box 825 Centerville, IA. 52544 (641) 437-4478

B & T ENGINEERING SERVICES, INC.

Scale	Location	Page	Date	Project No.	Drawn By	Revised
As Noted	Appanoose County, IA	1 of 2	12/21/20	LS-2091	D. Schofield	12/28/2020

LEGAL DESCRIPTION

Timber and Tines Subdivision a part of Resort Park II Subdivision and a part of Parcel D located in the Northeast Quarter of the Southwest Quarter and Northwest Quarter of the Southeast Quarter of Section 03, Township 70 North, Range 18 West of the Fifth Principal Meridian, Appanoose County, Iowa, more particularly described as follows.

Commencing at the Center of Section 03, Township 70 North, Range 18 West of the Fifth Principal Meridian, Appanoose County, Iowa, and proceeding,

thence South 00°46'24" East 307.51 feet along the West line of Lot 1 of Parcel D,
thence North 89°45'23" East 566.61 feet along the South Line of Lot 1 of Parcel D,
thence South 00°46'24" East 246.28 feet along the West Line of Lot 1 of Outlot A,
thence North 89°34'56" East 321.46 feet along the South Line of Lot 1 of Outlot A,
thence South 00°17'53" East 30.00 feet along the West Line of Lot 2 of Parcel D,
thence South 89°34'56" West 527.08 feet along the North Line of Lot 1 of Resort Park II Subdivision,
thence South 15°47'13" West 117.95 feet along the West Line of Lot 1 of Resort Park II Subdivision;
thence South 45°03'13" West 344.49 feet along the West Line of Lot 1 of Resort Park II Subdivision and the Northerly Line of Parcel F,
thence South 45°03'13" West 424.11 feet along the Northerly Line of Parcel F,
thence South 89°45'20" West 440.37 feet along the North Line of Parcel F,
thence North 00°44'01" West 244.93 feet to the South Line of Parcel G, said point being USACE Monument No. 825
thence North 34°44'39" East 237.21 feet along the Southerly Line of Parcel G,
thence North 00°42'02" West 796.40 feet along the East Line of Parcel G,
thence North 89°31'04" East 523.31 feet along the North Line of the Northeast Quarter of the Southwest Quarter of said Section 03 to the Point of Commencement, said Subdivision containing 21.348 acres, more or less, subject to easements of record.

LEGAL DESCRIPTION
EASEMENT

A part of Timber and Tines Subdivision, more particularly described as follows.

Commencing at the Center of Section 03, Township 70 North, Range 18 West of the Fifth Principal Meridian, Appanoose County, Iowa, and proceeding;

thence South 00°46'24" East 307.51 feet,
thence North 89°45'23" East 30.00 feet,
thence South 00°44'39" East 140.00 feet,
thence South 89°31'04" West 60.00 feet,
thence North 00°44'39" West 140.00 feet,
thence North 00°46'24" West 307.51 feet,
thence North 89°31'04" East 30.00 feet along the North Line of the Northeast Quarter of the Southwest Quarter of said Section 03 to the Point of Commencement, said Easement containing 0.232 acres.

CONTOUR MAP

SCALE 1" = 300'

0 300' 600'

N

B & T ENGINEERING SERVICES, INC., P.O. Box 825 Centerville, IA, 52544 (641) 437-4478

B & T ENGINEERING SERVICES, INC.	
Scale	1" = 300'
Location	Appanoose County, IA
Page	2 of 2
Date	12/21/20
Project No.	LS-2091
Drawn By	D Schofield
Revised: 12/28/2020	

INDEX LEGEND

Property Location	NE Qtr./SW Qtr. & NW Qtr./SE Qtr. Sec. 03, T70N, R18W Appanoose County, Iowa
Surveyor /	Wendell Roberts, P.E. and P.L.S.
Return Document to	B&T Engineering Services P.O. Box 825, Centerville, IA 52544
Survey Requested by	Carl Cable - Hometown Realty
Proprietor	
Survey Date	12/21/2020

CERTIFICATE OF APPOINTMENT OF DEPUTY OR ASSISTANT

STATE OF IOWA, APPANOOSE COUNTY

I, Kelly Howard, Auditor of Appanoose County, Iowa, do hereby constitute and appoint Jewell Cohrs as deputy for a period of 4 years, from January 2, 2021

and do hereby authorize and empower her to do and perform in my name as such Auditor, all acts and things that may lawfully be done by her as such Deputy Auditor.

This commission expires January 2, 2025, unless sooner revoked or when said Deputy ceases to perform above named duties.

Given under my hand this 4th day of January, A.D. 2021.

Auditor of Appanoose County

STATE OF IOWA, APPANOOSE COUNTY

I, Jewell Cohrs, having been appointed a Deputy Auditor of Appanoose County, under Kelly Howard Auditor of said County, do solemnly swear that I will support the Constitution of the United States and the Constitution of the State of Iowa, and that I will faithfully and impartially, to the best of my ability, discharge all the duties of the office of Auditor in Appanoose County, as now or hereafter required by law.

Jewell L. Cohrs

Subscribed and sworn to before me, this 31st day of December, A.D. 20 20.

Kelly Howard

Above appointment approved by the Board of Supervisors of Appanoose County, this _____ day of _____, 20_____, by resolution, Minute Book _____ Page _____

_____, Chairman

CERTIFICATE OF APPOINTMENT OF DEPUTY OR ASSISTANT

STATE OF IOWA, APPANOOSE COUNTY

I, Kelly Howard, Auditor of Appanoose County, Iowa, do hereby constitute and appoint Pam Kluxdal-Wells as deputy for a period of 4 years, from January 2, 2021

and do hereby authorize and empower her to do and perform in my name as such Auditor, all acts and things that may lawfully be done by her as such Deputy Auditor.

This commission expires January 2, 2025, unless sooner revoked or when said Deputy ceases to perform above named duties.

Given under my hand this 4th day of January, A.D. 2021.

Auditor of Appanoose County

STATE OF IOWA, APPANOOSE COUNTY

I, Pam Kluxdal-Wells, having been appointed a Deputy Auditor of Appanoose County, under Kelly Howard Auditor of said County, do solemnly swear that I will support the Constitution of the United States and the Constitution of the State of Iowa, and that I will faithfully and impartially, to the best of my ability, discharge all the duties of the office of Auditor in Appanoose County, as now or hereafter required by law.

Pam Kluxdal-Wells

Subscribed and sworn to before me, this 31st day of December, A.D. 20 20.

Kelly Howard

Above appointment approved by the Board of Supervisors of Appanoose County, this _____ day of _____, 20_____, by resolution, Minute Book _____ Page _____

_____, Chairman

CERTIFICATE OF APPOINTMENT OF DEPUTY OR ASSISTANT

STATE OF IOWA, APPANOOSE COUNTY

I, Kelly Howard, Auditor of Appanoose County, Iowa, do hereby constitute and appoint Kari Smith as deputy for a period of 4 years, from January 2, 2021

and do hereby authorize and empower her to do and perform in my name as such Auditor, all acts and things that may lawfully be done by her as such Deputy Auditor.

This commission expires January 2, 2025, unless sooner revoked or when said Deputy ceases to perform above named duties.

Given under my hand this 4th day of January, A.D. 2021.

Auditor of Appanoose County

STATE OF IOWA, APPANOOSE COUNTY

I, Kari Smith, having been appointed a Deputy Auditor of Appanoose County, under Kelly Howard Auditor of said County, do solemnly swear that I will support the Constitution of the United States and the Constitution of the State of Iowa, and that I will faithfully and impartially, to the best of my ability, discharge all the duties of the office of Auditor in Appanoose County, as now or hereafter required by law.

Kari Smith

Subscribed and sworn to before me, this 31st day of December, A.D. 20 20.

Kelly Howard

Above appointment approved by the Board of Supervisors of Appanoose County, this _____ day of _____, 20_____, by resolution, Minute Book _____ Page _____

_____, Chairman

Appanoose County Veterans Affairs
19999 St. Joseph Dr.
Centerville, Ia. 52544
(641)856-6597

Subj: Appanoose County Veteran Affairs Administrator Resignation
Date: 12/01/2020

It is with a heavy heart that I submit my resignation as Administrator of Appanoose County Veteran Affairs effective 12/10/2020. It has been my pleasure to serve the Veterans in the county. I look forward to still volunteering for the Veterans in our county.

Trista Barbaglia
Appanoose County
Veterans Affairs Administrator

Client:	Appanoose County Public Health #2	Cellular:	(641) 895-9567
Billing:	209 East Jackson Centerville, IA 52544		
Operator:	STEVEH		
Estimator:	Steve Hoffman		
Type of Estimate:	Mold		
Date Entered:	12/14/2020	Date Assigned:	12/14/2020
Price List:	IADM8X_SEP20		
Labor Efficiency:	Restoration/Service/Remodel		
Estimate:	APPANOOSECOUNTYPUBLI		

Dear Kris Laurson and Appanoose County Board of Supervisors,

I am sorry to hear about your recent mold loss. Attached you will find an estimate for the associated costs related to the mitigation. The total of the estimate is $5233.88. Note this is purely an estimate. Throughout the mitigation phase challenges arise which may require additional work to be perfonned. Please feel free to contact me with any questions or concerns.

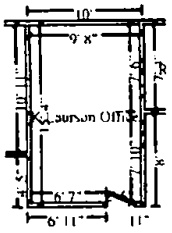
Regards,
Steve Hoffman
Project Manager
Shoffman@servepro.me

APPANOOSECOUNTYPUBLI

Main Level

Main Level

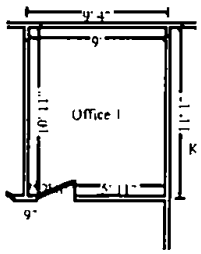
CAT	SEL / CALC	QTY	ACT DESCRIPTION	REMOVE	REPLACE	TAX	TOTAL
1. WTR	ESRVD		+ Emergency service call - during business hours				
	1	1.00 EA		0.00+	131.46 =	0.00	131.46
2. HMR	NAFAN		+ Negative air fan/Air scrubber (24 hr period) - No monit.				
	1	1.00 DA		0.00+	70.00 =	0.00	70.00
3. HMR	FHEPA		+ Add for HEPA filter (for negative air exhaust fan)				
	.5	0.50 EA		0.00+	188.40 =	6.13	100.33
4. HMR	PPE		+ Add for personal protective equipment (hazardous cleanup)				
	4	4.00 EA		0.00+	16.35 =	4.58	69.98
5. WTR	EQD		+ Equipment decontamination charge - per piece of equipment				
	2	2.00 EA		0.00+	27.65 =	0.56	55.86
6. HMR	FHEPA<		+ Add for HEPA filter (for canister/backpack vacuums)				
	1	1.00 EA		0.00+	66.40 =	3.71	70.11
7. WTR	BAG		+ Plastic bag - used for disposal of contaminated items				
	40	40.00 EA		0.00+	2.89 =	8.09	123.69
8. DMO	PU		- Haul debris - per pickup truck load - including dump fees				
	2	2.00 EA		135.90+	0.00 =	0.00	271.80
Total: Main Level						**23.07**	**893.23**



K Laurson Office — **Height: 7' 10"**

391.67 SF Walls	148.22 SF Ceiling
539.89 SF Walls & Ceiling	148.22 SF Floor
16.47 SY Flooring	50.00 LF Floor Perimeter
50.00 LF Ceil. Perimeter	

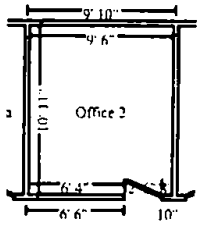
CAT	SEL / CALC	QTY	ACT DESCRIPTION	REMOVE	REPLACE	TAX	TOTAL
9. WTR	PNL		- Tear out wet paneling, bag for disposal				
	80	80.00 SF		0.50+	0.00 =	0.50	40.50
10. HMR	HEPAVAS		+ HEPA Vacuuming - Detailed - (PER SF)				
	2*80	160.00 SF		0.00+	0.78 =	0.00	124.80
11. HMR	GRMBIO		+ Apply biological cleaning agent (spore-based) to the surface area				
	80	80.00 SF		0.00+	0.30 =	0.28	24.28
12. HMR	SANDW		+ Sand exposed framing - Walls				
	80	80.00 SF		0.00+	1.25 =	0.11	100.11
Totals: K Laurson Office						**0.89**	**289.69**



Office 1 **Height: 7' 10"**

312.03 SF Walls	98.25 SF Ceiling
410.28 SF Walls & Ceiling	98.25 SF Floor
10.92 SY Flooring	39.83 LF Floor Perimeter
39.83 LF Ceil. Perimeter	

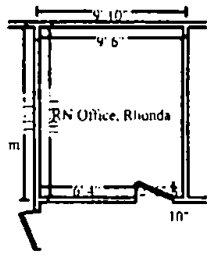
CAT	SEL CALC	QTY	ACT DESCRIPTION	REMOVE	REPLACE	TAX	TOTAL
13. HMR	SANDW		+ Sand exposed framing - Walls				
	72	72.00 SF		0.00+	1.25 =	0.10	90.10
14. HMR	HEPAVAS		+ HEPA Vacuuming - Detailed - (PER SF)				
	72	72.00 SF		0.00+	0.78 =	0.00	56.16
15. HMR	GRMBIO		+ Apply biological cleaning agent (spore-based) to the surface area				
	72	72.00 SF		0.00+	0.30 =	0.25	21.85
Totals: Office 1						**0.35**	**168.11**



Office 2 **Height: 7' 10"**

319.86 SF Walls	103.71 SF Ceiling
423.57 SF Walls & Ceiling	103.71 SF Floor
11.52 SY Flooring	40.83 LF Floor Perimeter
40.83 LF Ceil. Perimeter	

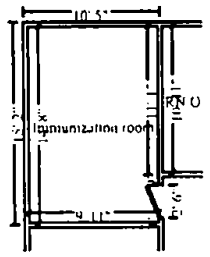
CAT	SEL CALC	QTY	ACT DESCRIPTION	REMOVE	REPLACE	TAX	TOTAL
16. HMR	SANDW		+ Sand exposed framing - Walls				
	72	72.00 SF		0.00+	1.25 =	0.10	90.10
17. HMR	HEPAVAS		+ HEPA Vacuuming - Detailed - (PER SF)				
	72	72.00 SF		0.00+	0.78 =	0.00	56.16
18. HMR	GRMBIO		+ Apply biological cleaning agent (spore-based) to the surface area				
	72	72.00 SF		0.00+	0.30 =	0.25	21.85
Totals: Office 2						**0.35**	**168.11**



RN Office, Rhonda **Height: 8'**

326.67 SF Walls	103.71 SF Ceiling
430.38 SF Walls & Ceiling	103.71 SF Floor
11.52 SY Flooring	40.83 LF Floor Perimeter
40.83 LF Ceil. Perimeter	

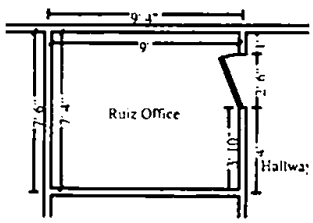
CAT	SEL CALC	QTY	ACT DESCRIPTION REMOVE	REPLACE	TAX	TOTAL
19. HMR	SANDW	+ Sand exposed framing - Walls				
	72	72.00 SF	0.00+	1.25 =	0.10	90.10
20. HMR	HEPAVAS	+ HEPA Vacuuming - Detailed - (PER SF)				
	72	72.00 SF	0.00+	0.78 =	0.00	56.16
21. HMR	GRMBIO	+ Apply biological cleaning agent (spore-based) to the surface area				
	72	72.00 SF	0.00+	0.30 =	0.25	21.85
Totals: RN Office, Rhonda					**0.35**	**168.11**



Immunization room **Height: 7' 10"**

385.14 SF Walls	145.44 SF Ceiling
530.58 SF Walls & Ceiling	145.44 SF Floor
16.16 SY Flooring	49.17 LF Floor Perimeter
49.17 LF Ceil. Perimeter	

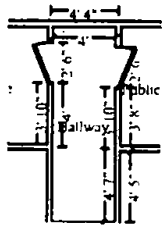
CAT	SEL CALC	QTY	ACT DESCRIPTION REMOVE	REPLACE	TAX	TOTAL
22. WTR	PNL	- Tear out wet paneling, bag for disposal				
	80	80.00 SF	0.50+	0.00 =	0.50	40.50
23. HMR	HEPAVAS	+ HEPA Vacuuming - Detailed - (PER SF)				
	2*80	160.00 SF	0.00+	0.78 =	0.00	124.80
24. HMR	GRMBIO	+ Apply biological cleaning agent (spore-based) to the surface area				
	80	80.00 SF	0.00+	0.30 =	0.28	24.28
25. HMR	SANDW	+ Sand exposed framing - Walls				
	80	80.00 SF	0.00+	1.25 =	0.11	100.11
26. WTR	DRYW	- Tear out wet drywall, cleanup, bag for disposal				
	80	80.00 SF	0.80+	0.00 =	0.90	64.90
Totals: Immunization room					**1.79**	**354.59**



Ruiz Office **Height: 7' 10"**

255.89 SF Walls	66.00 SF Ceiling
321.89 SF Walls & Ceiling	66.00 SF Floor
7.33 SY Flooring	32.67 LF Floor Perimeter
32.67 LF Ceil. Perimeter	

CAT	SEL CALC	QTY	ACT DESCRIPTION	REMOVE	REPLACE	TAX	TOTAL
27. WTR	PNL		- Tear out wet paneling, bag for disposal				
	72	72.00 SF		0.50+	0.00 =	0.45	36.45
28. HMR	HEPAVAS		+ HEPA Vacuuming - Detailed - (PER SF)				
	72	72.00 SF		0.00+	0.78 =	0.00	56.16
29. HMR	GRMBIO		+ Apply biological cleaning agent (spore-based) to the surface area				
	72	72.00 SF		0.00+	0.30 =	0.25	21.85
30. HMR	SANDW		+ Sand exposed framing - Walls				
	72	72.00 SF		0.00+	1.25 =	0.10	90.10
31. WTR	DRYW		- Tear out wet drywall, cleanup, bag for disposal				
	72	72.00 SF		0.80+	0.00 =	0.81	58.41
Totals: Ruiz Office						**1.61**	**262.97**



Hallway **Height: 7' 10"**

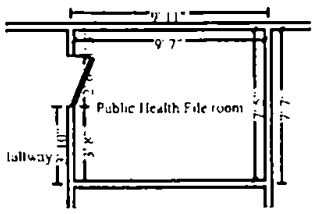
221.94 SF Walls	48.67 SF Ceiling
270.61 SF Walls & Ceiling	48.67 SF Floor
5.41 SY Flooring	28.33 LF Floor Perimeter
28.33 LF Ceil. Perimeter	

Missing Wall **4' X 7' 10"** **Opens into Exterior**

CAT	SEL CALC	QTY	ACT DESCRIPTION	REMOVE	REPLACE	TAX	TOTAL
32. WTR	PNL		- Tear out wet paneling, bag for disposal				
	12	12.00 SF		0.50+	0.00 =	0.08	6.08
33. HMR	HEPAVAS		+ HEPA Vacuuming - Detailed - (PER SF)				
	2*12	24.00 SF		0.00+	0.78 =	0.00	18.72
34. HMR	GRMBIO		+ Apply biological cleaning agent (spore-based) to the surface area				
	12	12.00 SF		0.00+	0.30 =	0.04	3.64
35. HMR	SANDW		+ Sand exposed framing - Walls				
	112	112.00 SF		0.00+	1.25 =	0.16	140.16
36. WTR	DRYW		- Tear out wet drywall, cleanup, bag for disposal				
	12	12.00 SF		0.80+	0.00 =	0.13	9.73

CONTINUED - Hallway

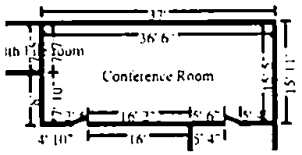
CAT	SEL CALC	ACT DESCRIPTION QTY	REMOVE	REPLACE	TAX	TOTAL
Totals: Hallway					**0.41**	**178.33**



Public Health File room — **Height: 7' 10"**

266.33 SF Walls	71.08 SF Ceiling
337.41 SF Walls & Ceiling	71.08 SF Floor
7.90 SY Flooring	34.00 LF Floor Perimeter
34.00 LF Ceil. Perimeter	

CAT	SEL CALC	ACT DESCRIPTION QTY	REMOVE	REPLACE	TAX	TOTAL
37. WTR	PNL	- Tear out wet paneling, bag for disposal				
	80	80.00 SF	0.50+	0.00 =	0.50	40.50
38. HMR	HEPAVAS	+ HEPA Vacuuming - Detailed - (PER SF)				
	2*80	160.00 SF	0.00+	0.78 =	0.00	124.80
39. HMR	GRMBIO	+ Apply biological cleaning agent (spore-based) to the surface area				
	80	80.00 SF	0.00+	0.30 =	0.28	24.28
40. HMR	SANDW	+ Sand exposed framing - Walls				
	80	80.00 SF	0.00+	1.25 =	0.11	100.11
41. WTR	DRYW	- Tear out wet drywall, cleanup, bag for disposal				
	80	80.00 SF	0.80+	0.00 =	0.90	64.90
Totals: Public Health File room					**1.79**	**354.59**



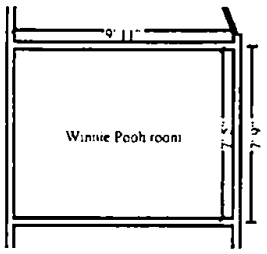
Conference Room — **Height: 7' 10"**

813.36 SF Walls	562.71 SF Ceiling
1376.07 SF Walls & Ceiling	562.71 SF Floor
62.52 SY Flooring	103.83 LF Floor Perimeter
103.83 LF Ceil. Perimeter	

CAT	SEL CALC	ACT DESCRIPTION QTY	REMOVE	REPLACE	TAX	TOTAL

CONTINUED - Conference Room

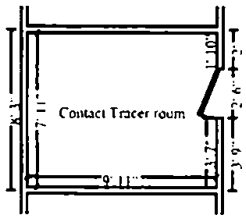
CAT	SEL CALC	ACT DESCRIPTION QTY	REMOVE	REPLACE	TAX	TOTAL
42. WTR	PNL	- Tear out wet paneling, bag for disposal				
	296	296.00 SF	0.50+	0.00 =	1.86	149.86
43. HMR	HEPAVAS	+ HEPA Vacuuming - Detailed - (PER SF)				
	2*296	592.00 SF	0.00+	0.78 =	0.00	461.76
44. HMR	GRMBIO	+ Apply biological cleaning agent (spore-based) to the surface area				
	296	296.00 SF	0.00+	0.30 =	1.04	89.84
45. HMR	SANDW	+ Sand exposed framing - Walls				
	296	296.00 SF	0.00+	1.25 =	0.41	370.41
46. WTR	DRYW	- Tear out wet drywall, cleanup, bag for disposal				
	296	296.00 SF	0.80+	0.00 =	3.32	240.12
Totals: Conference Room					**6.63**	**1,311.99**



Winnie Pooh room **Height: 8'**

277.33 SF Walls	73.55 SF Ceiling
350.88 SF Walls & Ceiling	73.55 SF Floor
8.17 SY Flooring	34.67 LF Floor Perimeter
34.67 LF Ceil. Perimeter	

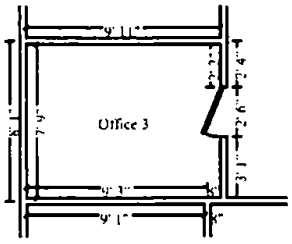
CAT	SEL CALC	ACT DESCRIPTION QTY	REMOVE	REPLACE	TAX	TOTAL
47. HMR	LABHS	+ Hazardous Waste/Mold Cleaning- Supervisory/Admin- per hour				
	1	1.00 HR	0.00+	77.44 =	0.00	77.44
Totals: Winnie Pooh room					**0.00**	**77.44**



Contact Tracer room **Height: 8'**

285.33 SF Walls	78.51 SF Ceiling
363.84 SF Walls & Ceiling	78.51 SF Floor
8.72 SY Flooring	35.67 LF Floor Perimeter
35.67 LF Ceil. Perimeter	

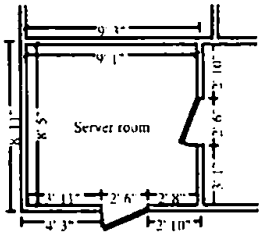
CAT	SEL CALC	QTY	ACT DESCRIPTION REMOVE	REPLACE	TAX	TOTAL
48. HMR	LABHS	+ Hazardous Waste/Mold Cleaning- Supervisory/Admin- per hour				
	1	1.00 HR	0.00+	77.44 =	0.00	77.44
Totals: Contact Tracer room					**0.00**	**77.44**



Office 3 **Height: 8'**

282.67 SF Walls	76.85 SF Ceiling
359.52 SF Walls & Ceiling	76.85 SF Floor
8.54 SY Flooring	35.33 LF Floor Perimeter
35.33 LF Ceil. Perimeter	

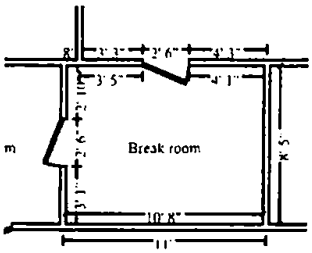
CAT	SEL CALC	QTY	ACT DESCRIPTION REMOVE	REPLACE	TAX	TOTAL
49. HMR	LABHS	+ Hazardous Waste/Mold Cleaning- Supervisory/Admin- per hour				
	1	1.00 HR	0.00+	77.44 =	0.00	77.44
Totals: Office 3					**0.00**	**77.44**



Server room **Height: 8'**

280.00 SF Walls	76.45 SF Ceiling
356.45 SF Walls & Ceiling	76.45 SF Floor
8.49 SY Flooring	35.00 LF Floor Perimeter
35.00 LF Ceil. Perimeter	

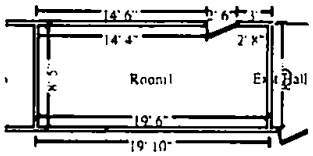
CAT	SEL CALC	QTY	ACT DESCRIPTION REMOVE	REPLACE	TAX	TOTAL
50. HMR	LABHS	+ Hazardous Waste/Mold Cleaning- Supervisory/Admin- per hour				
	1	1.00 HR	0.00+	77.44 =	0.00	77.44
Totals: Server room					**0.00**	**77.44**



Break room **Height: 8'**

305.33 SF Walls	89.78 SF Ceiling
395.11 SF Walls & Ceiling	89.78 SF Floor
9.98 SY Flooring	38.17 LF Floor Perimeter
38.17 LF Ceil. Perimeter	

CAT	SEL CALC	ACT DESCRIPTION QTY	REMOVE	REPLACE	TAX	TOTAL
51. HMR	LABHS	+ Hazardous Waste/Mold Cleaning- Supervisory/Admin- per hour				
	1	1.00 HR	0.00+	77.44 =	0.00	77.44
Totals: Break room					**0.00**	**77.44**



Room1 **Height: 8'**

446.67 SF Walls	164.13 SF Ceiling
610.79 SF Walls & Ceiling	164.13 SF Floor
18.24 SY Flooring	55.83 LF Floor Perimeter
55.83 LF Ceil. Perimeter	

CAT	SEL CALC	ACT DESCRIPTION QTY	REMOVE	REPLACE	TAX	TOTAL
52. HMR	LABHS	+ Hazardous Waste/Mold Cleaning- Supervisory/Admin- per hour				
	1	1.00 HR	0.00+	77.44 =	0.00	77.44
Totals: Room1					**0.00**	**77.44**

Exit Hallway **Height: 8'**

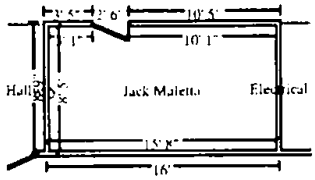
169.33 SF Walls	31.47 SF Ceiling
200.81 SF Walls & Ceiling	31.47 SF Floor
3.50 SY Flooring	21.17 LF Floor Perimeter
21.17 LF Ceil. Perimeter	

Missing Wall **3' 8" X 8'** **Opens into Exterior**

CAT	SEL CALC	ACT DESCRIPTION QTY	REMOVE	REPLACE	TAX	TOTAL

CONTINUED - Exit Hallway

CAT	SEL CALC	ACT DESCRIPTION QTY	REMOVE	REPLACE	TAX	TOTAL
53. HMR	LABHS	+ Hazardous Waste/Mold Cleaning- Supervisory/Admin- per hour				
	1	1.00 HR	0.00+	77.44 =	0.00	77.44
Totals: Exit Hallway					**0.00**	**77.44**

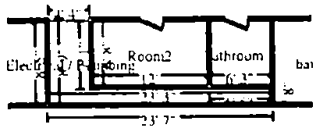


Jack Maletta **Height: 8'**

385.33 SF Walls
517.19 SF Walls & Ceiling
14.65 SY Flooring
48.17 LF Ceil. Perimeter

131.86 SF Ceiling
131.86 SF Floor
48.17 LF Floor Perimeter

CAT	SEL CALC	ACT DESCRIPTION QTY	REMOVE	REPLACE	TAX	TOTAL
54. HMR	LABHS	+ Hazardous Waste/Mold Cleaning- Supervisory/Admin- per hour				
	1	1.00 HR	0.00+	77.44 =	0.00	77.44
Totals: Jack Maletta					**0.00**	**77.44**



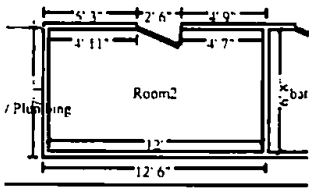
Electrical / Plumbing **Height: 8'**

476.00 SF Walls
541.57 SF Walls & Ceiling
7.29 SY Flooring
59.50 LF Ceil. Perimeter

65.57 SF Ceiling
65.57 SF Floor
59.50 LF Floor Perimeter

Missing Wall **4' 4" X 8'** **Opens into Exterior**

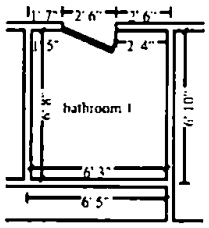
CAT	SEL CALC	ACT DESCRIPTION QTY	REMOVE	REPLACE	TAX	TOTAL
55. HMR	LABHS	+ Hazardous Waste/Mold Cleaning- Supervisory/Admin- per hour				
	1	1.00 HR	0.00+	77.44 =	0.00	77.44
Totals: Electrical / Plumbing					**0.00**	**77.44**



Room2 **Height: 8'**

298.67 SF Walls	80.00 SF Ceiling
378.67 SF Walls & Ceiling	80.00 SF Floor
8.89 SY Flooring	37.33 LF Floor Perimeter
37.33 LF Ceil. Perimeter	

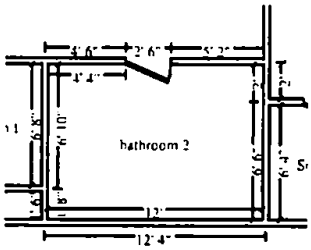
CAT	SEL CALC	ACT DESCRIPTION QTY	REMOVE	REPLACE	TAX	TOTAL
56. HMR	LABHS	+ Hazardous Waste/Mold Cleaning- Supervisory/Admin- per hour				
	1	1.00 HR	0.00+	77.44 =	0.00	77.44
Totals: Room2					**0.00**	**77.44**



bathroom 1 **Height: 8'**

206.67 SF Walls	41.67 SF Ceiling
248.33 SF Walls & Ceiling	41.67 SF Floor
4.63 SY Flooring	25.83 LF Floor Perimeter
25.83 LF Ceil. Perimeter	

CAT	SEL CALC	ACT DESCRIPTION QTY	REMOVE	REPLACE	TAX	TOTAL
57. HMR	LABHS	+ Hazardous Waste/Mold Cleaning- Supervisory/Admin- per hour				
	1	1.00 HR	0.00+	77.44 =	0.00	77.44
Totals: bathroom 1					**0.00**	**77.44**



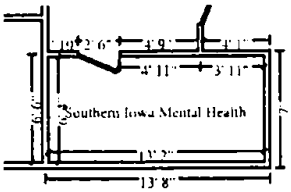
bathroom 2 **Height: 8'**

328.00 SF Walls	102.00 SF Ceiling
430.00 SF Walls & Ceiling	102.00 SF Floor
11.33 SY Flooring	41.00 LF Floor Perimeter
41.00 LF Ceil. Perimeter	

CAT	SEL CALC	ACT DESCRIPTION QTY	REMOVE	REPLACE	TAX	TOTAL

CONTINUED - bathroom 2

CAT	SEL CALC	ACT DESCRIPTION QTY	REMOVE	REPLACE	TAX	TOTAL
58. HMR	LABHS	+ Hazardous Waste/Mold Cleaning- Supervisory/Admin- per hour				
	1	1.00 HR	0.00+	77.44 =	0.00	77.44
Totals: bathroom 2					**0.00**	**77.44**



Southern Iowa Mental Health **Height: 8'**

312.00 SF Walls	83.39 SF Ceiling
395.39 SF Walls & Ceiling	83.39 SF Floor
9.27 SY Flooring	39.00 LF Floor Perimeter
39.00 LF Ceil. Perimeter	

CAT	SEL CALC	ACT DESCRIPTION QTY	REMOVE	REPLACE	TAX	TOTAL
59. HMR	LABHS	+ Hazardous Waste/Mold Cleaning- Supervisory/Admin- per hour				
	1	1.00 HR	0.00+	77.44 =	0.00	77.44
Totals: Southern Iowa Mental Health					**0.00**	**77.44**

Entry way **Height: 8'**

612.00 SF Walls	297.94 SF Ceiling
909.94 SF Walls & Ceiling	297.94 SF Floor
33.10 SY Flooring	76.50 LF Floor Perimeter
76.50 LF Ceil. Perimeter	

CAT	SEL CALC	ACT DESCRIPTION QTY	REMOVE	REPLACE	TAX	TOTAL
60. HMR	LABHS	+ Hazardous Waste/Mold Cleaning- Supervisory/Admin- per hour				
	1	1.00 HR	0.00+	77.44 =	0.00	77.44
Totals: Entry way					**0.00**	**77.44**

Total: Main Level	**37.24**	**5,233.88**

Line Item Totals: APPANOOSECOUNTYPUBLI	37.24	5,233.88

Grand Total Areas:

7,958.22	SF Walls	2,740.94	SF Ceiling	10,699.17	SF Walls and Ceiling
2,740.94	SF Floor	304.55	SY Flooring	1,002.67	LF Floor Perimeter
0.00	SF Long Wall	0.00	SF Short Wall	1,002.67	LF Ceil. Perimeter
2,740.94	Floor Area	3,004.22	Total Area	7,958.22	Interior Wall Area
5,039.76	Exterior Wall Area	575.00	Exterior Perimeter of Walls		
0.00	Surface Area	0.00	Number of Squares	0.00	Total Perimeter Length
0.00	Total Ridge Length	0.00	Total Hip Length		

Summary for Dwelling

Line Item Total	5,196.64
Material Sales Tax	37.24
Replacement Cost Value	**$5,233.88**
Net Claim	**$5,233.88**

Steve Hoffman

Recap of Taxes

	Material Sales Tax (7%)	Manuf. Home Tax (5%)
Line Items	37.24	0.00
Total	**37.24**	**0.00**

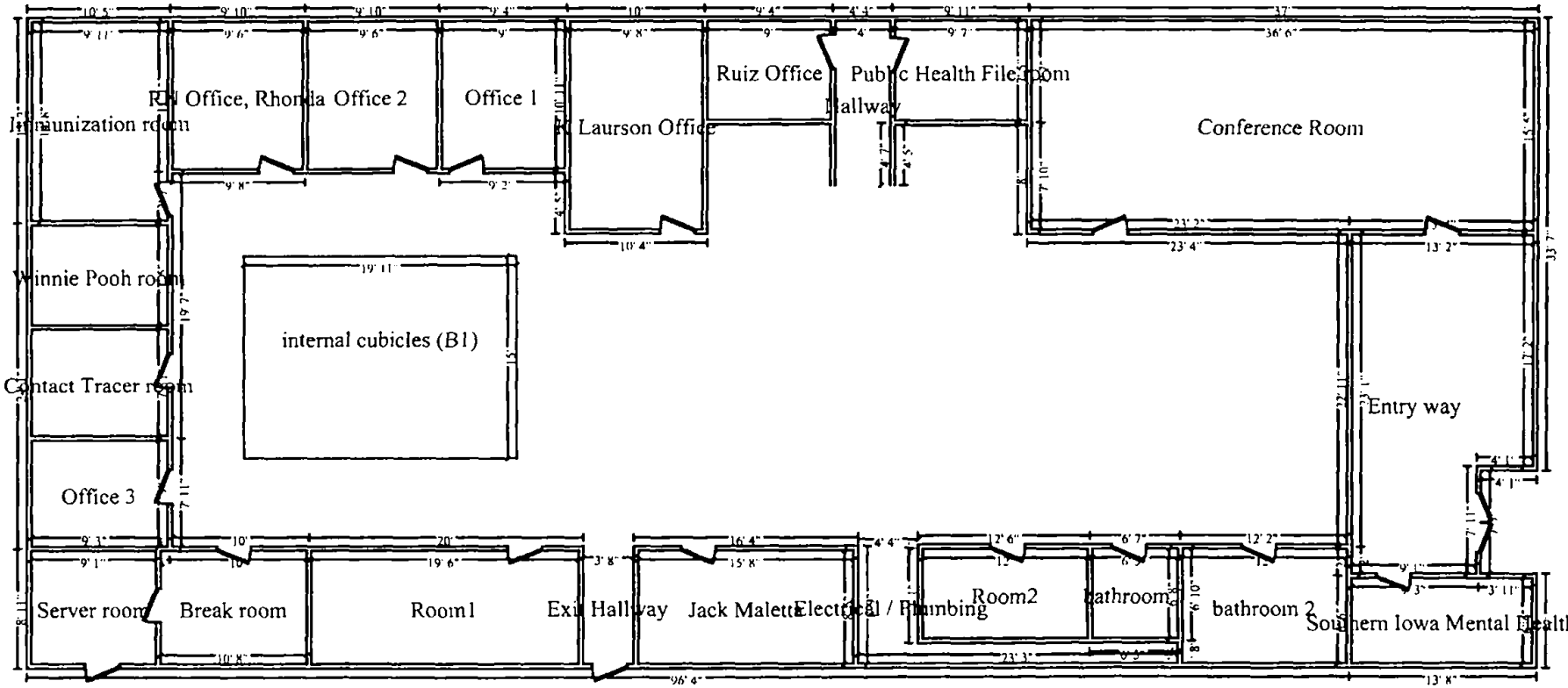
Recap by Room

Estimate: APPANOOSECOUNTYPUBLI

Area: Main Level	870.16	16.74%
K Laurson Office	288.80	5.56%
Office 1	167.76	3.23%
Office 2	167.76	3.23%
RN Office, Rhonda	167.76	3.23%
Immunization room	352.80	6.79%
Ruiz Office	261.36	5.03%
Hallway	177.92	3.42%
Public Health File room	352.80	6.79%
Conference Room	1,305.36	25.12%
Winnie Pooh room	77.44	1.49%
Contact Tracer room	77.44	1.49%
Office 3	77.44	1.49%
Server room	77.44	1.49%
Break room	77.44	1.49%
Room1	77.44	1.49%
Exit Hallway	77.44	1.49%
Jack Maletta	77.44	1.49%
Electrical / Plumbing	77.44	1.49%
Room2	77.44	1.49%
bathroom 1	77.44	1.49%
bathroom 2	77.44	1.49%
Southern Iowa Mental Health	77.44	1.49%
Entry way	77.44	1.49%
Area Subtotal: Main Level	5,196.64	100.00%
Subtotal of Areas	5,196.64	100.00%
Total	5,196.64	100.00%

Recap by Category

Items	Total	%
GENERAL DEMOLITION	1,013.80	19.37%
HAZARDOUS MATERIAL REMEDIATION	3,880.48	74.14%
WATER EXTRACTION & REMEDIATION	302.36	5.78%
Subtotal	5,196.64	99.29%
Material Sales Tax	37.24	0.71%
Total	5,233.88	100.00%


RN Office, Rhonda
Office 2
Office 1
Immaunization room
Laurson Office
Ruiz Office
Public Health File room
Hallway
Conference Room
Winnie Pooh room
internal cubicles (B1)
Contact Tracer room
Entry way
Office 3
Server room
Break room
Room1
Exit Hallway
Jack Malette
Electrical / Plumbing
Room2
Bathroom
bathroom 2
Southern Iowa Mental Health
N

Main Level

General Access Management

A. General Information

The efficiency and safety of a street or highway depends largely upon the amount and character of interruptions to the movement of traffic. The primary cause of these interruptions is vehicular movements to and from businesses, residences, and other developments along the street or highway. Regulation and overall control of access is necessary to provide efficient and safe highway operation and to utilize the full potential of the highway investment.

The Jurisdictions reserve the right to make exceptions to the criteria where the exercise of sound and reasonable engineering judgment indicates that the literal enforcement of the criteria would cause an undue hardship to any interested party.

B. Access Permit Procedure

An access permit may be required for any public or private access constructed to a public street. The Jurisdictional Engineer will stipulate the information required and the permit form to use. Access to streets or highways under the jurisdiction of the Iowa DOT will be governed by requirements of the Iowa DOT with Jurisdictional review (See Section 5J-1).

In addition to specific details, the following general criteria will be used by the Jurisdiction when reviewing an access request:

1. Safety to the traveling public
2. Preservation of the traffic-carrying capacity of the highway
3. The impact upon the economy of the area
4. Protection of the rights of the traveling public and of property owners, including the rights of abutting property owners

C. Definitions

Access management definitions can be found in the following resources:

1. Iowa Department of Transportation - "Iowa Primary Road Access Management Policy."
2. Transportation Research Board - "Access Management Manual."

D. Entrance Type

1. **Major:** An entrance developed to carry sporadic or continuous heavy concentrations of traffic. Generally, a major entrance carries in excess of 150 vehicles per hour. An entrance of this type would normally consist of multiple approach lanes and may incorporate a median. Possible examples include racetracks, large industrial plants, shopping centers, subdivisions, or amusement parks.

2. **Commercial/Industrial:** An entrance developed to serve moderate traffic volumes. Generally, a commercial/industrial entrance carries at least 20 vehicles per hour but less than 150 vehicles per hour. An entrance of this type would normally consist of one inbound and one outbound traffic lane. Possible examples include service stations, small businesses, drive-in banks, or light industrial plants.

3. **Residential:** An entrance developed to serve light traffic volumes. Generally, a residential entrance carries less than 20 vehicles per hour. An entrance of this type would not normally accommodate simultaneous inbound and outbound vehicles. Possible examples include single-family residence, farm, or field entrances.

E. Access Management Principles

A variety of access management, location, and design practices and policies can be used to improve the safety and operations of the roadway within a state's, city's, or county's jurisdiction.

Following are the 10 Principles of Access Management identified by the TRB:

1. **Provide a Specialized Roadway System:** Different types of roadways serve different functions. It is important to design and manage roadways according to the primary functions that they are expected to serve.

2. **Limit Direct Access to Major Roadways:** Roadways the serve higher volumes of regional through traffic need more access control to preserve their traffic function. Frequent and direct property access is more compatible with the function of local and collector roadways.

3. **Promote Intersection Hierarchy:** An efficient transportation network provides appropriate transitions from one classification of roadway to another.

4. **Locate Signals to Favor through Movements:** Long uniform spacing of intersections and signals on major roadways enhances the ability to coordinate signals and ensure continuous movement of traffic at the desired speed.

5. **Preserve the Functional Area of Intersections and Interchanges:** The functional area of an intersection or interchange is the area that is critical to its safe and efficient operation. This is the area where motorists are responding to the intersection or interchange, decelerating, and maneuvering into the appropriate lane to stop or complete a turn.

6. **Limit the Number of Conflict Points:** Drivers make more mistakes and are more likely to have collisions when they are presented with the complex driving situations created by numerous conflict points.

7. **Separate Conflict Areas:** Drivers need sufficient time to address one potential set of conflicts before facing another. The necessary spacing between conflict areas increases as travel speed increases, to provide drivers adequate perception and reaction time.

8. **Remove Turning Vehicles from Through-traffic Lanes:** Turning lanes allow drivers to decelerate gradually out of the through lane and wait in a protected area for an opportunity to complete a turn. This reduces the severity and duration of conflict between turning vehicles and through traffic, and improves the safety and efficiency of roadway intersections.

9. **Use Nontraversable Medians to Manage Left Turn Movements:** Medians channel turning movements on major roadways to controlled locations. Nontraversable medians and other techniques that minimize left turns or reduce driver workload can be especially effective in improving roadway safety.

10. **Provide a Supporting Street and Circulation System:** Provide a supporting network of local and collector streets to accommodate development, as well as unified property access and circulation systems.

F. References

American Association of State Highway and Transportation Officials. *A Policy on Geometric Design of Highways and Streets*. 2004.

Institute of Transportation Engineers. *Transportation and Land Development*. 2002.

Iowa Department of Transportation. *Iowa Primary Road Access Management Policy*. 2012.

Transportation Research Board. *Access Management Manual*. 2003.

Transportation Research Board. *NCHRP Report 420: Impacts of Access Management Techniques*. 1999.

Transportation Research Board. *NCHRP Report 457: Evaluating Intersection Improvements: An Engineering Study Guide*. 2001.

Transportation Research Board. *NCHRP Report 659: Guide for the Geometric Design of Driveways*. 2010.

Transportation System Considerations

This section addresses transportation system considerations in access management, including TRB Principles of Access Management 1 through 4 and 10:

A. Provide a Specialized Roadway System (Principle 1)

The primary function of major arterial roadways is to safely and efficiently accommodate through traffic. The primary function of local streets is to provide access to adjacent properties. Minor arterials and collectors provide a blend of the mobility and access functions. Design and management of transportation facilities, including access management, must consider the classification and intended function of roadways.

B. Limit Direct Access to Major Roadways (Principle 2)

Providing direct property access to major roadways can significantly affect corridor operations and safety, and is not consistent with the function of the major roadway. Higher levels of access control become more necessary as major road through traffic volumes and speeds increase.

C. Promote Intersection Hierarchy (Principle 3)

Provide appropriate transitions from one roadway classification to the next.

- Freeways intersect arterials with interchanges.
- Arterials intersect collectors.
- Collectors intersect local streets.
- Local streets provide connections to private accesses.

D. Locate Signals to Favor through Movements (Principle 4)

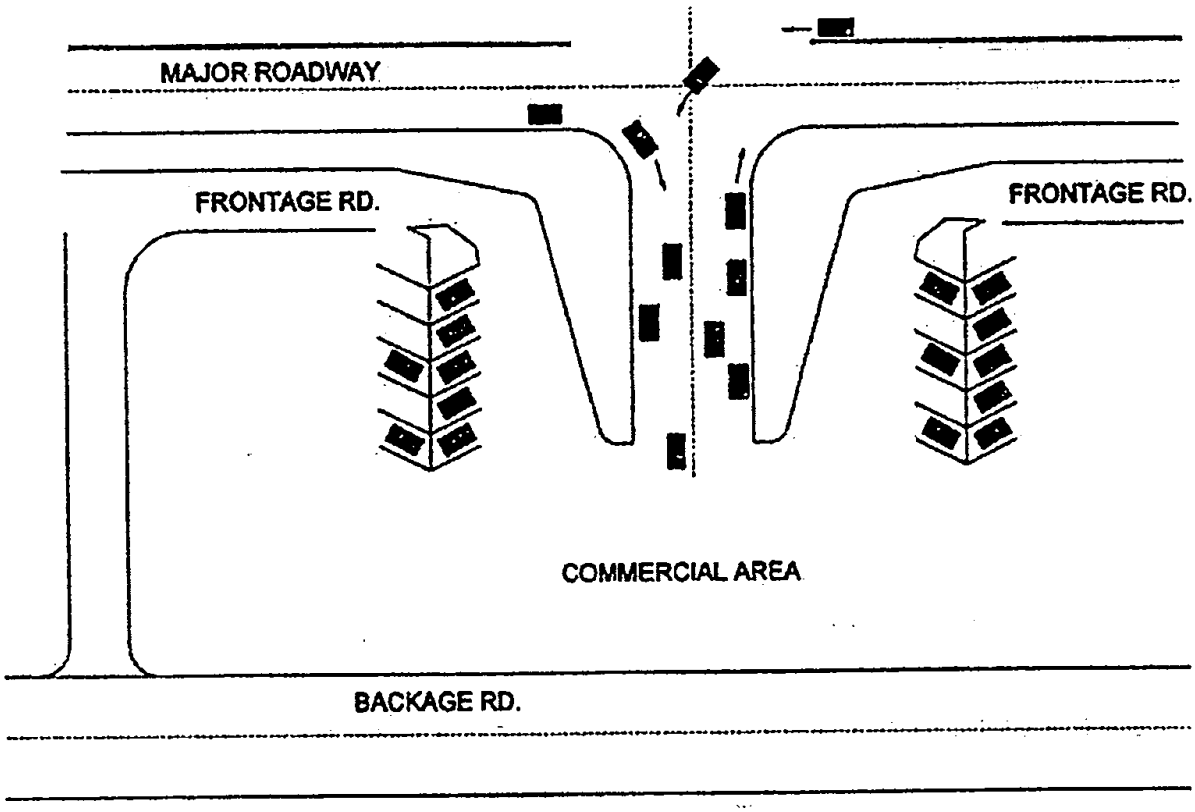
All major arterials, minor arterials, and major collectors within urbanized areas, the urban fringe or areas that may ultimately be subject to urban growth should have long, uniform traffic signal spacing.

- Provides the flexibility to use timing plans that can provide efficient traffic progression over a wide range of speeds and cycle lengths.
- Use a minimum of 1/2 mile spacings on major suburban/urban arterials.
- Use a minimum of 1/4 mile spacings on minor arterials and major collectors where traffic progression is less important than on major arterials.
- Locate cross-roads and full median openings only at locations that conform to the selected spacing interval so that the intersection may be signalized when conditions warrant.
- Where signal location does not conform to recommended spacing, reduce the cross-street green and increase the major street green so as to maintain progression on the major street.

E. Provide a Supporting Street and Circulation System (Principle 10)

- Provide local and collector streets to accommodate access to development.
- Provide access connections between adjacent parcels.
- Require adequate internal circulation for development.
- Provide alternate access from minor roads.
- Provide frontage and backage roads (see Figure 5I-2.01).

Figure 5I-2.01: Frontage and Backage Roads with Adequate Vehicle Queue Storage



Access Location, Spacing, Turn Lanes, and Medians

This section addresses access location, spacing, turn lane and median needs, including TRB Principles of Access Management 5-9:

A. Preserve the Functional Area of Intersections and Interchanges (Principle 5)

AASHTO states, "Ideally, driveways should not be located within the functional area of an intersection or in the influence area of an adjacent driveway. The functional area extends both upstream and downstream from the physical intersection area and includes the longitudinal limits of auxiliary lanes."

1. **Upstream Functional Distance:** The upstream functional distance of the intersection can be further defined as the approach distance to an intersection that is required for the driver to change speeds in order to complete a movement, such as entering an auxiliary lane or slowing down for a turn or signal. The upstream functional distance includes the sum of:

   d_1, distance traveled during driver's perception - reaction time

   d_2, deceleration distance while the driver maneuvers to a stop

   d_3, queue storage length required (50 foot minimum)

Table 5I-3.01: Distance Traveled During Driver's Perception-reaction, (d_1)

Speed (mph)	Rural (feet)	Urban/ Suburban (feet)
20	75	45
30	110	65
40	145	90
50	185	110
60	220	135
70	255	155

Source: TRB Access Management Manual

Table 5I-3.02: Desirable Maneuver Distances, (d_2)

Speed (mph)	Distance (feet)
20	70
30	160
40	275
50	425
60	605
70	820

Source: TRB Access Management Manual

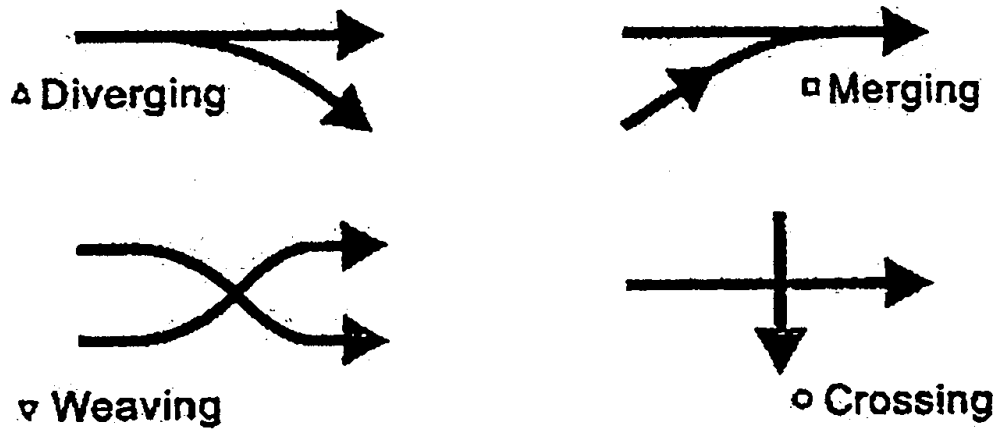
For example, at an urban intersection approach with a 30 mph speed and minimal queuing, the upstream functional distance would be 275 feet (65 feet + 160 feet + 50 feet).

2. **Downstream Functional Distance:** The downstream functional distance from an intersection should be based on upstream functional distance for the proposed adjacent access point. Minimum separation should be no less than the AASHTO stopping sight distance.

B. Limit the Number of Conflict Points (Principle 6)

Traffic conflicts occur where the paths of traffic movements cross. Eliminating or reducing conflict points will simplify the driving task, contributing to improved traffic operations and fewer collisions.

Figure 5I-3.01: Types of Vehicular Conflicts



C. Separate Conflict Areas (Principle 7)

Separating conflict areas allows drivers to address one potential set of conflicts at a time. The higher the speed, the longer the distance a vehicle will travel during a given perception-reaction time. Also, drivers need more time to react to complex conflict areas. Hence minimum separation distances are a function of both the speed of traffic on a given section of roadway and the complexity of the decision with which the driver may be presented. The complexity of the problem, in turn, increases with both the number and type of conflicts and the volume of traffic.

Various methods that can be utilized to separate conflict areas include the following:

- Minimum access spacing
- Minimum corner clearance
- Minimum property line clearance
- Limit the number of accesses per property
- Designate the access for each property

Figure 5I-3.02: Two Lane Undivided Roadway (Single Entrance)

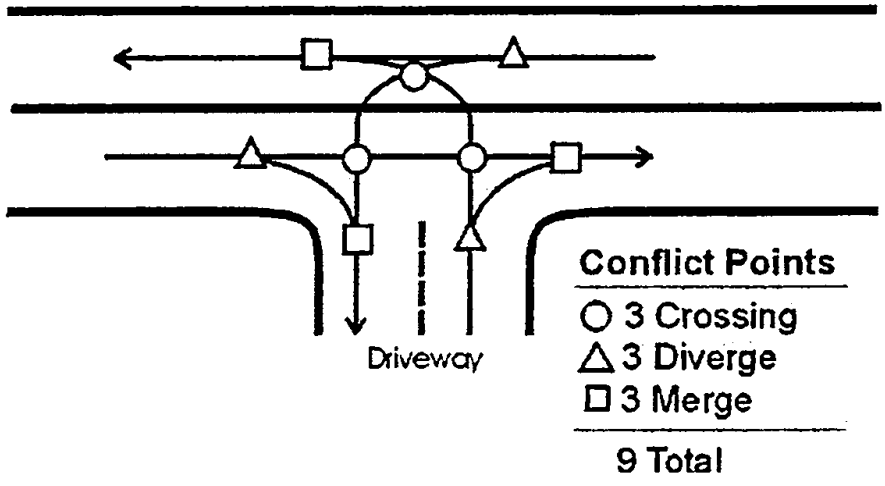
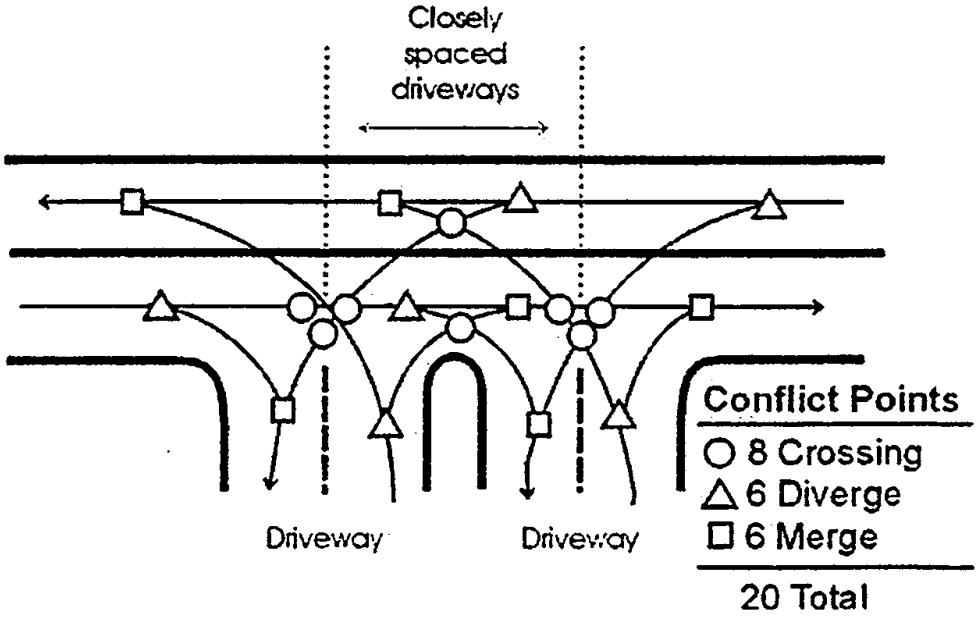


Figure 5I-3.03: Two Lane Undivided Roadway (Closely Spaced Entrances)



1. **Driveway Density:** The number of driveways per block or per mile significantly affects the safety of the corridor. Crash rates increase very quickly as the number of access points increases on arterial and collector roadways.

Table 5I-3.03: Crash Rates (crashes per million vehicle miles traveled) vs. Access Point Density

Access Points per Mile	Approximate Accesses per 500 feet	Representative Crash Rate for an Undivided Roadway	Increase in Crashes Associated with More Access Density
Under 20	Under 2	3.8	----
20 to 40	2 to 4	7.3	+92%
40 to 60	4 to 6	9.4	+147%
Over 60	Over 6	10.6	+179%

Source: National Cooperative Highway Research Program Report 420.

2. **Access Spacing for Major Arterials:** Provide separation between access connections so that drivers can assess potential conflict locations one-at-a-time. Applicable spacing criteria may include:
   - Functional area (Section 5I-2)
   - AASHTO stopping sight distance
   - Preventing right turn overlap (see below)
   - Other criteria as established by the Jurisdiction

   Right turn overlap occurs when a through vehicle must monitor two egress right turning vehicles at once while still performing other driving tasks. By separating access points a proper distance, the overlap does not occur, and the through driver has only one egress right turning vehicle to monitor. Recommended minimum access spacings to avoid right turn overlap shown in Table 5I-3.04 are comparable to AASHTO stopping sight distances.

Table 5I-3.04: Minimum Access Spacing to Prevent Right Turn Overlap

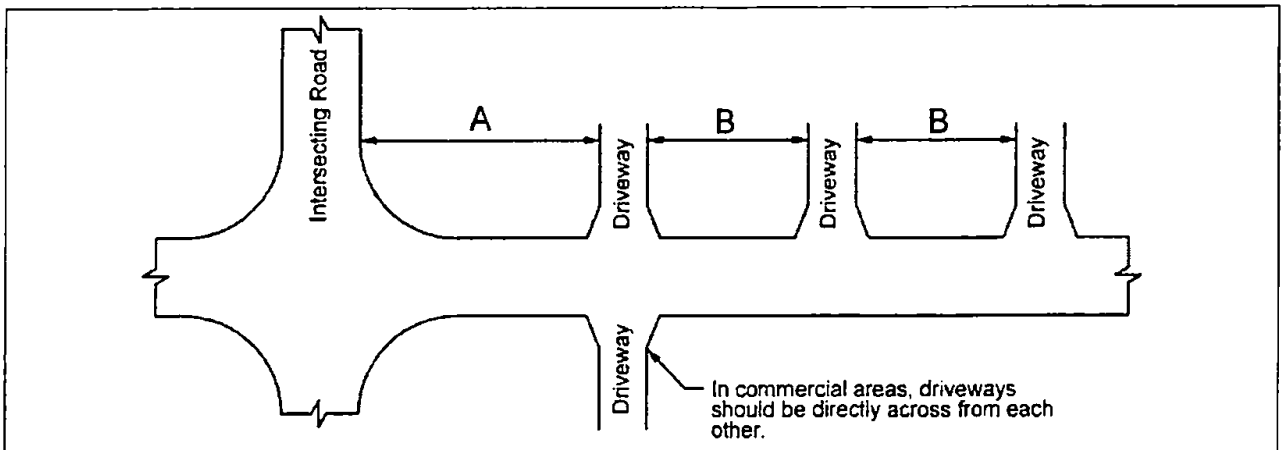
Speed (mph)	Recommended Minimum (feet)[1]
25	120
30	185
35	245
40	300
45	350

[1] Intersection clearance should be the same as driveway spacings or at least as long as stopping sight distance.

Source: Transportation Research Board Record 644, 1977.

3. **Access Spacing for Minor Arterials, Collectors, and Local Streets in Urban/Suburban Areas:** For minor arterials and major collectors, direct access from individual properties should be avoided wherever possible. Property access should be provided from minor collectors, local streets, frontage roads and backage roads. Major arterial access spacing criteria should be used for minor arterials and major collectors when possible.

Table 5I-3.05: Minimum Distance between Driveways or from Intersecting Streets



	Minor Arterial			Collector			Local		
	Res. Area	*C/I Area*	*Ag Area*	*Res. Area*[3]	*C/I Area*	*Ag Area*	*Res. Area*[3]	*C/I Area*	*Ag Area*
A. Minimum intersection clearance[1]	145'	170'	300'	100'	100'	300'	75'	75'	150'
B. Minimum driveway spacing[2]	100'	200'	300'	75'	100'	300'	—[4]	—[4]	150'

Res = Residential, C/I = Commercial/Industrial

[1] Values are measured from the back of the curb, intersecting road to the adjacent driveway near edge.

[2] Values are measured between driveway edges.

[3] One access drive allowed per lot. Depending on lot size, an additional drive may be allowed upon approval of the Jurisdiction.

[4] See Jurisdictional Engineer for local requirements.

4. **Access Spacing for State Primary Roads:** In rural areas, travel speeds are usually 55 mile per hour and above. This means that driveway spacing in rural areas must be longer to provide for a safe driving environment. On state highways, spacing is also longer because the routes are primarily designed to carry through traffic rather than to serve as property access routes. The more important a route is for through traffic and commerce, the longer the spacing between driveways. The following table shows the State of Iowa's standards for its highway system.

Table 5I-3.06: Iowa DOT Access Control - Minimum Spacings

State Highway Priority	Minimum Spacing Between Driveways	Number of Driveways Per Mile
Priority I (Full Access Control)	Interchanges at roads	N/A
Priority II (Four Lane Divided)	2,640' (minimum)[1] 5,280' (preferred)[1]	2 2
Priority III	1,000' rural (minimum)[1] 1,320' rural (preferred)[1]	4 4
Priority IV(a) Priority IV(b)	600' rural (≥ 45 mph) 300' urban (≤ 40 mph)	8 16
Priority V (Access Right Acquired Between 1956 to 1966)	1 access per 1,000' of frontage not exceeding 2,000'	2 to 5
Priority VI	Safety and need	Varies

[1] Access allowed only at interchanges and selected at-grade locations

5. **Access Spacing for County Roads:** On county roads, the spacing standard should also depend on the nature of the road, e.g. how important the road is for through traffic. Even on the lowest functional levels, some sort of driveway spacing standard is important for traffic safety.

Table 5I-3.07: County Road Minimum Access Spacings

County Road Route Type	Minimum Spacing Between Driveways	Number of Driveways Per Mile
Minor arterials	600'	9
Collectors	300'	18
Local traffic service	150'	36

6. **Additional Access Spacing Considerations:**
   - At a minimum, the upstream corner clearance should be longer than the longest expected queue at the adjacent intersection.
   - High speed, high volume roadways need longer corner clearances whereas the corner clearance on a local street can be much shorter.
   - Residential streets - driveways on corner lots should be located on the lesser street and near the property line most distant from the intersection.
   - Typically, all elements of an access drive, including the radii should be within a property frontage.
   - At a minimum, all driveway geometrics should be along the frontage of the property served by the driveway.
   - On major roadways, the corner clearance should be at least as long as the stopping sight distance so that vehicles turning corners can make safe stops when encountering entering traffic.
   - Encourage owners of adjacent properties to construct joint-use driveways in lieu of separate driveways.
   - Encourage a property owner to replace two or more driveways with a single driveway (or fewer driveways).
   - For adjacent properties, locate joint access on the property line. Reciprocal easements must be executed.

D. Remove Turning Traffic from Through-traffic Lanes (Principle 8)

All driveway and intersection geometrics require that turns be made at very slow speeds and hence result in high speed differentials. Providing auxiliary lanes (left-turn and right-turn bays) is the most effective means of limiting the speed differential. This is especially important on high volume and high speed roadways.

The several methods by which turning vehicles can be removed from through traffic lanes are:

- Install isolated left-turn bay
- Install a nontraversable median with left-turn bays
- Install right-turn deceleration bay
- Install right-turn lane
- Install a continuous two-way left-turn lane (TWLTL)

1. **Turn Lane Warrants for Urban/Suburban Areas (Unsignalized):** Providing left and/or right turn lanes can significantly improve the operation and safety of an intersection. They allow turning vehicles to exit the through traffic lane with reduced speed differential and provide queue storage without interference with through traffic. Rear-end and side-swipe collisions are greatly reduced. Capacity is increased and delay decreased.

   Although much research has been done on the topic of turn lane warrants, there are no universally accepted guidelines regarding traffic conditions that warrant left and right turn lanes. However, NCHRP Report 457 provides turn lane warrant criteria that should be considered. This report also includes links to spreadsheet tools that can be used to evaluate the need for turn lanes.

   In general, the decision to provide turn lanes should be based on safety rather than just capacity. Where practical, left turn lanes should be provided at median openings on divided roads, regardless of projected traffic volumes.

2. **Rural Turn Lane Warrants and Right Turn Deceleration Length (Unsignalized):** See Iowa Department of Transportation's Design Manual, Chapter 6 - Geometric Design.

3. **Three Lanes with TWLTL:** Three lane roadway designs can be effectively used in situations where there are low to moderate levels of through traffic, yet there are concerns about conflict points and crashes caused by left-turning traffic. The upper limit for using a three lane design is about 17,000 vehicles per day of traffic. Three lane designs are ideal where right-of-way width is limited due to existing land development or other constraints. Three lane roads can either be designed that way originally or can be created by widening an existing two lane route or by modifying an existing four lane undivided route.

4. **Five lanes with TWLTL:** When the average daily traffic (ADT) on a street exceeds about 17,000 vehicles per day, four lane roadways with raised medians or five lane roadways with TWLTL are more appropriate designs. The limit for five lane roadway (with TWLTL) is approximately 24,000 ADT. TWLTL should generally not be used in situations where there are more than four total through lanes.

E. Use Nontraversable Medians to Manage Left Turn Movements (Principle 9)

The majority of access-related crashes involve left turns. Providing nontraversable medians limits and defines locations of left turns, thereby improving safety. Full access median openings that allow left turns from all directions are best provided at signalized intersections and unsignalized junctions of arterial and collector streets. Providing median closures or partial access medians at other intersections and access points reduces the number and types of conflicts.

1. **Median Closures:** Median openings should be considered for closure where:
   - A safety or operational problem is evident and an appropriate retrofit cannot be made.
   - Median width is less than 11 feet, thereby not allowing for construction of left turn lanes.
   - The left-turn bay of a nearby signalized intersection needs to be extended.
   - A pattern of left-turn crashes is evident.
   - Heavy pedestrian use is predicted or crashes involving pedestrians have occurred at the intersection.

   Implementation of a median closure involves providing a section of median of the same design as existing on either side of the opening. The following should be considered during design:
   - Tree lines, building lines, and lighting may head drivers into believing the median can be crossed.
   - Visual cues should be provided to clearly inform drivers that the opening has been closed.
   - The need for visual cues is especially critical during nighttime hours where a four way intersection previously existed or there are access drives directly opposite each other.
   - Minimum 4 feet median width face-to-face of curbs is recommended.
   - Select and locate landscaping materials to delineate the median while considering potential sight distance obstructions.

Figure 5I-3.04: Two Lane Roadway Conflict Points at Typical Three Way Intersection or Driveway

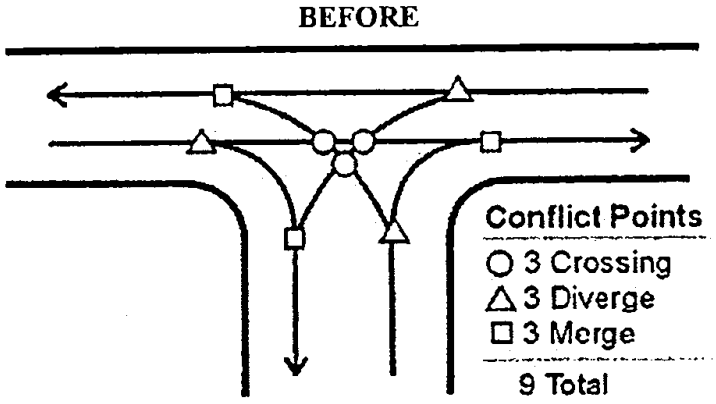


Figure 5I-3.05: Two Lane Roadway with Raised Median Closure (right-in/right-out only access)

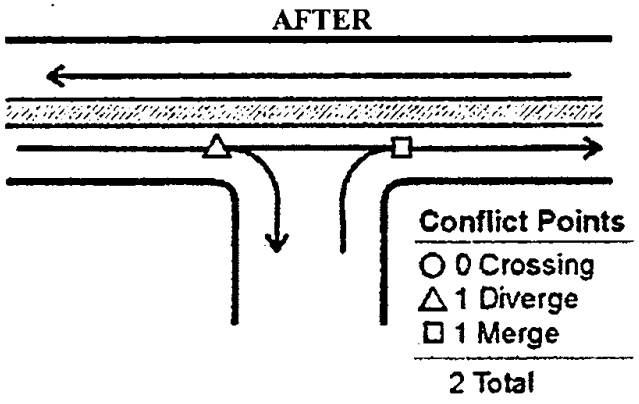
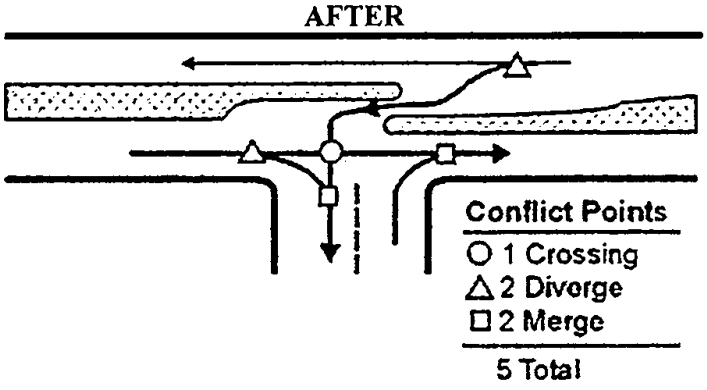


Figure 5I-3.06: Two Lane Roadway with Raised Median (left turn ingress allowed into driveway)



2. **Raised Medians vs. Two Way Left Turn Lanes:**
   - Because they are the most restrictive access management treatment, constructing raised center medians along arterials is often very controversial among business and property owners. Two way left turn lanes (TWLTL) are usually much less controversial. Business persons and property owners feel that installation of raised medians will have a large, negative impact on their customers, sales, and property values. Therefore, TWLTL are often suggested as compromise solutions.
   - Arterial roadways with raised medians are statistically safer and operate better than any other configuration. Research indicates that raised median roadways are significantly safer than undivided roadways in urban areas. When traffic volume on an arterial roadway is projected to exceed about 24,000 average annual daily traffic (AADT) during the next 20 years, including a raised median is prudent.
   - In general, TWLTL projects function well when traffic levels are moderate, when the percentage of vehicles turning as opposed to traveling through is high, and when the density of commercial driveways is low. TWLTL will function very well on most arterials where AADT is in the range of 10,000 to 24,000 AADT (five lane TWLTL).
   - TWLTL projects can also work very well in places where the number of driveways per block or mile is high, but the land use is such that not many turning movements are generated per hour. An example would be an arterial street passing through a predominately residential area.

- TWLTL are much less effective in situations where commercial driveway densities are high and these driveways are spaced close together. In such a situation, the number of conflict points is high, and this will be reflected in crash experience. Research from many states indicates that raised median roadways are always safer than TWLTL roadways. If TWLTL are considered, driveway density and driveway spacing must be managed very aggressively.

Table 5I-3.08: Crash Rates (crashes per million vehicle miles traveled) vs. Median Type

Access Points Per Mile	Undivided (Painted Centerline) Crash Rate	TWLTL Crash Rate	Raised Median Crash Rate	Rate Reduction Raised Median Versus TWLTL
Less than 20	3.8	3.4	2.9	-0.5 (15%)
20 to 40	7.3	5.9	5.1	-0.8 (14%)
40 to 60	9.4	7.4	6.5	-0.9 (12%)
Over 60	10.6	9.2	8.2	-1.0 (11%)

Source: National Cooperative Highway Research Program Report 420

F. References

Transportation Research Board - National Cooperative Highway Research Program (NCHRP). *NCHRP Report 420: Impacts of Access Management Techniques*. National Academy Press. Washington, DC. 1999.

Transportation Research Board - National Cooperative Highway Research Program (NCHRP). *NCHRP Report 644: Guidelines for Conducting a Disparity and Availability Study for Federal DBE Program*. National Academy Press. Washington, DC. 1977.

Driveway Design Criteria

A. General

For efficient and safe operations, access drives and minor public street intersections can be improved by the following:

- Smooth vertical geometrics
- Adequate driveway throat width and curb return radii
- Provide adequate sight distance
- Additional egress lane
- Quality driveway construction
- Define the ingress and egress sides of the access drive

Refer to NCHRP Report 659 - Guide for the Geometric Design of Driveways for supplemental information.

B. Width Measurement

1. The width of an entrance with a radius return or with a flared taper that connects to a curb and gutter roadway is measured at a point 10 feet back from the roadway curb. The curb opening may exceed the maximum allowable width of the entrance to accommodate the allowable radius or taper.

2. The width of an entrance that connects to a rural roadway (no curb and gutter) is measured across the top of the entrance at the culvert line or at the location where a culvert would normally be placed.

C. Dimensions

Figure 5I-4.01: Entrance Dimensions

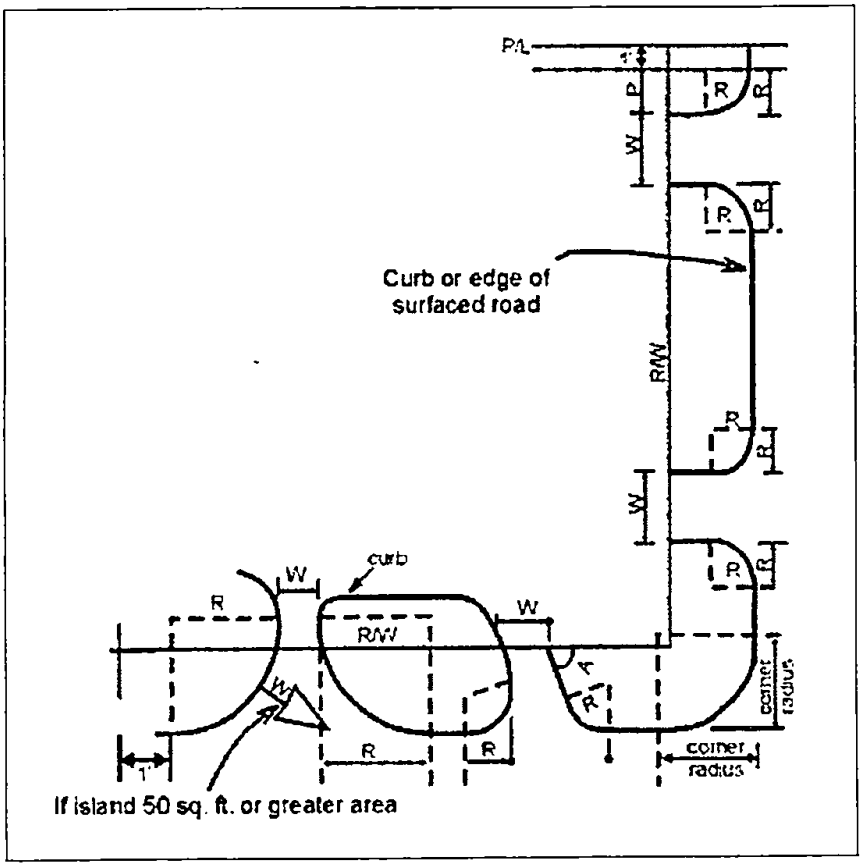


Table 5I-4.01: Driveway Dimensions[1]
(all dimensions are in feet)

Dimension Reference (See Figure 5I-4.01)		Major Arterial Street				Minor Arterial Street				Collector (Major and Minor)				Local Street			
		Residential	Commercial	Industrial	Agricultural	Residential	Commercial	Industrial	Agricultural	Residential	Commercial	Industrial	Agricultural	Residential	Commercial	Industrial	Agricultural
Width																	
Minimum	W	15	24	24	20	15	24	24	20	10	24	24	20	10	24	24	20
Maximum		30	45	45	30	30	45	45	30	24	40	45	30	24	32	40	30
Right-turn Radius[2]																	
Minimum	R	10	10	25	25	10	10	25	25	10	10	25	25	10	10	10	20
Maximum		25	35	50	35	25	35	50	35	25	35	50	35	15	20	30	35
Min. Acute Angle[3]	A	60°	70°	70°	70°	60°	70°	70°	70°	60°	70°	70°	70°	60°	70°	70°	70°
Pref. Acute Angle		90°	90°	90°	90°	90°	90°	90°	90°	90°	90°	90°	90°	90°	90°	90°	90°
Min. Pavement Thickness (inches)	T	6/8	7/9	*	6	6	7	*	6	6	7	*	6	6	7	*	6

[1] Major entrances require special design.
[2] 3 foot flares (F) may be used for residential and agricultural entrances.
[3] Any variation from 90° will be evaluated on a case by case basis. The minimum acute angle (measured from the edge of the pavement) is 60°.
* Requires special design.

1. The width (W) shown applies to rural routes and city streets including neighborhood business, residential, and industrial streets. For joint entrances centered on property lines, the entrance width may increase 5 feet rounded to the nearest 5 foot interval but should not exceed 45 feet. In rural areas (open ditch roadways) widths for paved entrances should include an additional 4 feet for shoulders (Minimum 2 feet shoulders each side).

2. The radius (R) for agricultural uses will vary according to the following intersecting acute angles:

Table 5I-4.02: Agricultural Acute Angle and Radius

Acute Angle	Acute Radius Decrease (feet)	Obtuse Radius Increase (feet)
85° to 90°	0	0
75° to 85°	5 feet	5 feet
65° to 75°	5 feet	10 feet
60° to 65°	10 feet	15 feet

Where the entrance radius specified is greater than the distance between the back of curb and the front edge of the sidewalk the radius may be reduced to meet the available space but should be no less than 10 feet. An option to the radius under this condition is the use of flared entrances. When a flare is used, it should be 3 feet wide and should be constructed from the back of curb to the sidewalk. If no sidewalk exists, flares should be 10 feet long.

3. For individual properties, the number of entrances should be as follows:

   a. **Single Family (SF) Residential:** Each SF residential property is limited to one access point. However, where houses are located on corner lots, have extra wide frontage, or on heavy traveled roadway more than one access point may be allowed to eliminate backing out on a heavily traveled roadway.

   b. **Multi-family (MF) Residential:** Access is determined by information provided by the Owner/Developer in a Traffic Impact Report and by comments generated during the Jurisdiction Engineer's review and acceptance of that report.

   c. **Commercial:** Commercial property having less than 150 feet of frontage and located mid-block is limited to one access point to the street. An exception to this rule may be where a building is constructed in the middle of a lot and parking is provided for each side of the building. A second access point may be allowed for commercial property having more than 150 feet of frontage. For commercial property located on a corner, one access to each street may be allowed, provided dimensions are adequate from the intersecting street to the proposed entrance. (See Section 5I-3 - Access Location, Spacing, Turn Lanes, and Medians).

   d. **Industrial:** Access is determined on a case-by-case basis. The Jurisdiction will consider good traffic engineering practice and may require information to be provided by the applicant in a Traffic Impact Report. (See Section 5I-3 - Access Location, Spacing, Turn Lanes, and Medians).

   e. **Agricultural:** Access with adequate frontage may be authorized with more than two accesses at not less than 300 feet intervals provided a minimum distance of 30 feet is maintained from the inlet and outlet of two adjacent culverts.

      In all cases, the location of the access will be such that the taper or radius does not extend beyond the extension of the property line. In general, all construction must occur only on the

property owner's frontage.

4. Minimum acute angle (A) is measured from the edge of pavement and is generally based on one-way operation. For two-way driveways, and in high pedestrian activity areas, the minimum angle should be 70 degrees. Entrances should be placed at 90 degrees whenever possible.

5. The entrance pavement thickness (T) is based on the following:

   PCC - Class "A" or "C" - 4,000 psi
   HMA - Greater than or equal to 100K ESAL (optional for rural area).

   For those entrances not paved, 6 inches (min.) of Class "A" gravel should be required.

D. Sight Distance

1. Sight distance is based upon AASHTO stopping sight distance criteria. However, the height of an object is increased from 2.0 feet to 3.5 feet to acknowledge an approaching vehicle as the "object" of concern. Therefore, sight distance at an access location is measured from the driver's height of eye (3.5 feet) to the height of approaching vehicle (3.5 feet).

2. An access location should be established where desirable sight distance is available, as shown below.

Table 5I-4.03: Desirable Sight Distances

Design Speed (mph)	Intersection Sight Distance (feet)	
	Left Turn from Stop	*Right Turn from Stop and Crossing Maneuver*
55	610	530
50	555	480
45	500	430
40	445	385
35	390	335
30	335	290
25	280	240

Note: the sight distances shown above are for a stopped passenger car to turn onto or cross a two lane roadway with no median and grades of 3% or less. For conditions other than those stated, refer to the 2004 AASHTO "Green Book" for additional information.

Source: Based on Exhibit 9-55 and Exhibit 9-58 of the 2004 AASHTO "Green Book."

3. On a four lane divided primary highway where access is proposed at a location not to be served by a median crossover, sight distance is required only in the direction of the flow of traffic.

E. Driveway Grades

1. **Slopes vs. Speed Differential:** Driveway slope is important due to speed differential. Turning vehicles must slow appreciably to enter a driveway. The steeper the driveway, the more vehicles must slow in order to prevent "bottoming out", increasing the speed differential with through traffic and increasing the possibility of rear-end collisions.

Table 5I-4.04: Driveway Slope and Entry Speed

Driveway Slope	Typical Driveway Entry Speed
Greater than 15%	Less than 8 mph
14 to 15%	8 mph
12 to 13%	9 mph
10 to 11%	10 mph
8 to 9%	11 mph
6 to 7%	12 mph
4 to 5%	13 mph
2 to 3%	14 mph
0 to 2%	About 15 mph

Source: Oregon State University, 1998

A speed differential much above 20 miles per hour begins to present safety concerns. When the speed differential becomes very large (say, 30 to 35 miles per hour), the likelihood of traffic crashes involving fast-moving through vehicles colliding with turning vehicles increases very quickly. Rear-end collisions are very common on roads and streets when large speed differentials exist and the density of commercial driveways is high. When the speed differential is high, it is also more likely that when crashes do occur they will be more severe, causing greater property damage and a greater chance of injury or fatalities. Keeping the speed differential low is very important for safety reasons, as the table below indicates.

Table 5I-4.05: Speed Differential and Crashes

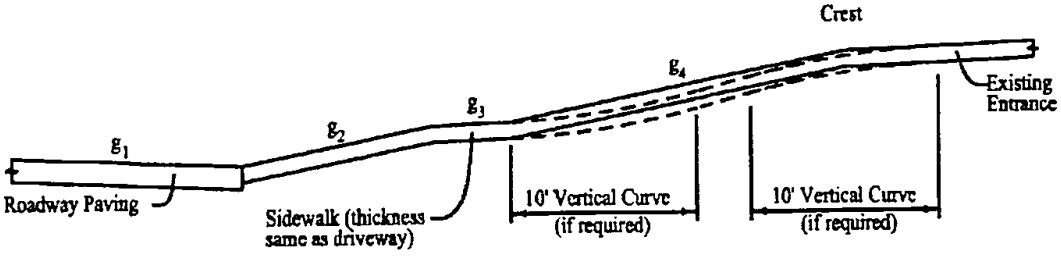
When the Speed Differential Between Turning and Through Traffic Is:	The Likelihood of Crashes Is:
10 mph	Low
20 mph	3 times greater than at 10 mph
30 mph	23 times greater than at 10 mph
35 mph	90 times greater than at 10 mph

Source: Oregon State University, 1998

2. **Vertical Profile:** A driveway's vertical profile should allow a smooth transition to and from the roadway. The National Highway Institute's course workbook on Access Management recommends the following maximum driveway slopes for urban/suburban streets:
   - Arterial 3 to 4%
   - Collector 5 to 6%
   - Local Less than 8% (may use 9% in special areas)

These slopes were chosen to keep the speed differential at or below 20 miles per hour. See Figures 5I-4.02A and 5I-4.02B.

Figure 5I-4.02A: Typical Section - Commercial/Industrial and Residential Entrance



1. Algebraic Difference Between g1 and g2:
   a. Commercial/Industrial: Not to exceed 9%
   b. Residential: Not to exceed 12%

2. Algebraic Difference Between g2 and g3:
   a. Commercial/Industrial: Not to exceed 6%
   b. Residential: Not to exceed 8%

3. Maximum Slope of g3 = 2% (ADA compliance)

4. Algebraic Difference g3 to g4:
   a. Commercial/Industrial: Not to exceed 5%
   b. Residential: Not to exceed 8%
   c. 10 foot vertical curve required for change in grade exceeding 5%

5. Maximum Slope of g4:
   a. Commercial/Industrial: 7%
   b. Residential: 10%

6. 10 foot vertical curve required for change in grade from g4 to existing exceeding 5%

7. If the above grade restrictions require a depressed sidewalk through the driveway, a transition section should be provided between the normal sidewalk grade and the depressed section. As a general rule, use the following transition lengths:

Elevation Difference from Normal Sidewalk Grade (inches)	Transition Distance (feet)
1 to 2	8
2 to 4	12
4 to 6	16
Greater than 6	Desirable max. slope is 16:1 Absolute max. slope is 12:1

3. **Non-curb and Gutter Roadways:**

   a. Private drive access to local, collector, or arterial streets that have no curb and/or gutter improvements should be constructed with grades and dimensions as shown in Figure 5I-4.03. Heavily used driveways connected to existing gravel roadways may require an 8 inch deep compacted Class "A" crushed stone base material. The driveway pavement should be extended to the proposed roadway pavement width, if known, or 15.5 feet from the centerline, if not known. A culvert properly sized for the ditch flow should be installed at the established roadside ditch flowline beneath the private drive access. Culvert should be 15 inches minimum and 18 inches desirable. The culvert should be either corrugated metal or reinforced concrete pipe with minimum of 1 foot of cover over the pipe per the Jurisdiction's requirements.

   b. For Farm to Market (FM) roads, when grading on new construction, or complete reconstruction projects on paved (or to be paved) FM roads, the following will apply:
      1) When a culvert is not required, the following slopes will apply.
         - 10:1 slope of flatter from shoulder line to ditch bottom in clear zone area.
         - 6:1 slope or flatter from clear zone area to the right-of-way line.
         - 10:1 to 6:1 transition zone.
      2) When a culvert is required, the following slopes will apply.
         - 8:1 slope or flatter from shoulder line to normal placement of a culvert.
         - 6:1 slope or flatter from culvert area to the right-of-way line.
         - 8:1 to 6:1 transition zone.

      For remaining open ditch roadways (paved or non-paved), the sideslopes will be 6:1 for posted speeds of 40 mph or greater, and 4:1 for posted speeds of less than 40 mph.

F. Other Criteria

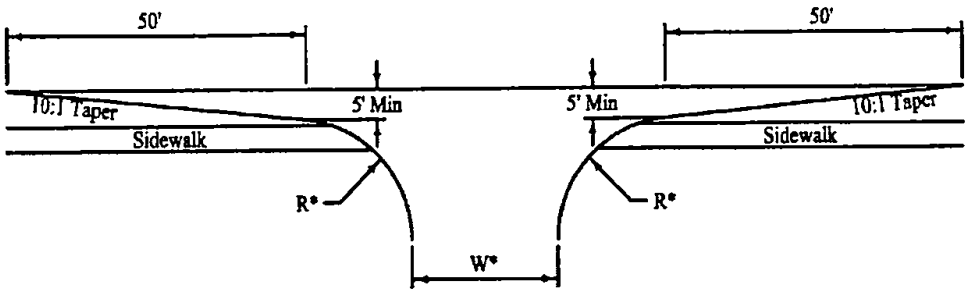
1. **Utility Conflicts:** Any adjustments made to utility poles, street light standards, fire hydrants, catch basins or intakes, traffic signs and signals, or other public improvements or installations, which are necessary as the result of the curb openings or driveways, should be accomplished with no additional cost to the Jurisdiction.

2. **Access Signs:** Driveway approaches, whereby the driveway is to serve as an entrance only or as an exit only, should be appropriately signed by, and at the expense of, the property owner subject to approval of the Jurisdiction Engineer.

3. **Abandoned Driveways:** Any curb opening or driveway that has been abandoned should be restored by the property owner.

4. **Offset Radius and Driveway Tapers:** For driveways without a right turn lane on the street approach, providing an offset radius and driveway taper can help reduce speed differential between turning and through traffic, reducing the possibility of rear-end crashes. Figure 5I-4.03 shows a typical taper system that can be effectively used. The downstream taper for right turns from the driveway may be considered optional. Right-of-way restrictions may limit the use of this method.

Figure 5I-4.03: Offset Radius and Driveway Tapers



*Driveway radii and widths vary depending on entrance type, street classification, and zoning.

5. **Sidewalks:** For driveways that intersect pedestrian circulation paths and pedestrian access routes (sidewalks and shared use paths), all ADA requirements must be met. See Chapter 12 - Sidewalks and Bicycle Facilities.

G. References

Institute of Traffic Engineers. *Transportation and Land Development.* 1988.

Oregon Department of Transportation. *Driveway Profile Study - Summary of Results.* 1998.

Transportation Research Board - National Cooperative Highway Research Program (NCHRP). *NCHRP Report 659: Guide for the Geometric Design of Driveways for Supplemental Information.* National Academy Press. Washington, DC. 2010.