

BRAINERD PLANNING COMMISSION WORKSHOP

Wednesday, July 15, 2020

6:00 p.m.

WebEx Teleconference Meeting

Call Toll-Free: 844-992-4726

Access Code: 146 076 6208

In accordance with the requirements of Minn. Stat. Section 13D.021, Jennifer Bergman, the City Administrator, has determined that an in-person meeting is not practical or prudent because of a health pandemic declared under Chapter 12 of the Minnesota Statutes.

1. Call To Order
2. Approval/Amendment Of Agenda
3. Approval Of Minutes
 1. Regular Meeting Held on April 15, 2020
 2. Workshop Held on May 6, 2020
 3. Workshop Held on June 17, 2020

Documents:

[2020-04-15 DRAFT.PDF](#)
[2020-05-06 - WORKSHOP DRAFT.PDF](#)
[2020-06-17 - WORKSHOP DRAFT.PDF](#)

4. New Business

- 4.a. Conditional Use Permit - Submitted By Joel & Grace Jacobson On Behalf Of Jacobson Excavating & Landscaping - Outdoor Storage At 3424 Oak St., Brainerd

Documents:

[3424 OAK ST. CUP.PDF](#)

- 4.b. Conditional Use Permit Amendment - Submitted By Reid Theisse, ISD181 Director Of Buildings And Grounds On Behalf Of ISD181 - Required Boulevard Trees 1515 Oak St., Brainerd

Documents:

[1515 OAK ST. CUP.PDF](#)

- 4.c. (Added Item) Request For Proposals And Qualifications For Zoning Code Update Services

Documents:

[ZONING CODE UPDATE RFP -DRAFT.PDF](#)
[FORM BASED CODE.PDF](#)

5. Public Forum

Time allocated for citizens to bring matters not on the agenda to the attention of the Planning Commission - time limits may be imposed

6. Old Business

6.a. Ratify The Appointment Of Don Gorham As The Representative To The Region 5
Children's Museum Master Plan Task Force

6.b. Schedule Workshop For The Continuation Of The Future Land Use Map Development

7. Commissioner Questions/Comments

8. Community Development Director's Report

9. Adjourn

PLANNING COMMISSION
Wednesday, April 15, 2020

#1 Call to Order

Planning Commission Chair Gorham called the meeting of the Brainerd Planning Commission to order at 6:00 p.m. via WebEx Teleconferencing.

Community Development Director Chanski explained the procedures to be followed to the Commission and callers regarding the process of conducting electronic meetings.

Commissioner Gorham welcomed Kevin Yeager to the Commission.

Noted present were Commissioners Woodward, Yeager, Kallroos, Duval, Gorham, and Council Liaison Lambert. Commissioner Foley was noted as absent. Community Development Director Chanski was also noted as present.

Due to conducting the meeting electronically, all motions will be voted on by a roll call vote for accuracy.

#2 Approval/Amendment of Agenda

MOTION AND SECONDED BY COMMISSIONERS DUVAL AND WOODWARD, DULY CARRIED, TO APPROVE THE AGENDA AS PRESENTED.

Upon roll call, members Woodward, Yeager, Kallroos, Lambert, Duval, and Gorham voted "aye". No member voted "nay". The Chair declared the motion carried.

#3 Approval of Minutes

MOTION AND SECONDED BY COMMISSIONERS LAMBERT AND WOODWARD TO APPROVE THE MINUTES OF THE REGULAR MEETING HELD ON FEBRUARY 19, 2020 AND THE MINUTES OF THE WORKSHOP HELD ON FEBRUARY 19, 2020.

Upon roll call, members Woodward, Kallroos, Lambert, Duval, and Gorham voted "aye". No member voted "nay". Commissioner Yeager did not vote, as he was not present for those meetings. The Chair declared the motion carried.

#4 New Business

4a. Conditional Use Permit Application – Submitted by Allison Doyle on Behalf of Tower Motors, 624 Washington St. – To Operate an Automobile Dealership

Community Development Director Chanski explained the details on the application and the property the applicant would like to establish the business. He read the conditions that would pertain to this application, which are included in the staff report provided.

The Chair opened the public hearing at 6:11 p.m.

No one came forward.

The Chair closed the public hearing at 6:12 p.m.

MOVED AND SECONDED BY COMMISSIONERS DUVAL AND LAMBERT TO APPROVE THE CONDITIONAL USE PERMIT FOR 624 WASHINGTON STREET FOR AN AUTOMOBILE DEALERSHIP AND AUTO REPAIR SHOP.

Commission discussion took place regarding concerns of entering and exiting the property from Washington Street.

Upon roll call, members Woodward, Yeager, Kallroos, Lambert, Duval, and Gorham voted “aye”. No member voted “nay”. The Chair declared the motion carried.

4b. Rezoning Request – Submitted by Becky Dryburgh on Behalf of Trinity Lutheran Church, 1420 S. 6th St. – From an R-1 (Single Family Residential) to a B-2 (Neighborhood Business) District

Community Development Director Chanski indicated the purpose of this rezoning is to bring Trinity Children’s Center into compliance with the zoning code. He stated the current conditional use permit is considered legal non-conforming, which would not allow an expansion. He explained the expansion is to allow an increased enrollment at the center that has been approved by the MN Department of Human Services.

The Chair opened the public hearing at 6:25 p.m.

The Chair recognized Becky Dryburgh on behalf of Trinity Children’s Center, who spoke regarding the request for increased capacity.

Community Development Director Chanski read an email he received from Hanneken Insurance, which is located near Trinity. Mr. Chris Hanneken expressed full support of the rezoning request.

The Chair closed the public hearing at 6:27 p.m.

MOVED AND SECONDED BY COMMISSIONERS LAMBERT AND DUVAL TO APPROVE THE REZONING FOR 1420 S 6TH STREET FROM AN R-1 (SINGLE FAMILY RESIDENTIAL) TO A B-2 (NEIGHBORHOOD BUSINESS) DISTRICT BASED ON THE FINDINGS OF FACT AND COMPREHENSIVE PLAN LAND USE GOAL 1: SUPPORT MIXED-USE DEVELOPMENT THAT IS FOCUSED ON INTEGRATION INSTEAD OF THE SEPARATION OF LAND USES AND TO ALLOW A MIX OF LAND USED IN APPROPRIATE LOCATIONS LEADING TO LIVELY NEIGHBORHOODS.

Upon roll call, members Woodward, Yeager, Kallroos, Lambert, Duval, and Gorham voted “aye”. No member voted “nay”. The Chair declared the motion carried.

4c. Zoning Code Text Amendment Request – Submitted by Tom Lake on Behalf of Gustafson Properties of Brainerd LLC., 424 NW 3rd St – Amend Section 515-63 (B-4 General Business District) to Allow Mini-Storage Units as a Conditional Use

Community Development Director Chanski explained the details of the major infrastructure planned for NW 4th Street this summer and the contact being made with the property owners

along the project area. He indicated the applicant has requested an amendment to the B-4 District (Section 515-63) to add the ability to allow mini-storage facilities through a conditional use permit process. He explained this request is related to the next request for rezoning the property to a B-4 District.

The Chair opened the public hearing at 6:39 p.m.

The Chair recognized Mr. Brad Person who is representing the applicant. He stated the applicant would like to develop the property to justify the \$85,000 assessment that is forthcoming. He explained the desired use for the property is to construct mini-storage units.

Community Development Director Chanski displayed a map showing the proposed plan for locating the storage units on the property.

The Chair closed the public hearing at 6:47 p.m.

Commissioner Duval indicated the focus needs to be on amending the B-4 district that would affect all B-4 district's in the City and the possible repercussions of such text amendment. He read key points from the Comprehensive Plan that do not support this the amendment.

Community Development Director Chanski indicated the applicant did research the possibility to develop the property into residential rental housing but felt the monthly rent to support the costs would be too high.

Commission discussion took place.

MOVED AND SECONDED BY COMMISSIONERS DUVAL AND YEAGER TO DENY THE PROPOSED ZONING TEXT AMENDMENT REQUEST TO ALLOW MINI-STORAGE UNITS AS A CONDITIONAL USE IN SECTION 515-63 (B-4 GENERAL BUSINESS) DISTRICT.

Upon roll call, members Woodward, Yeager, Kallroos, Duval, and Gorham voted "aye". Commissioner Lambert voted "nay". The Chair declared the motion carried.

4d. Rezoning Request – Submitted by Tom Lake on Behalf of Gustafson Properties of Brainerd LLC., 424 NW 3rd St. – To Rezone Thirteen (13) Parcels From R-2 and R-3 Districts to a B-4 General Business District

Community Development Director Chanski explained the details of the application.

Mr. Brad Person indicated the process to get to a resolution is not important to the applicant as long as the use is allowed on this property.

The Chair opened the public hearing at 7:17 p.m.

Mr. Brad Person requests the Commission waive the six-month waiting period to submit a new application.

The Chair closed the public hearing at 7:19 p.m.

MOVED AND SECONDED BY COMMISSIONERS LAMBERT AND WOODWARD TO DENY THE REZONING REQUEST SUBMITTED BY GUSTAFSON PROPERTIES LLC. FOR

THIRTEEN (13) PARCELS FROM R-2 AND R-3 DISTRICTS TO A B-4 DISTRICT, TO PROVIDE GUIDANCE TO THE APPLICANT FOR OTHER OPTIONS TO ALLOW THE USE AND TO WAIVE THE SIX-MONTH WAITING PERIOD TO RESUBMIT AN APPLICATION.

Upon roll call, members Woodward, Yeager, Kallroos, Lambert, Duval, and Gorham voted “aye”. No member voted “nay”. The Chair declared the motion carried.

#5 Public Forum

The Chair opened public forum at 7:25 p.m.

No one came forward.

The Chair closed the public forum at 7:25 p.m.

#6 Old Business

6a. Conditional Use Permit Application – Submitted by Becky Dryburgh on Behalf of Trinity Children’s Center (TCC), 1420 S 6th St. To Modify the Current CUP Limitations on Number of Children Enrolled

Community Development Director Chanski explained the details of the application submitted by Trinity Children’s Center located at 1420 S. 6th Street. He stated an amendment to the existing CUP is needed to allow an increased number of children to be enrolled at the center. He indicated the following conditions are included in the amendment:

The Chair opened the public hearing at 7:29 p.m.

The Chair recognized Becky Dryburgh on behalf of Trinity Children’s Center, who spoke regarding the request for the amendment to increase enrollment capacity. She indicated the MN Department of Human Services has approved the request for increased enrollment and failed to notify the City of the change.

The Chair closed the public hearing at 7:33 p.m.

Commission discussion took place.

MOVED AND SECONDED BY COMMISSIONERS DUVAL AND LAMBERT TO APPROVE THE CONDITIONAL USE PERMIT FOR 1420 S 6TH STREET TO MODIFY THE CURRENT CUP LIMITATIONS ON NUMBER OF CHILDREN ENROLLED WITH THE FOLLOWING CONDITIONS.

- Operating hours 6 am to no later than 7 pm which is mandated by the MN Department of Human Services (MNDHS)
- The City shall be provided a copy of future licenses as issued by MNDHS
- Contingent upon approval of the rezoning ordinance

Upon roll call, members Woodward, Yeager, Kallroos, Lambert, Duval, and Gorham voted “aye”. No member voted “nay”. The Chair declared the motion carried.

#7 Commissioner's Questions/Comments

Commissioner Duval asked about moving forward with the future land use map and implementation of the Comprehensive Plan.

Commissioner discussion took place.

Commissioner input was favorable on continuing the process electronically until able to meet in person.

Commissioner Chair Gorham asked Community Development Director Chanski to look into a speaker to discuss form-based zoning codes.

At the end of the meeting, John and Allison Doyle, applicant for the Conditional Use Permit for Tower Motors, called in to the meeting. Community Development Director Chanski let them know the Planning Commission approved the request and it will be on the agenda for approval at the City Council meeting.

#8 Community Development Director's Report

Community Development Director Chanski indicated many staff members are working remotely. He explained the details of the new software package the City has recently implemented with one feature is the planning and zoning options. He said work continues for the implementation of the Comprehensive Plan and will start the process for a speaker to discuss form-based codes.

#9 Adjourn

The Chair adjourned at 8:01 p.m.

Don Gorham, Planning Commission Chair

PLANNING COMMISSION WORKSHOP

Wednesday, May 6, 2020

#1 Call to Order

Planning Commission Chair Gorham called the Planning Commission Workshop to order at 6:05 p.m. via WebEx Teleconference meeting.

Noted present were Commissioners Gorham, Duval, Foley, Kallroos, Yeager and Council Liaison Lambert. Commissioner Woodward was noted as absent. Community Development Director Chanski, City Administrator Bergman and City Attorney Langel were also noted as present.

#2 Approval/Amendment of Agenda

MOVED AND SECONDED BY COMMISSIONER LAMBERT AND YEAGER TO APPROVE THE AGENDA.

Upon roll call, members Lambert, Yeager, Duval, Foley, Kallroos and Gorham voted “aye.” No member voted “nay.” The Chair declared the motion carried.

#3 Discussion – Mini-Storage Facilities and Gustafson Properties

Community Development Director Chanski explained the details and background of the applicant's desire to construct mini-storage facilities on his property near Jackson Street and NW 3rd Street. He indicated the Planning Commission denied the application for the zoning text amendment and the request to rezone the properties at the April 15, 2020 meeting. He stated the City Council upheld that decision at the May 4, 2020 council meeting. He reviewed the feedback received from the Council. He explained this workshop is intended to have conversation with the applicant to discuss available options that may be possible.

City Attorney Langel pointed out that this started with the City pursuing the acquisition of a small parcel of property in conjunction with the NW 4th Street roundabout project. He explained that is a separate issue from this request to rezone and that acquisition process will continue.

The Chair recognized Mr. Brad Person, who is representing the applicant. He explained due to the street reconstruction project, the property will have significant assessments and the owner needs to recoup some of those funds by making a productive use of these properties. He indicated the applicant would like to construct mini-storage units on this property and it does not matter what process is followed whether it is a rezone or a text amendment.

Commissioner Duval asked why the applicant chose a mini storage facility rather than develop the property within the current allowances of the zone such as residential use.

Mr. Person indicated the amount of rent that would need to be charged to justify the costs of constructing the buildings would exceed the affordable amount according to the current market. He explained that a housing development would also cause more traffic and congestion in that area than a mini storage facility would.

The Chair recognized Mr. Tom Lake, property owner who added any type of residential housing would exceed the amount that they want to spend, as it would be very difficult to construct

housing for less than \$100,000 per unit. He explained that would involve charging approximately \$1,200 - \$1,500 a month for rent.

Commissioner Duval asked if they considered constructing new homes for sale rather than rentals. Mr. Lake indicated they have thought of different options but are not interested in being a housing developer.

Commissioners questions were answered, and discussion took place.

Mr. Person stated they are seeking direction from the Commission regarding the plan to construct mini-storage units on this property. He said the property owner has requested this use and if it is not acceptable on this property, there is no reason to continue the meeting.

Community Development Director Chanski recapped the concerns and input gathered to this point. He said the clearest option would be to rezone the properties to light industrial and offer mini-storage units as a conditional use. He read the conditions listed in Section 515-70-5 in the I-1 Light Industrial District. He indicated having an industrial district located within residential and commercial districts is not ideal.

Commission discussion took place and ideas shared regarding affordable housing options.

City Attorney Langel reminded the Commission these are not decisions that the Planning Commission are able to make, and the focus needs to stay on the topic at hand as indicated by Mr. Person.

After Commission discussion regarding zoning text amendments and rezoning options, it was determined there was not a consensus towards a decision.

#4 Planning Commission Representative to Region 5 Children's Museum Masterplan Task Force

Community Development Director Chanski stated the Region 5 Children's Museum is requesting a member from the Planning Commission to be a part of the Masterplan Task Force.

City Administrator Bergman explained the details of the task force and the various members that have been appointed within the community.

Community Development Director Chanski will bring the recommendation of Commissioner Gorham to be appointed at the next Planning Commission meeting.

#5 Adjourn

The Chair adjourned at 7:23 p.m.

PLANNING COMMISSION WORKSHOP

Wednesday, June 17, 2020

#1 Call to Order

Planning Commission Chair Gorham called the Planning Commission Workshop to order at 6:00 p.m.

Noted present were Commissioners Gorham, Duval, Foley, Kallroos, Woodward, Yeager, and Council Liaison Lambert. Community Development Director Chanski, and Ashley Kaisershot from Sourcewell were also noted as present.

#2 Approval/Amendment of Agenda

MOVED AND SECONDED BY COMMISSIONER DUVAL AND WOODWARD, DULY CARRIED, TO APPROVE THE AGENDA.

#3 Future Land Use Map Development Discussion and Exercise

Community Development Director Chanski stated discussion started on this topic back in January with more discussion held in February. He said we are now at the point where we can resume meetings and work on the future land use map.

Ms. Ashley Kaisershot gave a brief review of the process and the purpose of a land use map. She stated the future land use map will be developed from information already created in the newly adopted Comprehensive Plan. She said the future land use map is an aspiration of an end goal, although it is always a work in progress. She explained the 2004 map is a great tool to use to create and discuss from in developing a new future land use map.

Commission discussion took place about the community and how they view the future use map. Ms. Kaisershot had the Commission work on a group activity to sketch out their ideas and opinions on how they identify districts.

Ms. Kaisershot will compile everyone's comments and ideas onto a map and will email to the group to review.

#5 Adjourn

The Chair adjourned at 7:34 p.m.

Don Gorham, Planning Commission Chair

City of Brainerd Community Development Department

TO: Planning Commission

FROM: David Chanski, Community Development Director

DATE: July 15, 2020

RE: Jacobson Excavating and Landscaping CUP

Joel and Grace Jacobson have submitted a request on behalf of Jacobson Excavating and Landscaping for a Conditional Use Permit for outdoor storage of landscaping materials at 3424 Oak St., Brainerd, MN 56401.

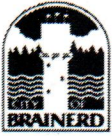
Findings of Fact

1. 3424 Oak St. is in a B-4 (General Business) District.
2. Per [Section 515-63-6.M](#) of the Code of Ordinances, outdoor storage as an accessory use is a conditional use within a B-4 District provided that:
 - a. The area is fenced and screened from view of the neighboring properties and public right-of-way in compliance with Section 20 of the Zoning Code.
 - b. Storage area is paved with asphalt, bituminous or concrete or surfaced with crushed rock.
3. The applicant is proposing concrete storage bins to contain landscaping material such as black dirt, mulch, and rock and aggregate.
4. All other proposed uses on the property are considered permitted uses within a B-4 District.
5. The property is currently an undeveloped lot of approximately 3.5 acres.
6. The property is not currently serviced by sewer and water.
7. The property does contain significant wetlands.
 - a. The applicant has had a wetland delineation approved by the Crow Wing Soil and Water Conservation District on July 18, 2018.
8. The City Engineer notes that, while a stormwater plan is not a requirement for this CUP request, it will be required at the time of building permit submittal.
 - a. Stormwater rate runoff control will be required, and post condition runoff rates cannot exceed pre-condition runoff rates.

As of this writing, no parties have contacted the Community Development Department with questions about this request.

Staff Opinion

Staff recommends approval of the CUP request.



City Planning Department

City Hall – 501 Laurel Street
Brainerd, MN 56401
218-828-2309/Fax 218-828-2316
www.ci.brainerd.mn.us

Receipt # _____

Check # _____

Date Paid: _____

CONDITIONAL USE/REZONING/VARIANCE APPLICATION

	RESIDENTIAL	COMMERCIAL
CONDITIONAL USE PERMIT	☐ (\$250.00)	☒ (\$400.00 + \$500.00 escrow deposit)
REZONING	☐ (\$300.00)	☐ (\$500.00)
VARIANCE	☐ (\$250.00)	☐ (\$400.00 + \$500.00 escrow deposit)

PROPERTY ADDRESS: _____

LEGAL DESCRIPTION: Lot(s): _____ Block: _____ Addition: _____
(attach description if lengthy)

Property Owner Name: JOEL + GRACE JACOBSON (LIFE LONG LEARNERS, LLC.)

Street Address: 13252 STATE HWY 18 City: BRAINERD State: MN Zip Code 56401

Phone Number: (218) 851-1818 Fax: _____ E-mail: jacobson.LLC@gmail.com

Applicant Name: (If different than Property Owner) _____

Street Address: _____ City: _____ State: _____ Zip Code: _____

Phone Number: _____ Fax: _____ E-mail: _____

Description of Request: WE WOULD LIKE TO HAVE OUTDOOR MATERIAL BINS FOR OUR RETAIL CUSTOMERS. THESE BINS WOULD CONTAIN LANDSCAPING MATERIAL: BLACK DIRT, MUCK OF VARYING COLORS, ROCK & AGGREGATE, AND. BINS WILL BE MADE OF CONCRETE.

[Signature]
Property Owner Signature

6-29-2020
Date

JOEL JACOBSON GRACE JACOBSON
(Please print name)

[Signature]
Applicant Signature

6-29-2020
Date

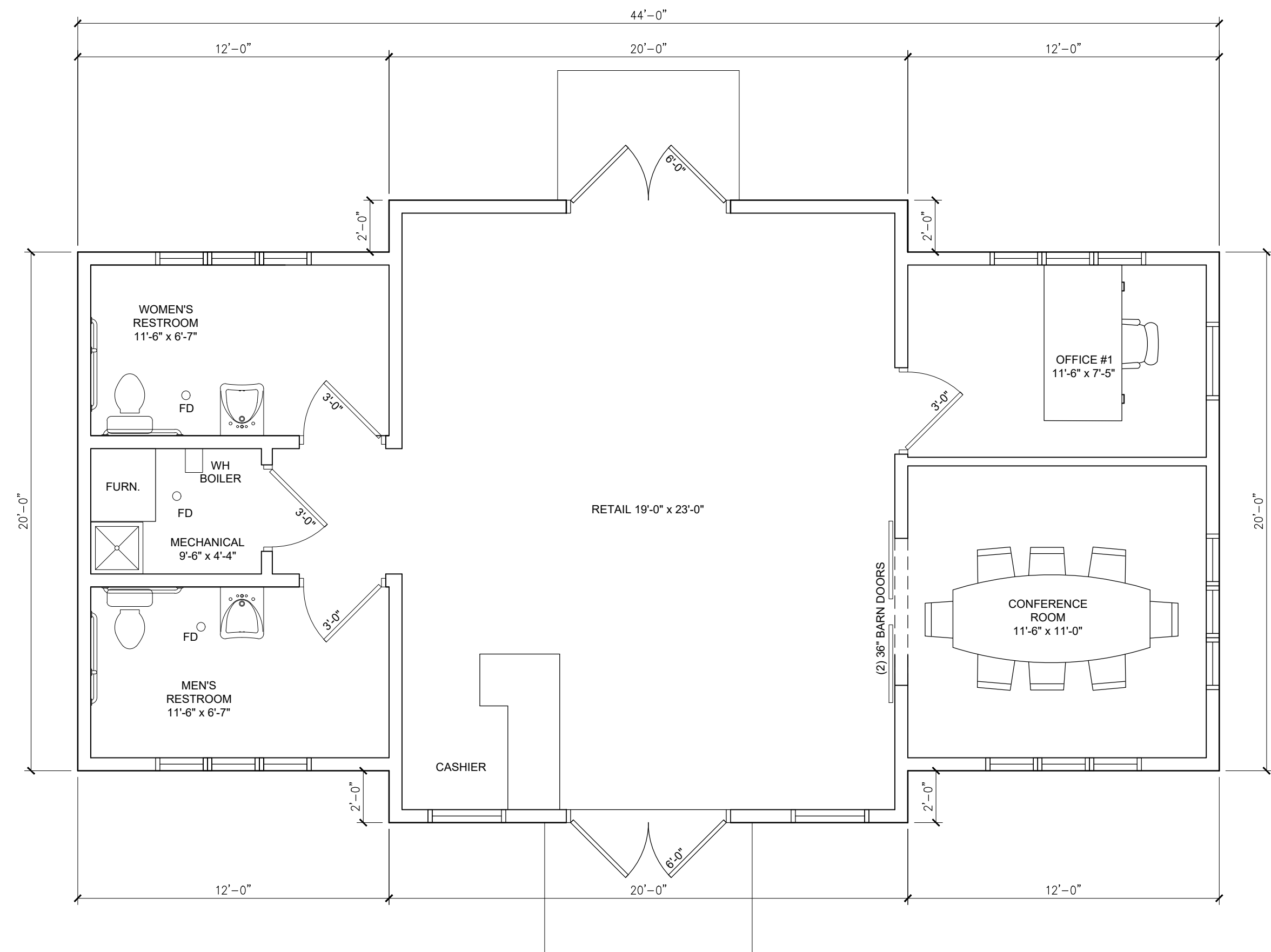
JOEL JACOBSON
(Please print name)



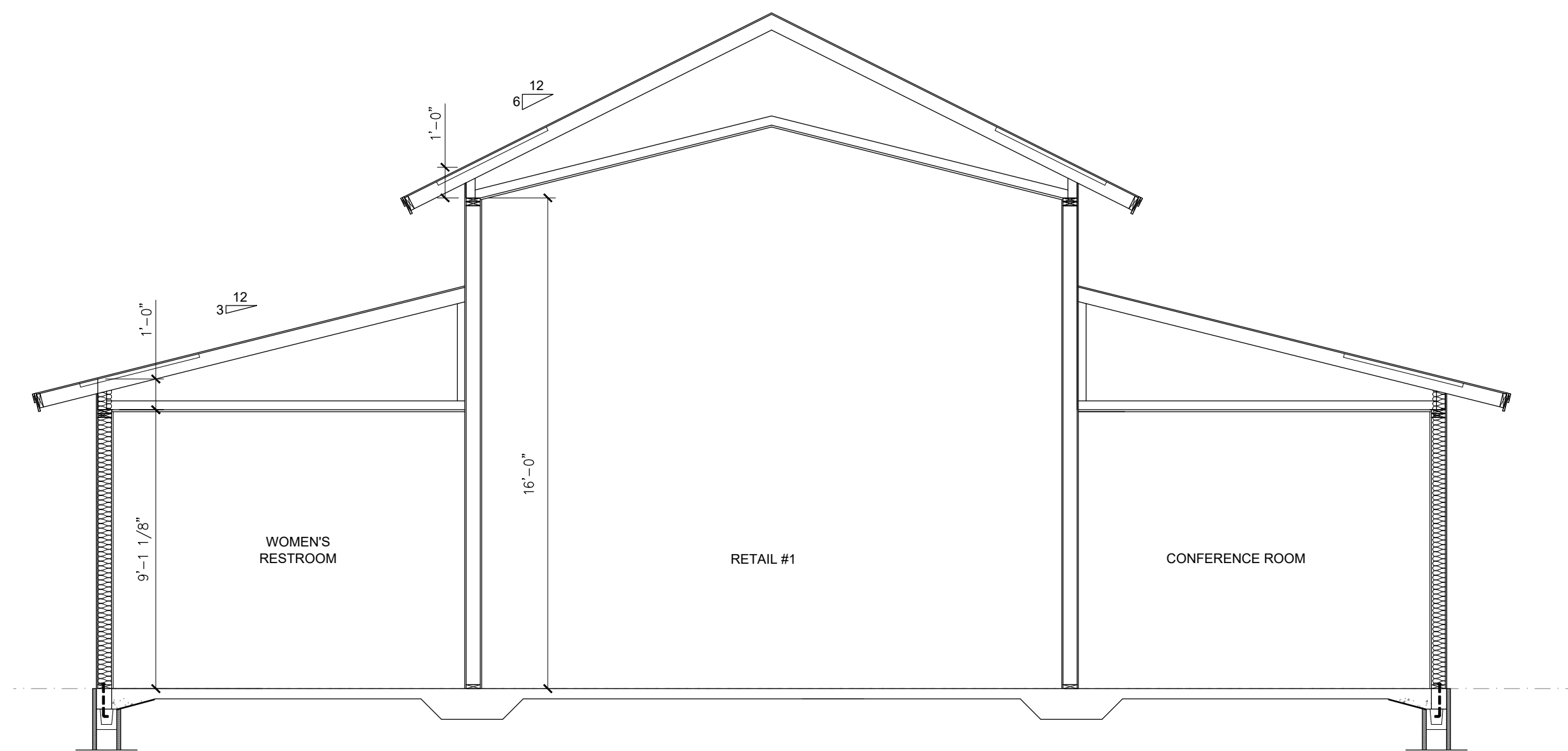
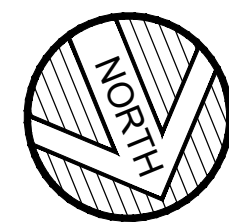
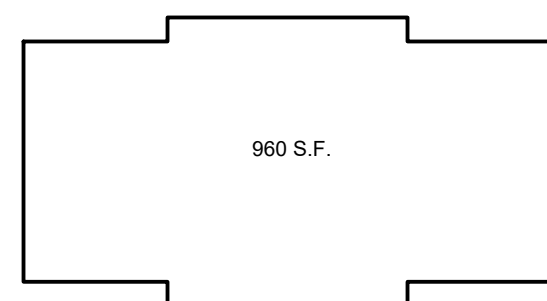
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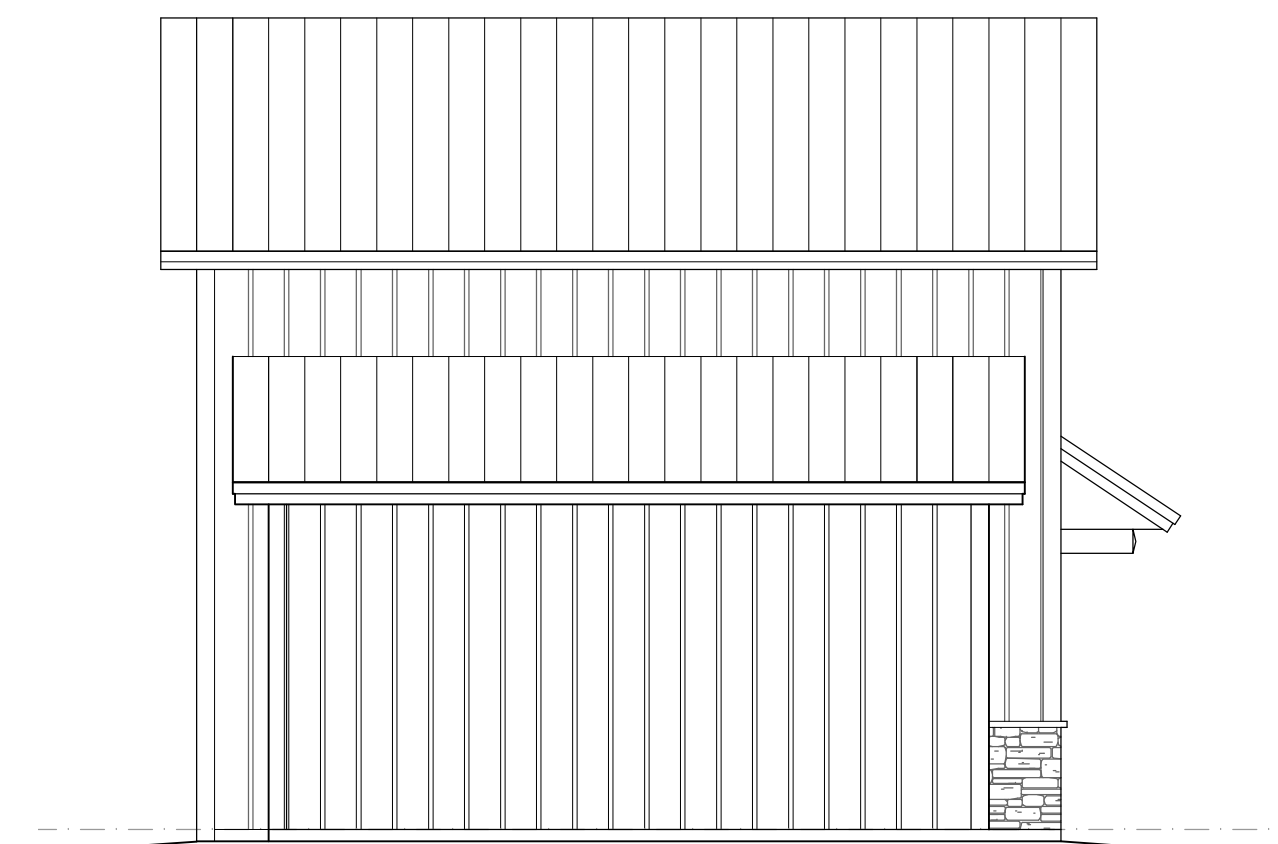
1 PRELIMINARY MAIN FLOOR PLAN - OPTION #1
1/4" = 1'-0" ON 24 X 36 PAPER



2 PRELIMINARY SECTION
1/4" = 1'-0" ON 24 X 36 PAPER



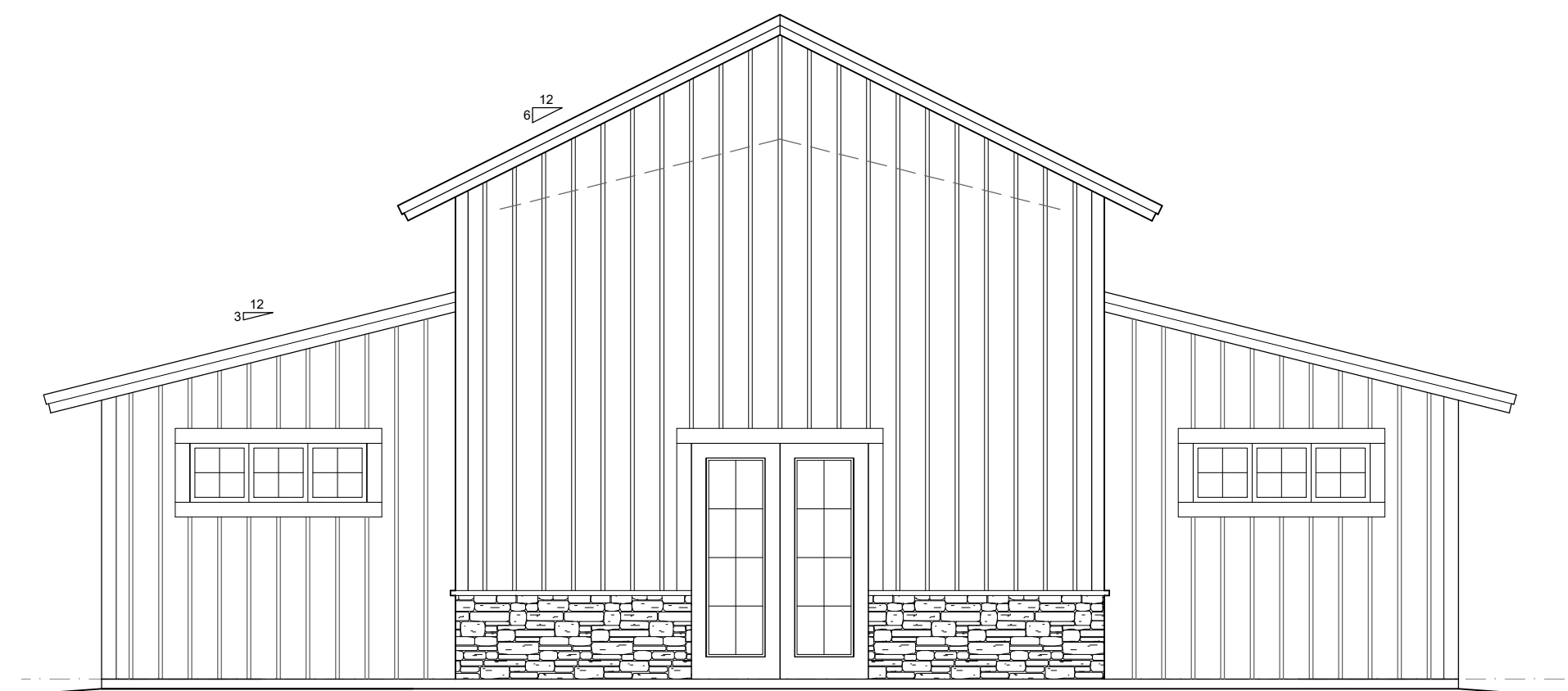
3 PRELIMINARY NORTHEAST ELEV.
3/16" = 1'-0" ON 24 X 36 PAPER



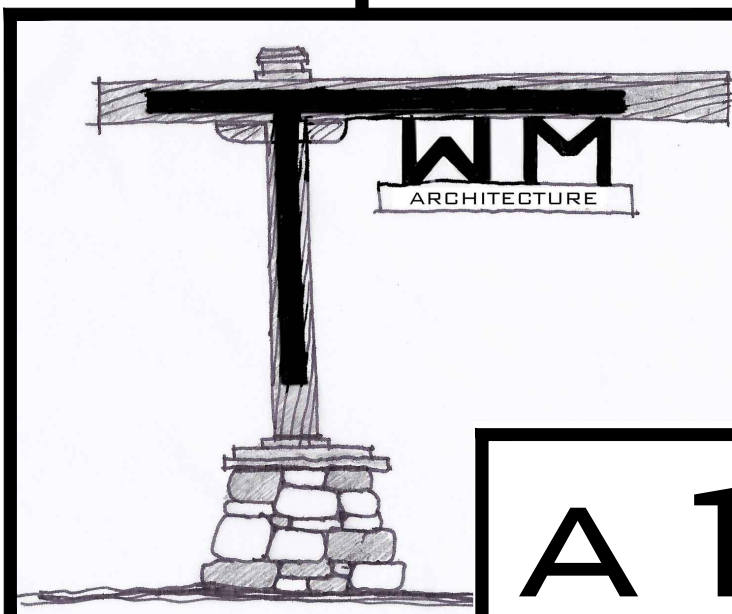
4 PRELIMINARY SOUTHEAST ELEV.
3/16" = 1'-0" ON 24 X 36 PAPER



5 PRELIMINARY NORTHWEST ELEV.
3/16" = 1'-0" ON 24 X 36 PAPER



6 PRELIMINARY SOUTHWEST ELEV.
3/16" = 1'-0" ON 24 X 36 PAPER



JACOBSON EXCAVATING
OFFICE BUILDING
BRainerd, MN

6-11-20

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED ARCHITECT UNDER THE LAWS OF THE STATE OF MINNESOTA

LIC. # 45743

DATE:

TRAVIS MILLER

A 1

NOTICE OF HEARING

TO WHOM IT MAY CONCERN:

Notice is hereby given that Joel and Grace Jacobson have submitted a request on behalf of Jacobson Excavating and Landscaping for a Conditional Use Permit for outdoor storage of landscaping materials at 3424 Oak St., Brainerd, MN 56401. The property is legally described as:

*Lot 3 Block 1 Together with an Esmnt of Rec, Timberland Addition to the City of Brainerd
P.I.N. 41290611
Section 29, Township 45, Range 30*

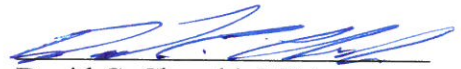
The property is zoned B-4 (General Business) District. A copy of the proposed site plan is on file for review with the Community Development Department.

A Public Hearing to consider this Conditional Use Permit request will be conducted by the Brainerd Planning Commission at 6:00 p.m. on Wednesday, July 15, 2020 in the Brainerd City Council Chambers located 501 Laurel St., Brainerd, MN 56401.

Any individual needing special accommodations or would like more information about this request, please call (218) 828-2307.

Dated this 1st day of July 2020

Publication Date: July 5, 2020



David C. Chanski, MPA
Community Development Director

Minnesota Wetland Conservation Act

Notice of Decision

Local Government Unit (LGU) Crow Wing SWCD	Address 322 Laurel St Suite 22, Brainerd, MN 56401
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1. PROJECT

Applicant Name Joel Jacobson	Project Name Jacobson	Date of Application 6-28-18	Application Number RP_2018_01
☒ Attach site locator map.			

Type of Decision:

☐ Wetland Boundary or Type	☐ No-Loss	☐ Exemption	☒ Sequencing
☒ Replacement Plan	☐ Banking Plan		

Technical Evaluation Panel Findings and Recommendation (if any):

☐ Approve	☒ Approve with conditions	☐ Deny
Summary (or attach): <i>Attached</i>		

2. LOCAL GOVERNMENT UNIT DECISION

Date of Decision: ☒ <i>7-18-18</i>	☐ Approved with conditions (include below)	☐ Denied
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LGU Findings and Conclusions:

Findings:

The proposed project is located at 3424 Oak St, Brainerd, MN. and will require wetland fill to accommodate a new business. Jacobson operates a landscaping business that he would like to expand. The current location is used for equipment storage, supplies, and materials. He would like to add a retail component but does not have the space at the existing location, visibility nor accessibility. The location proposed eliminates those issues and is near the current business which will remain and be used for additional off-site storage of landscaping equipment and supplies.

- The location is optimal for expansion with no other retail businesses that sell landscaping materials or plants in the area**
- The applicant considered two other locations but they did not provide safe access nor retail exposure.**
- The upland area at this location is surrounded by wetland and too small to accommodate the business.**
- There are no alternatives in the area that could provide retail visibility and safely accommodate retail and delivery traffic.**
- The proposed project is on a lot zoned commercial, located in the City of Brainerd**
- The parking lot has been designed to minimize impacts by filling the smallest area needed for delivery vehicle turning radius (45 degrees), spacing for staff and customer parking, access to material in bins, greenhouses, and retail structures.**
- City of Brainerd Planner and Engineer supported the site plan, agreed with access and space allocated**

for safe traffic flow.

- The fill for this project will be completed in 2018.
- Crow Wing SWCD Staff reviewed the wetland delineation and found it to be accurate

The Crow Wing SWCD approves the fill as proposed and authorized according to MR 8420.0325,0330 0420 subject to the following conditions:

1. Appropriate erosion and sediment controls are in place prior to any dirt moving activity.
2. A signed Landowner Statement & Contractor Responsibility form is submitted to the SWCD prior to construction if the landowner is not doing the work himself.
3. If Blanding's turtles (a state listed threatened species) are encountered at the project area refer to attached information sheet for direction.
4. All applicable permits; Federal, State, and local are obtained prior to construction activity

The approval is subject to the applicant having legal access on the referenced parcels. The approved amount only applies to the parcel(s) which owner has legal access

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For Replacement Plans using credits from the State Wetland Bank:

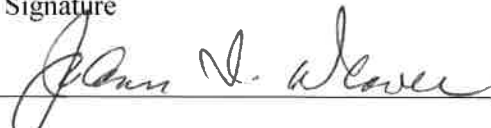
Bank Account # 1485	Bank Service Area 5	County Crow Wing	Credits Approved for Withdrawal (sq. ft. or nearest .01 acre) 0.4703 Acre
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Replacement Plan Approval Conditions. In addition to any conditions specified by the LGU, the approval of a Wetland Replacement Plan is conditional upon the following:

- ☐ **Financial Assurance:** For project-specific replacement that is not in-advance, a financial assurance specified by the LGU must be submitted to the LGU in accordance with MN Rule 8420.0522, Subp. 9 (List amount and type in LGU Findings).
- ☐ **Deed Recording:** For project-specific replacement, evidence must be provided to the LGU that the BWSR "Declaration of Restrictions and Covenants" and "Consent to Replacement Wetland" forms have been filed with the county recorder's office in which the replacement wetland is located.
- ☐ **Credit Withdrawal:** For replacement consisting of wetland bank credits, confirmation that BWSR has withdrawn the credits from the state wetland bank as specified in the approved replacement plan.

Wetlands may not be impacted until all applicable conditions have been met!

LGU Authorized Signature:

Signing and mailing of this completed form to the appropriate recipients in accordance with 8420.0255, Subp. 5 provides notice that a decision was made by the LGU under the Wetland Conservation Act as specified above. If additional details on the decision exist, they have been provided to the landowner and are available from the LGU upon request.		
Name Beth Hippert <i>Diane Jacobson - chair SWCD</i>	Title Wetland Administrator City of Brainerd	
Signature 	Date 7-18-18	Phone Number and E-mail 218-628-6197

THIS DECISION ONLY APPLIES TO THE MINNESOTA WETLAND CONSERVATION ACT.
Additional approvals or permits from local, state, and federal agencies may be required. Check with all appropriate authorities before commencing work in or near wetlands.

Applicants proceed at their own risk if work authorized by this decision is started before the time period for appeal (30 days) has expired. If this decision is reversed or revised under appeal, the applicant may be responsible for restoring or replacing all wetland impacts.

This decision is valid for three years from the date of decision unless a longer period is advised by the TEP and specified in this notice of decision.

3. APPEAL OF THIS DECISION

Pursuant to MN Rule 8420.0905, any appeal of this decision can only be commenced by mailing a petition for appeal, including applicable fee, within thirty (30) calendar days of the date of the mailing of this Notice to the following as indicated:

Check one:

☐ Appeal of an LGU staff decision. Send petition and \$_____fee (if applicable) to:	☒ Appeal of LGU governing body decision. Send petition and \$500 filing fee to: Executive Director Minnesota Board of Water and Soil Resources 520 Lafayette Road North St. Paul, MN 55155
--	--

4. LIST OF ADDRESSEES

- | |
|---|
| ☒ SWCD TEP member: Beth Hippert
☒ BWSR TEP member: Cade Steffenson
☒ LGU TEP member (if different than LGU Contact):
☒ DNR TEP member: Owen Baird
☒ DNR Regional Office (if different than DNR TEP member)
☐ WD or WMO (if applicable):
☒ Applicant and Landowner (if different)
☐ Members of the public who requested notice:

☒ Corps of Engineers Project Manager
☐ BWSR Wetland Bank Coordinator (wetland bank plan decisions only) |
|---|

5. MAILING INFORMATION

➤ For a list of BWSR TEP representatives: www.bwsr.state.mn.us/aboutbwsr/workareas/WCA_areas.pdf

➤ For a list of DNR TEP representatives: www.bwsr.state.mn.us/wetlands/wca/DNR_TEP_contacts.pdf

➤ Department of Natural Resources Regional Offices:

NW Region: Reg. Env. Assess. Ecol. Div. Ecol. Resources 2115 Birchmont Beach Rd. NE Bemidji, MN 56601	NE Region: Reg. Env. Assess. Ecol. Div. Ecol. Resources 1201 E. Hwy. 2 Grand Rapids, MN 55744	Central Region: Reg. Env. Assess. Ecol. Div. Ecol. Resources 1200 Warner Road St. Paul, MN 55106	Southern Region: Reg. Env. Assess. Ecol. Div. Ecol. Resources 261 Hwy. 15 South New Ulm, MN 56073
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For a map of DNR Administrative Regions, see: http://files.dnr.state.mn.us/aboutdnr/dnr_regions.pdf

➤ For a list of Corps of Project Managers: www.mvp.usace.army.mil/regulatory/default.asp?pageid=687
or send to:

US Army Corps of Engineers
St. Paul District, ATTN: OP-R
180 Fifth St. East, Suite 700
St. Paul, MN 55101-1678

- For Wetland Bank Plan applications, also send a copy of the application to:
Minnesota Board of Water and Soil Resources
Wetland Bank Coordinator
520 Lafayette Road North
St. Paul, MN 55155

6. ATTACHMENTS

In addition to the site locator map, list any other attachments:

- ☒ Project plan
- ☒ Blandings Turtle Fact Sheet
- ☒ FOF
- ☐
- ☐



Crow Wing Soil and Water Conservation District
322 Laurel St. Suite 22 • Brainerd, MN 56401

Minnesota Wetland Conservation Act Technical Evaluation Panel Findings Report

Meeting Date: 7/9/18 Onsite Date N/A LGU: Crow Wing SWCD City or TWP: Brainerd County: Crow Wing

Project Owner	Joel Jacobson, 13252 HWY 18, Brainerd	LGU Contact	Beth Hippert
Project Name	Jacobson	LGU Address	322 Laurel St Suite 22, Brainerd
Project Email	Jacobson.llc@gmail.com	LGU Email	Beth.hippert@crowwingswcd.org
Project Phone	218-851-1818	LGU Phone	218-828-6197
Project Location	3424 Oak St, Brainerd, MN	Project PIN	0926500100300009

Attendees: TEP

LGU:	Beth Hippert
SWCD:	Beth Hippert
BWSR:	Cade Steffenson
DNR	Owen Baird
ACOE	

Attendees: Other

Consultant	Mitch Brinks (Brinks Wetland Services LLC)
Applicant	Joel Jacobson
City Staff	
TWP Rep	
Other	Cody Mackcow

Project Description and Purpose of Meeting:

The purpose of the meeting was to evaluate a Sequencing and Replacement Application submitted by Mr Jacobson. The proposed project is located at 3424 Oak St, Brainerd, MN. and will require wetland fill to accommodate the new business. Jacobson operates a landscaping business that he would like to expand. The current location is used for equipment storage, supplies, and materials. He would like to add a retail component but does not have the space at the existing location, visibility nor accessibility. The location proposed eliminates those issues and is near the current business which will remain and be used for additional off-site storage of landscaping equipment and supplies.

Type of meeting: Check all applicable

Office ☒ On-Site ☐ Phone Conference ☐ E-mail ☐ Other ☐

TEP Findings and Recommendations:

- The location is optimal for expansion with no other retail businesses that sell landscaping materials or plants in the area
- The applicant considered two other locations but they did not provide safe access nor retail exposure.
- The upland area at this location is surrounded by wetland and too small to accommodate the business.
- There are no alternatives in the area that could provide retail visibility and safely accommodate retail and delivery traffic.
- The proposed project is on a lot zoned commercial, located in the City of Brainerd
- The parking lot has been designed to minimize impacts by filling the smallest area needed for delivery vehicle turning radius (45 degrees), spacing for staff and customer parking, access to material in bins, greenhouses, and retail structures.
- City of Brainerd Planner and Engineer supported the site plan, agreed with access and space allocated for safe traffic flow.
- The fill for this project will be completed in 2018.
- TEP agrees applicant has demonstrated concurrence with 8420.0325, 0330 and recommends approval of Jacobson Project, RP_2018_01

Signatures			
Beth Hippert	7/11/18	<i>Cade Steffenson</i>	7-13-18
SWCD Representative	Date	BWSR Representative	Date
Do Not Concur ☐		Do Not Concur ☐	
Beth Hippert			
LGU Representative	7/11/18	DNR Representative	Date
Do Not Concur ☐		Do Not Concur ☐	

PART ONE: Applicant Information

If applicant is an entity (company, government entity, partnership, etc.), an authorized contact person must be identified. If the applicant is using an agent (consultant, lawyer, or other third party) and has authorized them to act on their behalf, the agent's contact information must also be provided.

Applicant/Landowner Name: Joel Jacobson
Mailing Address: 13252 State Hwy 18, Brainerd, MN 56401
Phone: 218-851-1818
E-mail Address: jacobson.llc@gmail.com

Agent Name: Mitch Brinks (Brinks Wetland Services LLC)
Mailing Address: 11914 Joneswood Cir, Baxter, MN 56425
Phone: 218-820-9502
E-mail Address: mapsbymitch@gmail.com

PART TWO: Site Location Information

County: Crow Wing **City/Township:** Brainerd
Parcel ID and/or Address: 3424 Oak Street (PID: 092650010030009)
Legal Description (Section, Township, Range): Sec 29, Twp. 45, Rng. 30
Lat/Long (decimal degrees): Available upon request
Attach a map showing the location of the site in relation to local streets, roads, highways. Attached
Approximate size of site (acres) or if a linear project, length (feet): 3.5+/- acres

PART THREE: General Project/Site Information

If this application is related to a delineation approval, exemption determination, jurisdictional determination, or other correspondence submitted **prior to** this application then describe that here and provide the Corps of Engineers project number.

Describe the project that is being proposed, the project purpose and need, and schedule for implementation and completion. The project description must fully describe the nature and scope of the proposed activity including a description of all project elements that effect aquatic resources (wetland, lake, tributary, etc.) and must also include plans and cross section or profile drawings showing the location, character, and dimensions of all proposed activities and aquatic resource impacts.

This is a replacement plan application for 20,486 sq. ft. of impacts to a type 2, fresh/sedge meadow for the relocation/expansion of Jacobson Excavating, a local Brainerd business. They are planning to begin selling more retail goods along with their current services and would like a high-volume traffic area with good exposure and enough space for ease of traffic flow in and out, loading and unloading delivery vehicles, storage bins for different varieties of mulch and soil, as well as outdoor displays and greenhouse space. Their business is currently east of town at our personal residence which doesn't allow them to sell retail goods, nor do they want to bring in extra traffic onto our property.

The fill for this project would be completed in 2018.

See attached narrative ("Jacobson Excavating and Landscaping, LLC. Description of the business needs")

PART FOUR: Aquatic Resource Impact¹ Summary

If your proposed project involves a direct or indirect impact to an aquatic resource (wetland, lake, tributary, etc.) identify each impact in the table below. Include all anticipated impacts, including those expected to be temporary. Attach an overhead view map, aerial photo, and/or drawing showing all of the aquatic resources in the project area and the location(s) of the proposed impacts. Label each aquatic resource on the map with a reference number or letter and identify the impacts in the following table.

Aquatic Resource ID (as noted on overhead view)	Aquatic Resource Type (wetland, lake, tributary etc.)	Type of Impact (fill, excavate, drain, or remove vegetation)	Duration of Impact Permanent (P) or Temporary (T) ¹	Size of Impact ²	Overall Size of Aquatic Resource ³	Existing Plant Community Type(s) in Impact Area ⁴	County, Major Watershed #, and Bank Service Area # of Impact Area ⁵
Wetland A	Wetland	Fill	P	20,486 sq. ft (0.4703 ac)	40+ acres	Fresh/Sedge Meadow (type 2)	Crow Wing County, Major Wshd #10, BSA 5

¹If impacts are temporary; enter the duration of the impacts in days next to the "T". For example, a project with a temporary access fill that would be removed after 220 days would be entered "T (220)".

²Impacts less than 0.01 acre should be reported in square feet. Impacts 0.01 acre or greater should be reported as acres and rounded to the nearest 0.01 acre. Tributary impacts must be reported in linear feet of impact and an area of impact by indicating first the linear feet of impact along the flowline of the stream followed by the area impact in parentheses). For example, a project that impacts 50 feet of a stream that is 6 feet wide would be reported as 50 ft (300 square feet).

³This is generally only applicable if you are applying for a de minimis exemption under MN Rules 8420.0420 Subp. 8, otherwise enter "N/A".

⁴Use *Wetland Plants and Plant Community Types of Minnesota and Wisconsin* 3rd Ed. as modified in MN Rules 8420.0405 Subp. 2.

⁵Refer to Major Watershed and Bank Service Area maps in MN Rules 8420.0522 Subp. 7.

If any of the above identified impacts have already occurred, identify which impacts they are and the circumstances associated with each:

N/A

PART FIVE: Applicant Signature

☐ Check here if you are requesting a pre-application consultation with the Corps and LGU based on the information you have provided. Regulatory entities will not initiate a formal application review if this box is checked.

By signature below, I attest that the information in this application is complete and accurate. I further attest that I possess the authority to undertake the work described herein.

Signature: _____

Date: 6-27-18

I also hereby authorize Mitch Brinks to act on my behalf as my agent in the processing of this application and to furnish, upon request, supplemental information in support of this application.

¹ The term "impact" as used in this joint application form is a generic term used for disclosure purposes to identify activities that may require approval from one or more regulatory agencies. For purposes of this form it is not meant to indicate whether or not those activities may require mitigation/replacement.

Attachment A

Request for Delineation Review, Wetland Type Determination, or Jurisdictional Determination

By submission of the enclosed wetland delineation report, I am requesting that the U.S. Army Corps of Engineers, St. Paul District (Corps) and/or the Wetland Conservation Act Local Government Unit (LGU) provide me with the following (check all that apply):

☐ **Wetland Type Confirmation**

☐ **Delineation Concurrence.** Concurrence with a delineation is a written notification from the Corps and a decision from the LGU concurring, not concurring, or commenting on the boundaries of the aquatic resources delineated on the property. Delineation concurrences are generally valid for five years unless site conditions change. Under this request alone, the Corps will not address the jurisdictional status of the aquatic resources on the property, only the boundaries of the resources within the review area (including wetlands, tributaries, lakes, etc.).

☒ **Preliminary Jurisdictional Determination.** A preliminary jurisdictional determination (PJD) is a non-binding written indication from the Corps that waters, including wetlands, identified on a parcel may be waters of the United States. For purposes of computation of impacts and compensatory mitigation requirements, a permit decision made on the basis of a PJD will treat all waters and wetlands in the review area as if they are jurisdictional waters of the U.S. PJDs are advisory in nature and may not be appealed.

☐ **Approved Jurisdictional Determination.** An approved jurisdictional determination (AJD) is an official Corps determination that jurisdictional waters of the United States are either present or absent on the property. AJDs can generally be relied upon by the affected party for five years. An AJD may be appealed through the Corps administrative appeal process.

In order for the Corps and LGU to process your request, the wetland delineation must be prepared in accordance with the 1987 Corps of Engineers Wetland Delineation Manual, any approved Regional Supplements to the 1987 Manual, and the *Guidelines for Submitting Wetland Delineations in Minnesota* (2013).

<http://www.mvp.usace.army.mil/Missions/Regulatory/DelineationJDGuidance.aspx>

Attachment C

Avoidance and Minimization

Project Purpose, Need, and Requirements. Clearly state the purpose of your project and need for your project. Also include a description of any specific requirements of the project as they relate to project location, project footprint, water management, and any other applicable requirements. Attach an overhead plan sheet showing all relevant features of the project (buildings, roads, etc.), aquatic resource features (impact areas noted) and construction details (grading plans, storm water management plans, etc.), referencing these as necessary:

See attached narrative ("Jacobson Excavating and Landscaping, LLC. Description of the business needs")

Avoidance. Both the CWA and the WCA require that impacts to aquatic resources be avoided if practicable alternatives exist. Clearly describe all on-site measures considered to avoid impacts to aquatic resources and discuss at least two project alternatives that avoid all impacts to aquatic resources on the site. These alternatives may include alternative site plans, alternate sites, and/or not doing the project. Alternatives should be feasible and prudent (see MN Rules 8420.0520 Subp. 2 C). Applicants are encouraged to attach drawings and plans to support their analysis:

Several alternatives have been considered that would avoid the wetland impacts:

1. **No Build.** By not purchasing this property, Mr. Jacobson would be forced to continue to use his existing home east of town on Highway 18 for his business, which has outgrown that space or continue looking for a site that is suitable.
2. **Bridge across the wetland.** Because the main usable, upland area on the site is surrounded by wetlands, the only other way to access the property without impacting wetland would be to construct a bridge. However, this would significantly limit the size of Mr. Jacobson's operation, and would cause safety and traffic flow concerns with vehicular traffic forced into a narrow area while having to turn around in the main usable upland area. There would be little to no room left for the business. In addition, this would add significant cost to the project.

Minimization. Both the CWA and the WCA require that all unavoidable impacts to aquatic resources be minimized to the greatest extent practicable. Discuss all features of the proposed project that have been modified to minimize the impacts to water resources (see MN Rules 8420.0520 Subp. 4):

The impacts needed for the project were minimized as much as feasible in order to accomplish the project purpose by the following:

- The proposed impacts are concentrated in the area between the two main upland parts of the site while leaving the remainder of the wetland intact. This is the most efficient use of space that accommodates the project purpose because it centralizes the building while allowing the open spaces around the building to be used for multiple purposes including: traffic flow for trucks/trailers, backing up/loading of materials from the greenhouses and material bins, and allowing for product storage during the less busy times. The edges and more difficult to access parts of this centralized business area will be used for stormwater management and employee parking. The amount of parking and stormwater management were determined by conversations with the City of Brainerd and Anderson Brothers Construction.
- This is a reduction of the earlier impact estimate of 23,000+ sq. ft.

Off-Site Alternatives. An off-site alternatives analysis is not required for all permit applications. If you know that your proposal will require an individual permit (standard permit or letter of permission) from the U.S. Army Corps of Engineers, you may be required to provide an off-site alternatives analysis. The alternatives analysis is not required for a complete application but must be provided during the review process in order for the Corps to complete the evaluation of your application and reach a final decision. Applicants with questions about when an off-site alternatives analysis is required should contact their Corps Project Manager.

Mr. Jacobson looked at several other alternate sites for his business. These are explained in the attached narrative: "Jacobson Excavating and Landscaping, LLC. Description of the business needs."

Attachment D

Replacement/Compensatory Mitigation

Complete this part *if* your application involves wetland replacement/compensatory mitigation not associated with the local road wetland replacement program. Applicants should consult Corps mitigation guidelines and WCA rules for requirements.

Replacement/Compensatory Mitigation via Wetland Banking. Complete this section if you are proposing to use credits from an existing wetland bank (with an account number in the State wetland banking system) for all or part of your replacement/compensatory mitigation requirements.

Wetland Bank Account #	County	Major Watershed #	Bank Service Area #	Credit Type (if applicable)	Number of Credits
Aitkin Highway Dept.	Aitkin	10	5	NWC	0.4703

Applicants should attach documentation indicating that they have contacted the wetland bank account owner and reached at least a tentative agreement to utilize the identified credits for the project. This documentation could be a signed purchase agreement, signed application for withdrawal of credits or some other correspondence indicating an agreement between the applicant and the bank owner. *However, applicants are advised not to enter into a binding agreement to purchase credits until the mitigation plan is approved by the Corps and LGU.*

Project-Specific Replacement/Permittee Responsible Mitigation. Complete this section if you are proposing to pursue actions (restoration, creation, preservation, etc.) to generate wetland replacement/compensatory mitigation credits for this proposed project.

WCA Action Eligible for Credit ¹	Corps Mitigation Compensation Technique ²	Acres	Credit % Requested	Credits Anticipated ³	County	Major Watershed #	Bank Service Area #

¹Refer to the name and subpart number in MN Rule 8420.0526.

²Refer to the technique listed in *St. Paul District Policy for Wetland Compensatory Mitigation in Minnesota*.

³If WCA and Corps crediting differs, then enter both numbers and distinguish which is Corps and which is WCA.

Explain how each proposed action or technique will be completed (e.g. wetland hydrology will be restored by breaking the tile.....) and how the proposal meets the crediting criteria associated with it. Applicants should refer to the Corps mitigation policy language, WCA rule language, and all associated Corps and WCA guidance related to the action or technique:

Attach a site location map, soils map, recent aerial photograph, and any other maps to show the location and other relevant features of each wetland replacement/mitigation site. Discuss in detail existing vegetation, existing landscape features, land use (on and surrounding the site), existing soils, drainage systems (if present), and water sources and movement. Include a topographic map showing key features related to hydrology and water flow (inlets, outlets, ditches, pumps, etc.):

**PURCHASE AGREEMENT
FOR
WETLAND BANKING CREDITS**

THIS PURCHASE AGREEMENT is made this 26th day of June 2018 between the Aitkin County Highway Department (Seller) and Joel Jacobson (Buyer).

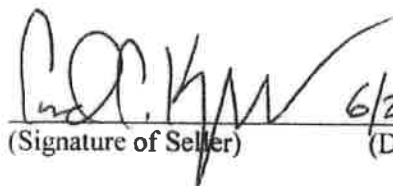
1. Seller agrees to sell to Buyer and Buyer agrees to buy from Seller, the wetland banking credits (Credits) listed below:

CREDITS TO BE SOLD					
Credit Sub-Group ¹	Wetland Circ. 39 Type ²	Plant Community Type ³	Acres	Cost per acre	Cost Estimate
B	2	Sedge Meadow	0.4703	\$19,602.00	\$9,218.82
Totals			0.4703	\$19,602.00	\$9,218.82
☐ Check here if additional credit sub-groups are part of this account and are listed on an attachment to this document. ¹ A separate credit sub-group shall be established for each wetland or wetland area that has different wetland characteristics. ² Circular 39 types: 1, 1L, 2, 3, 4, 5, 6, 7, 8, B, U. ³ Wetland plant community type: shallow open water, deep marsh, shallow marsh, sedge meadow, fresh meadow, wet to wet-mesic prairie, calcareous fen, open bog or coniferous bog, shrub-carr/alder thicket, hardwood swamp or coniferous swamp, floodplain forest, seasonally flooded basin. See <i>Wetland Plants and Plant Communities of Minnesota and Wisconsin (Eggers and Reed, 1997)</i> as modified by the Board of Water and Soil Resources, United States Army Corps of Engineers..					

Withdrawal/Stewardship Fee	
Total Acres of Credits to Be Sold [*]	0.4703
BWSR Withdrawal Fee of \$685 per Credit (acre) [^]	\$322.16
BWSR Easement Stewardship Fee of \$302 per Credit (acre) [^]	\$142.03
Total Fee	\$464.19
[*] Square Feet to Acre Conversion Factor = 1/43,560 [^] Based on BWSR Withdrawal Fee Schedule for Bank Service Area (BSA) 5 [^] Based on BWSR Easement Stewardship Fee	

2. Seller represents and warrants as follows:
- The US Army Corps of Engineers (USACE) approved Wetland Credits are deposited in an account (1485) in the Minnesota Wetland Bank administered by the Minnesota Board of Water and Soil Resources (BWSR) pursuant to Minn. Rules Chapter 8420.0700-.0760.
 - Seller owns the Credits and has the right to sell the Credits to Buyer.

3. Buyer will pay Seller a total of **\$9,218.82** for the Wetland Banking Credits payable to Aitkin County **AND** Buyer also agrees to pay the BWSR Withdrawal Fee of \$322.16 & the BWSR Easement Stewardship Fee of \$142.03 for a total of **\$464.19** payable to the Minnesota Board of Water and Soil Resources.
4. The closing of the purchase and sale shall occur within 5 business days after the Local Governmental Unit (LGU) Authorization is received. Upon payment of the purchase price, Seller will sign a fully executed Transaction Form to Withdraw Credits as specified by BWSR, provide a copy of the signed Transaction Form to Withdraw Credits to the Buyer and forward the same to BWSR along with the payment for the Withdrawal/Stewardship Fees.
5. Buyer has applied or will apply to the LGU (or other regulatory authority) for approval of a replacement plan utilizing the above listed Credits as the means of replacing impacted wetlands. If the LGU does not approve the Buyer's application for a replacement plan utilizing these Credits, then either Buyer or Seller may cancel this Agreement by giving written notice to the other. In this case, neither Buyer nor Seller shall have any further obligations under this Agreement.


(Signature of Seller) 6/26/2018
(Date)


(Signature of Buyer) 6-27-18
(Date)

Transaction Form to Withdraw Credits

If the layout of this form looks incorrect, click on View, Edit Document, then save it to your

1. Credit User		<i>This space for BWSR use only.</i>
Name: Joel Jacobson	Organization: Jacobson Excavating	
Address: 13252 State Hwy 18 Brainerd, MN 56401	Email: jacobson.llc@gmail.com	
Phone: 218-851-1818	LGU File #:	
Consultant: Mitch Brinks (Brinks Wetland Services LLC)		

2. Wetland Impact Information	
To be completed for the project impacting wetlands and with which this withdrawal is intended to replace.	
Project Name: Jacobson Excavating: Hwy 25 Site	Impact Size (acres): 0.4703
Impact County: Crow Wing	Impact Wetland type: Type 2-Sedge/Fresh Meadow
Impact Major Watershed/BSA: 10 / 5	Replacement Ratio: 1:1
Sec/Twp/Range: Sec 29 / Twp 45N / Range 30W	
*Projects with multiple locations should use the most central location in relation to the project as a whole.	
Are Federally authorized credits required for this impact? Yes	
Corps Regulatory File Number:	MVP-
Comments:	

3. Credits to be Withdrawn To be completed by the seller of the credits (account holder)				
Account Information				
Account: 1485		County: Aitkin	Bank Service Area: 5	
Credit Subgroup	Wetland Type/Plant Community Type	Federally Approved?	Cost per Credit	Credit Amounts
B	Type 2 Wetland / Sedge Meadow	Yes	\$19,602.00	0.4703
Per Credit Withdrawal Fee by BSA			Cost of Credits:	\$9,218.82
BSA 1 \$520	BSA 6 \$1,083	Enter the Withdrawal Fee for the BSA of the account:	(Withdrawal Fee x total credits)	
BSA 2 \$371	BSA 7 \$1,992	\$685.00	Withdrawal Fee:	\$322.16
BSA 3 \$725	BSA 8 \$2,577	Easement Stewardship Fee:	(Easement Stewardship fee x total credits)	
BSA 4 \$1,412	BSA 9 \$2,628	\$302.00	Stewardship Fee:	\$142.03
BSA 5 \$685	BSA 10 \$3,099		Total Fees:	\$464.19

Please make checks payable to the Minnesota Board of Water and Soil Resources. BWSR does not accept cash.

Project Name: Jacobson Excavating Hwy 25 Site

Confirmation email will be emailed to the user, seller, and regulatory representative when the transaction is complete.
If anyone else should be notified please indicated their emails below:

BWSR fee policy: http://www.bwsr.state.mn.us/wetlands/wetlandbanking/fee_and_sales_data/Wetland_Banking_Fee_Policy_Effective_June1_2017.pdf

4. Regulatory Authorization

By signing below, the identified agency and authorized representative hereby certifies that they have: a) verified that the subject wetland credits are deposited in the account of the owner/seller, b) approved a wetland replacement plan or similar agreement under their jurisdiction, and c) approve the proposed use of the wetland bank credit described above.

WCA LGU/Agency: Crow Wing SWCD

LGU Representative: BETH HIPPERT



Email Address:

Signature

7-18-18

Date

For NRCS, DNR, etc. as applicable

Agency Name and Location:

Representative:

Email Address:

Signature

Date

5. Credit User Signature

By signing below the proposed credit user attests that he/she owns or has purchased the credits identified in this form and has received approval from the regulatory authority(ies).

Signature

Date

6. Account Holder Signature

By signing below I, the seller and holder of the aforementioned account in the State of Minnesota Wetland Mitigation Bank, certify that:

- 1) The credits described in this transaction form have been sold to the credit user or will be used for my own project;
- 2) I have received payment in full from the buyer (if applicable);
- 3) The credits described in this transaction form have not been sold or used in any way to mitigate wetland losses other than for the project and location identified in the wetland impact information block on the previous page;
- 4) The credits described in this application should be withdrawn from my account; and
- 5) I will not have a negative balance of credits after the subject credits are debited from my account.

Disclaimer: All transactions in the Wetland Bank system are public information

Name/Representative: Conrad Kragness

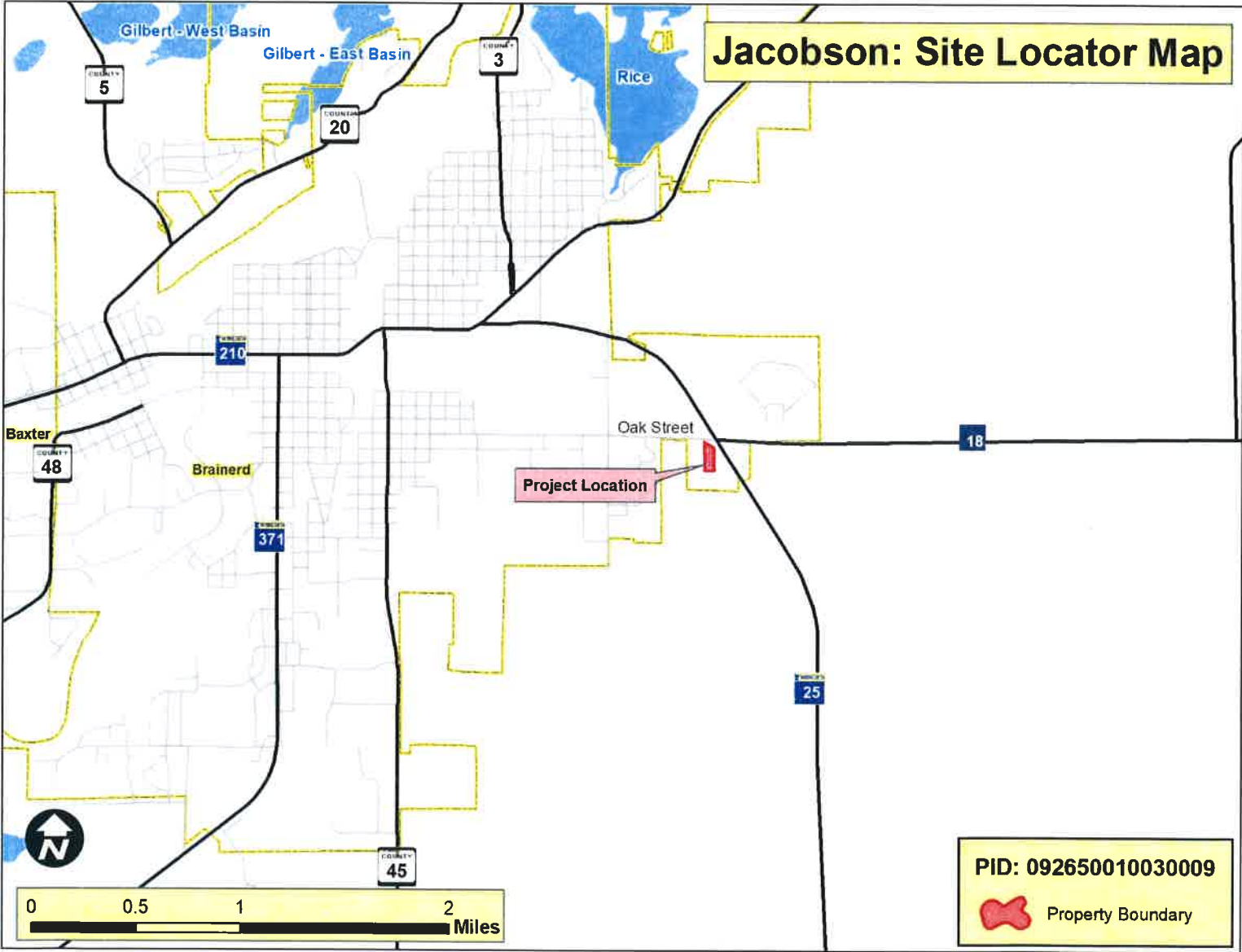
Email Address: conrad.kragness@co.aitkin.mn.us

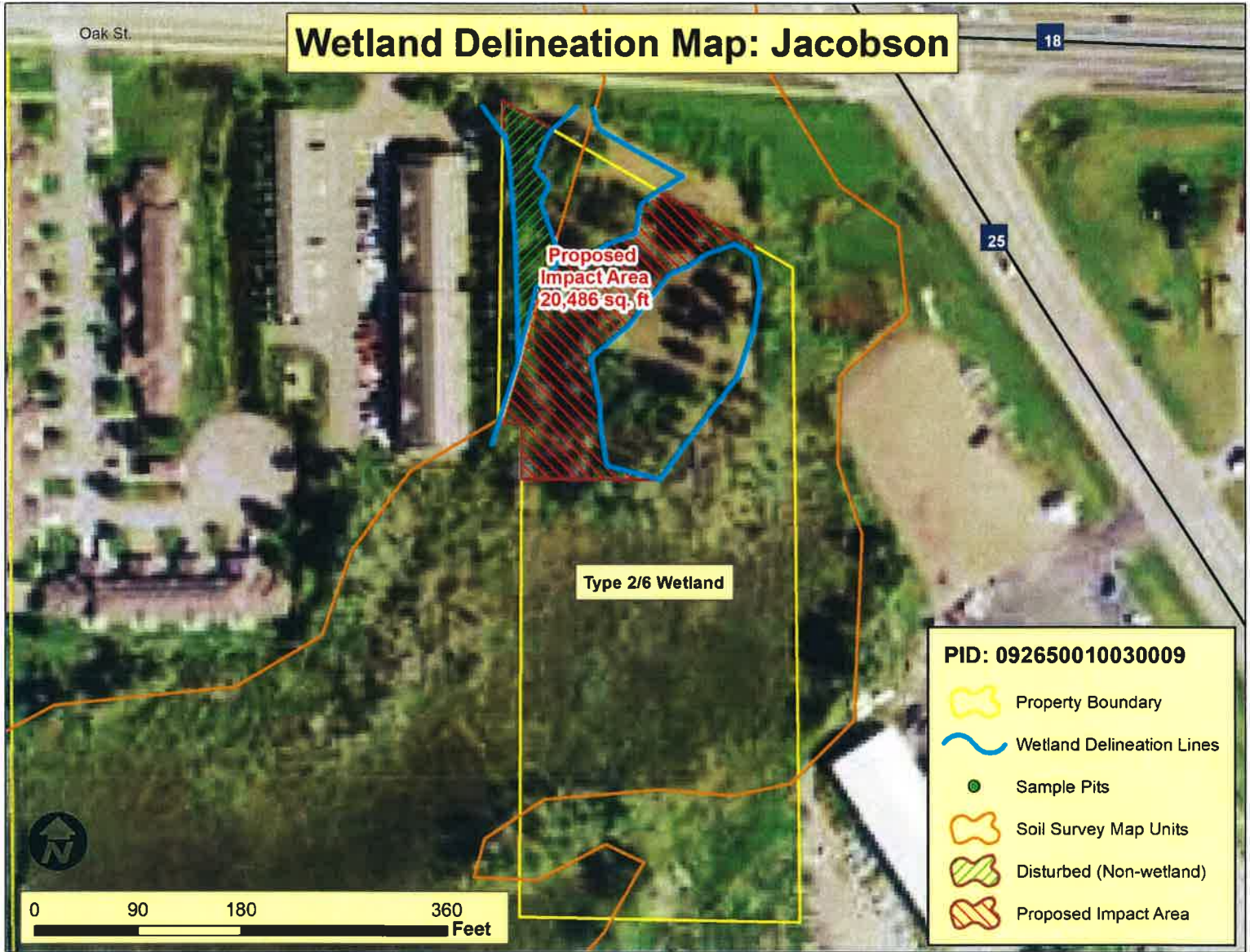
Signature

Date

Send complete forms and fee payments to:

Wetland Bank Administration
Minnesota Board of Water and Soil Resources
520 Lafayette Road North
Saint Paul, MN 55155





Oak St.

Proposed Wetland Impacts Map: Jacobson

18

25

Non-Hydric Soil

Hydric Soil

Disturbed
(Non-wetland)

UPLAND
5167 sq. ft
(0.12 ac)

UPLAND
6952 sq. ft
(0.16 ac)

Proposed
Impact Area
20,486 sq. ft

UPLAND
2682 sq. ft
(0.065 ac)

UPLAND
18,111 sq. ft
(0.42 ac)

PID: 092650010030009

-  Property Boundary
-  Wetland Delineation Lines
-  Sample Pits
-  Soil Survey Map Units
-  Disturbed (Non-wetland)
-  Proposed Impact Area

0 50 100 200
Feet

CUSTOMER VEHICLE FLOW

30X50 OFFICE
BUILDING

ASPHALT AREA

COVERED PORCH

RETENTION POND #1
APPROXIMATELY 1800 SF AT 2' DEEP

PARKING
STALLS

LANDSCAPE PATIOS/
OUTDOOR DISPLAYS

STAFF PARKING
AREA

RETENTION AREA #3
APPROXIMATELY 600 SF AT 2' DEEP

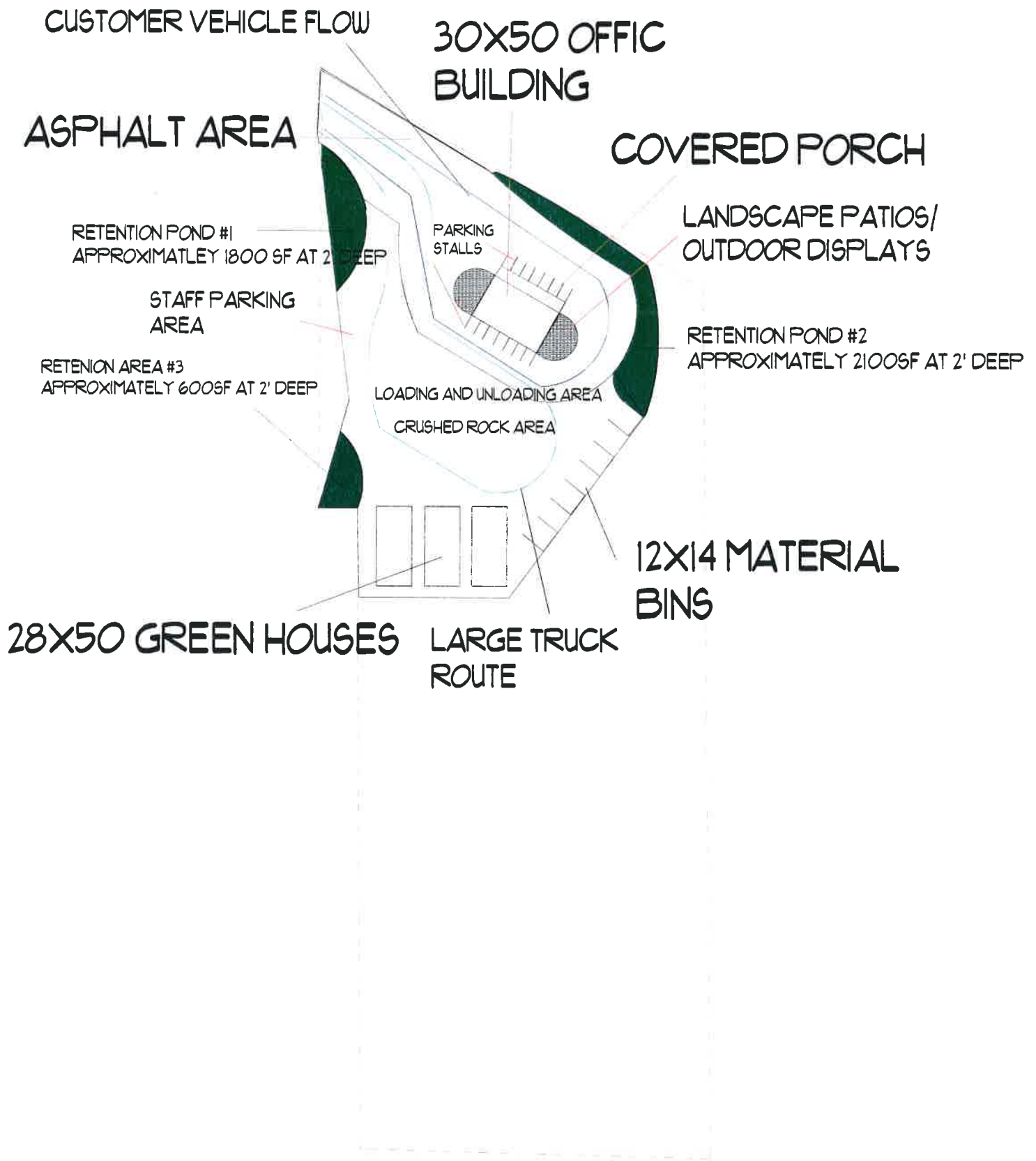
RETENTION POND #2
APPROXIMATELY 2100 SF AT 2' DEEP

LOADING AND UNLOADING AREA
CRUSHED ROCK AREA

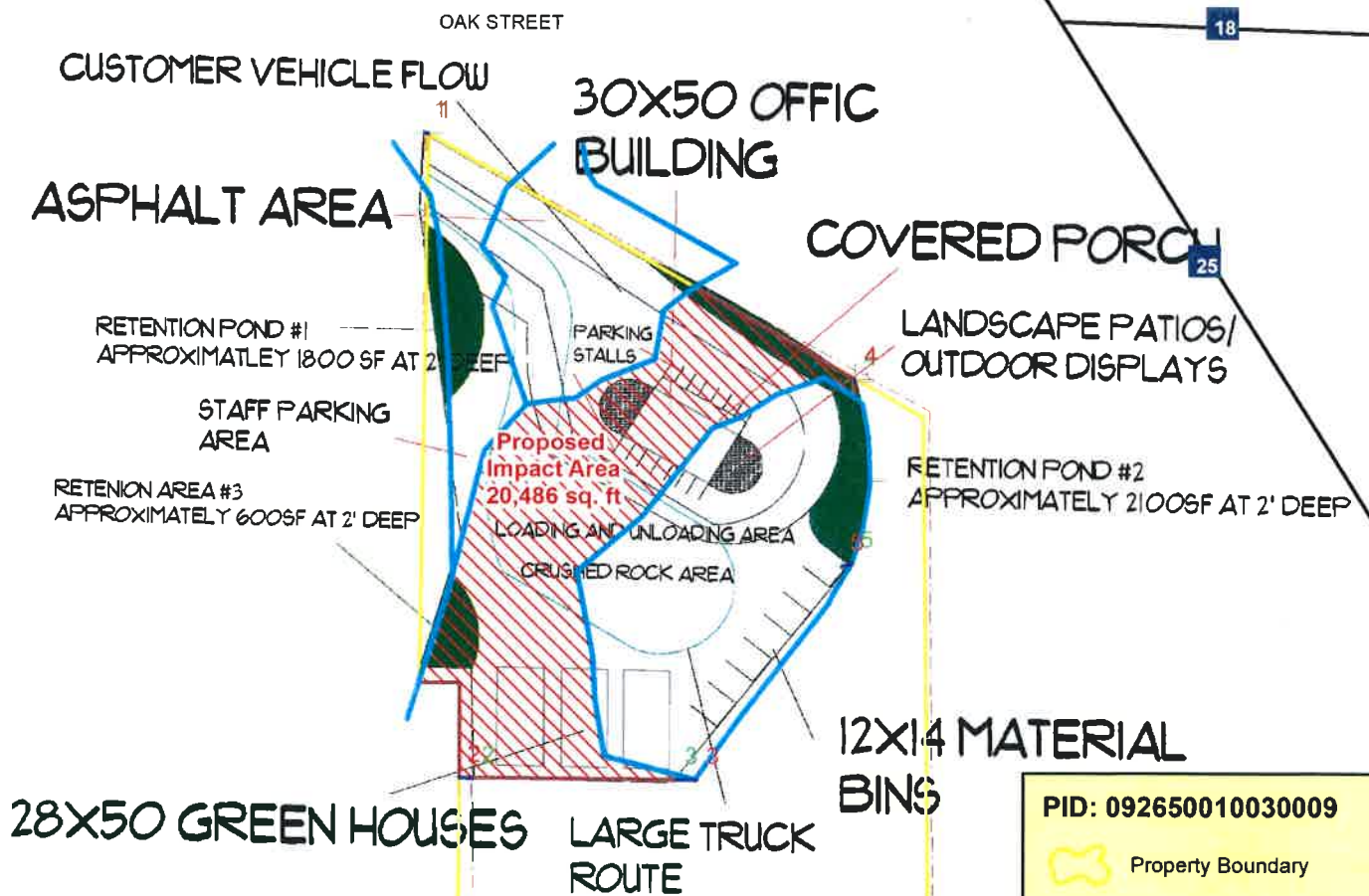
12X14 MATERIAL
BINS

28X50 GREEN HOUSES

LARGE TRUCK
ROUTE



Proposed Wetland Impacts Map: Jacobson



0 62.5 125 250 Feet

Jacobson Excavating and Landscaping, LLC.

Description of the business needs

We are planning to begin selling more retail goods along with our current services. We would like a high-volume traffic area with good exposure and enough space for ease of traffic flow in and out, loading and unloading delivery vehicles, storage bins for different varieties of mulch and soil, as well as outdoor displays and greenhouse space. Our business is currently east of town at our personal residence which doesn't allow us to sell retail goods, nor do we want to bring in extra traffic onto our property.

We looked at a parcel on 3 Mile Road and State Hwy 18. This lot is 5 acres but has an overhead powerline easement through the center of the property. It also does not have the controlled intersection we desire for traffic entering and exiting the business. The speed limit on State Hwy 18 is 60 MPH. We also looked at a lot on 2 Mile Road and State Hwy 18. This lot is a little less than an acre; it has the similar issue of access as the 3 Mile property. The additional issue with this site is that it sits in somewhat of a hole. Both these sites do not have the volume of traffic that the lot we are looking at does. With the retail idea we have these sites do not provide the exposure we would need to be successful. We did inquire about the lots on the NE corner of State Hwy 18 and 25. Rod Converse told us that they didn't have a price listed on those lots at that time as the owner was holding out for another big-name business like the Zeigler dealer just down the road. We did not look in other directions as we feel our business needs to be in this geographical area. This is the area we service, and we see a need for this type of business here.

I did some research on the turning radius of an 18-wheeler with a 62' wheel base. The turning radius is 45' creating the need for 90' at minimum to turn around. I would like the ability to do this behind the building. With the proposed retention ponds and customer traffic flow there would not be enough room to drive a semi around the building. I would also like to avoid turning that sharply on the asphalt. We currently have approximately 91' at the narrowest point between the greenhouse and parking stalls.

I met with the Mark Ostgarden and Paul Sandy from the City of Brainerd to review my site plan. They liked the traffic flow pattern around the building, number of parking spaces, black top area as well as the crushed rock surface. They had no issues with the storage bins, greenhouses, or their locations. The areas in question would be final siding/roofing materials and other basic construction details.

In regard to the stormwater on this site Paul Sandy explained their requirements to me. He explained that Anderson Brothers figures worst case scenario of a 6" rain event. With what I have proposed here is our proposed storage:

Total volume of retention ponds 4500 SF @3.5' deep= 15,750 Cubic feet.
Storage = 117,810 gallons

43,000 SF of impervious.

1" rain event equals-26,800 gallons

6" rain event equals-106,800 gallons

Thank you for your consideration. I hope you can see that we need and will make full use of the space we are requesting and that what we are planning to do will not only support a needed service in the area but will do it in a way that is responsible and sensitive to the impacts of the environment.



Landowner Statement and Contractor Responsibility For Work in Wetlands or Public Waters



MN Statutes Sections 103G.2212 and 103G.241 stipulate that an agent or employee of another may not:

- 1) drain, excavate, or fill a wetland, wholly or partially; or
- 2) construct, reconstruct, remove, or make any change in any reservoir, dam, or the course, current, or cross-section of any public water;

unless the agent or employee has obtained a signed statement from the property owner stating that any permit or wetland replacement plan required for the work has been obtained, or that a permit or replacement plan is not required; **AND** this statement is mailed to the appropriate office with jurisdiction over the wetland or public water prior to initiating the work (see next page for information on where to send this notification).

This form is a notification only and is not an application or authorization for any activities described in it.

1. PROJECT INFORMATION

Project will affect (check all that apply):

☐ Lake, Watercourse, or Public Waters Wetland ☐ Non-Public Waters Wetland ☐ Wetland of Unknown Jurisdiction

Address or description of project location (attach map if necessary):

Legal address

County	Gov't Lot(s)	Quarter Section(s)	Section(s)	Township(s)	Range(s)	Lot, Block, Subd.

Description of proposed work (include sketch and/or attach additional pages if needed):

--

2. LANDOWNER STATEMENT

I certify that, as the owner of the property listed on this form (check one):

- ☐ I have obtained all permits or approvals required to perform the work described above.
☐ No permits or approvals are required for this work.

Property Owner (Print Name)	Address	
Signature	Date	Phone Number and E-mail Address (Optional)

3. CONTRACTOR VERIFICATION

By signing below, I verify that I have received a signed copy of this form and will be performing the indicated work as described above.

Company and Individual Performing Proposed Work (Print)	Address	
Signature	Date	Phone Number and E-mail Address (Optional)

Note: The contractor is responsible for ensuring this form is mailed to the appropriate office when complete.

This statement is invalid if any of the above information is not supplied or is inaccurate. Work in violation of this notification requirement is a separate and independent offense from other violations of Minnesota Statutes chapter § 103G and is a misdemeanor punishable by fines up to \$1,000 and/or 90 days in jail. The State Department of Natural Resources (DNR) Commissioner also has the authority to require restoration of any work done without the necessary permits or approvals or work that is beyond what was authorized.

4. INFORMATION AND RESOURCES

A Wetland Conservation Act (WCA) replacement plan is required for any wetland draining, excavation, or filling activity that is not exempt under Minnesota Rules Chapter 8420.0420. A DNR Waters permit is required for any work in public waters.

National wetland inventory maps are available for review at the County Soil and Water Conservation District (SWCD) office and online at <http://www.fws.gov/wetlands/Data/Mapper.html>. Many wetlands are not identified on the maps but are still restricted from draining, excavating, or filling. If you are unsure the proposed work will affect a wetland, contact your local government unit (LGU) or SWCD for assistance.

Public Waters of the State of Minnesota include the channel to the top of the channel bank for watercourses and the basin from the ordinary high water level waterward for public waters (i.e. lakes) and public waters wetlands. Public waters inventory maps are available for review at the County Auditor's office, DNR Division of Waters regional offices, and online at http://www.dnr.state.mn.us/waters/watermgmt_section/pwi/download.html.

General information about public waters, wetlands, and related regulations are available on the DNR website at <http://mndnr.gov> and the MN Board of Water and Soil Resources (BWSR) website at <http://www.bwsr.state.mn.us>.

5. WHERE TO SEND THIS NOTIFICATION

- For work in public waters (lake, watercourse, or public waters wetland), send this completed form to the DNR Regional Enforcement Office serving the project's area. See below for DNR regional office information. A map of DNR regions can be found on the DNR website at: http://files.dnr.state.mn.us/aboutdnr/dnr_regions.pdf
- For work in any wetland that is not a public waters wetland, send this completed form to the WCA LGU with jurisdiction over the project area. The LGU is usually the County or SWCD, except in urban areas the City is often the LGU. Contact any of these local governments or BWSR for assistance. BWSR also maintains a list of LGUs on its website at: <http://www.bwsr.state.mn.us/directories/WCA.pdf>.
- If it is not known if the wetland is a public waters wetland, send the completed form to both the DNR Regional Enforcement Office and the WCA LGU.

Department of Natural Resources Regional Offices

Northwest Region: 2115 Birchmont Beach Rd. NE Bemidji, MN 56601 Phone: 218-308-2700	Northeast Region: 1201 E. Hwy. 2 Grand Rapids, MN 55744 Phone: 218-327-4455	Central Region: 1200 Warner Road St. Paul, MN 55106 Phone: 651-259-5800	Southern Region: 261 Hwy. 15 South New Ulm, MN 56073 Phone: 507-359-6000
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Keep a copy of this form for your records!

CAUTION



BLANDING'S TURTLES MAY BE ENCOUNTERED IN THIS AREA

The unique and rare Blanding's turtle has been found in this area. Blanding's turtles are state-listed as Threatened and are protected under Minnesota Statute 84.095, Protection of Threatened and Endangered Species. Please be careful of turtles on roads and in construction sites. For additional information on turtles, or to report a Blanding's turtle sighting, contact the DNR Nongame Specialist nearest you: Bemidji (218-308-2641); Grand Rapids (218-327-4518); New Ulm (507-359-6033); Rochester (507-280-5070); or St. Paul (651-259-5764).

DESCRIPTION: The Blanding's turtle is a medium to large turtle (5 to 10 inches) with a black or dark blue, dome-shaped shell with muted yellow spots and bars. The bottom of the shell is hinged across the front third, enabling the turtle to pull the front edge of the lower shell firmly against the top shell to provide additional protection when threatened. The head, legs, and tail are dark brown or blue-gray with small dots of light brown or yellow. A distinctive field mark is the bright yellow chin and neck.

**BLANDING'S TURTLES DO NOT MAKE GOOD PETS
IT IS ILLEGAL TO KEEP THIS THREATENED SPECIES IN CAPTIVITY**

Environmental Review Fact Sheet Series

Endangered, Threatened, and Special Concern Species of Minnesota

Blanding's Turtle (*Emydoidea blandingii*)

Minnesota Status: Threatened
Federal Status: none

State Rank¹: S2
Global Rank¹: G4

HABITAT USE

Blanding's turtles need both wetland and upland habitats to complete their life cycle. The types of wetlands used include ponds, marshes, shrub swamps, bogs, and ditches and streams with slow-moving water. In Minnesota, Blanding's turtles are primarily marsh and pond inhabitants. Calm, shallow water bodies (Type 1-3 wetlands) with mud bottoms and abundant aquatic vegetation (e.g., cattails, water lilies) are preferred, and extensive marshes bordering rivers provide excellent habitat. Small temporary wetlands (those that dry up in the late summer or fall) are frequently used in spring and summer -- these fishless pools are amphibian and invertebrate breeding habitat, which provides an important food source for Blanding's turtles. Also, the warmer water of these shallower areas probably aids in the development of eggs within the female turtle. Nesting occurs in open (grassy or brushy) sandy uplands, often some distance from water bodies. Frequently, nesting occurs in traditional nesting grounds on undeveloped land. Blanding's turtles have also been known to nest successfully on residential property (especially in low density housing situations), and to utilize disturbed areas such as farm fields, gardens, under power lines, and road shoulders (especially of dirt roads). Although Blanding's turtles may travel through woodlots during their seasonal movements, shady areas (including forests and lawns with shade trees) are not used for nesting. Wetlands with deeper water are needed in times of drought, and during the winter. Blanding's turtles overwinter in the muddy bottoms of deeper marshes and ponds, or other water bodies where they are protected from freezing.

LIFE HISTORY

Individuals emerge from overwintering and begin basking in late March or early April on warm, sunny days. The increase in body temperature which occurs during basking is necessary for egg development within the female turtle. Nesting in Minnesota typically occurs during June, and females are most active in late afternoon and at dusk. Nesting can occur as much as a mile from wetlands. The nest is dug by the female in an open sandy area and 6-15 eggs are laid. The female turtle returns to the marsh within 24 hours of laying eggs. After a development period of approximately two months, hatchlings leave the nest from mid-August through early-October. Nesting females and hatchlings are often at risk of being killed while crossing roads between wetlands and nesting areas. In addition to movements associated with nesting, all ages and both sexes move between wetlands from April through November. These movements peak in June and July and again in September and October as turtles move to and from overwintering sites. In late autumn (typically November), Blanding's turtles bury themselves in the substrate (the mud at the bottom) of deeper wetlands to overwinter.

IMPACTS / THREATS / CAUSES OF DECLINE

- loss of wetland habitat through drainage or flooding (converting wetlands into ponds or lakes)
- loss of upland habitat through development or conversion to agriculture
- human disturbance, including collection for the pet trade* and road kills during seasonal movements
- increase in predator populations (skunks, raccoons, etc.) which prey on nests and young

*It is illegal to possess this threatened species.

RECOMMENDATIONS FOR AVOIDING AND MINIMIZING IMPACTS

These recommendations apply to typical construction projects and general land use within Blanding's turtle habitat, and are provided to help local governments, developers, contractors, and homeowners minimize or avoid detrimental impacts to Blanding's turtle populations. **List 1** describes minimum measures which we recommend to prevent harm to Blanding's turtles during construction or other work within Blanding's turtle habitat. **List 2** contains recommendations which offer even greater protection for Blanding's turtles populations; this list should be used *in addition to the first list* in areas which are known to be of state-wide importance to Blanding's turtles (contact the DNR's Natural Heritage and Nongame Research Program if you wish to determine if your project or home is in one of these areas), or in any other area where greater protection for Blanding's turtles is desired.

List 1. Recommendations for all areas inhabited by Blanding's turtles.	List 2. Additional recommendations for areas known to be of state-wide importance to Blanding's turtles.
GENERAL	
A flyer with an illustration of a Blanding's turtle should be given to all contractors working in the area. Homeowners should also be informed of the presence of Blanding's turtles in the area.	Turtle crossing signs can be installed adjacent to road-crossing areas used by Blanding's turtles to increase public awareness and reduce road kills.
Turtles which are in imminent danger should be moved, by hand, out of harms way. Turtles which are not in imminent danger should be left undisturbed.	Workers in the area should be aware that Blanding's turtles nest in June, generally after 4pm, and should be advised to minimize disturbance if turtles are seen.
If a Blanding's turtle nests in your yard, do not disturb the nest.	If you would like to provide more protection for a Blanding's turtle nest on your property, see "Protecting Blanding's Turtle Nests" on page 3 of this fact sheet.
Silt fencing should be set up to keep turtles out of construction areas. It is critical that silt fencing be removed after the area has been revegetated.	Construction in potential nesting areas should be limited to the period between September 15 and June 1 (this is the time when activity of adults and hatchlings in upland areas is at a minimum).
WETLANDS	
Small, vegetated temporary wetlands (Types 2 & 3) should not be dredged, deepened, filled, or converted to storm water retention basins (these wetlands provide important habitat during spring and summer).	Shallow portions of wetlands should not be disturbed during prime basking time (mid morning to mid-afternoon in May and June). A wide buffer should be left along the shore to minimize human activity near wetlands (basking Blanding's turtles are more easily disturbed than other turtle species).
Wetlands should be protected from pollution; use of fertilizers and pesticides should be avoided, and run-off from lawns and streets should be controlled. Erosion should be prevented to keep sediment from reaching wetlands and lakes.	Wetlands should be protected from road, lawn, and other chemical run-off by a vegetated buffer strip at least 50' wide. This area should be left unmowed and in a natural condition.
ROADS	
Roads should be kept to minimum standards on widths and lanes (this reduces road kills by slowing traffic and reducing the distance turtles need to cross).	Tunnels should be considered in areas with concentrations of turtle crossings (more than 10 turtles per year per 100 meters of road), and in areas of lower density if the level of road use would make a safe crossing impossible for turtles. Contact your DNR Regional Nongame Specialist for further information on wildlife tunnels.
Roads should be ditched, not curbed or below grade. If curbs must be used, 4 inch high curbs at a 3:1 slope are preferred (Blanding's turtles have great difficulty climbing traditional curbs; curbs and below grade roads trap turtles on the road and can cause road kills).	Roads should be ditched, not curbed or below grade.

ROADS cont.	
Culverts between wetland areas, or between wetland areas and nesting areas, should be 36 inches or greater in diameter, and elliptical or flat-bottomed.	Road placement should avoid separating wetlands from adjacent upland nesting sites, or these roads should be fenced to prevent turtles from attempting to cross them (contact your DNR Nongame Specialist for details).
Wetland crossings should be bridged, or include raised roadways with culverts which are 36 in or greater in diameter and flat-bottomed or elliptical (raised roadways discourage turtles from leaving the wetland to bask on roads).	Road placement should avoid bisecting wetlands, or these roads should be fenced to prevent turtles from attempting to cross them (contact your DNR Nongame Specialist for details). This is especially important for roads with more than 2 lanes.
Culverts under roads crossing streams should be oversized (at least twice as wide as the normal width of open water) and flat-bottomed or elliptical.	Roads crossing streams should be bridged.
UTILITIES	
Utility access and maintenance roads should be kept to a minimum (this reduces road-kill potential).	
Because trenches can trap turtles, trenches should be checked for turtles prior to being backfilled and the sites should be returned to original grade.	
LANDSCAPING AND VEGETATION MANAGEMENT	
Terrain should be left with as much natural contour as possible.	As much natural landscape as possible should be preserved (installation of sod or wood chips, paving, and planting of trees within nesting habitat can make that habitat unusable to nesting Blanding's turtles).
Graded areas should be revegetated with native grasses and forbs (some non-natives form dense patches through which it is difficult for turtles to travel).	Open space should include some areas at higher elevations for nesting. These areas should be retained in native vegetation, and should be connected to wetlands by a wide corridor of native vegetation.
Vegetation management in infrequently mowed areas -- such as in ditches, along utility access roads, and under power lines -- should be done mechanically (chemicals should not be used). Work should occur fall through spring (after October 1 st and before June 1 st).	Ditches and utility access roads should not be mowed or managed through use of chemicals. If vegetation management is required, it should be done mechanically, as infrequently as possible, and fall through spring (mowing can kill turtles present during mowing, and makes it easier for predators to locate turtles crossing roads).

Protecting Blanding's Turtle Nests: Most predation on turtle nests occurs within 48 hours after the eggs are laid. After this time, the scent is gone from the nest and it is more difficult for predators to locate the nest. Nests more than a week old probably do not need additional protection, unless they are in a particularly vulnerable spot, such as a yard where pets may disturb the nest. Turtle nests can be protected from predators and other disturbance by covering them with a piece of wire fencing (such as chicken wire), secured to the ground with stakes or rocks. The piece of fencing should measure at least 2 ft. x 2 ft., and should be of medium sized mesh (openings should be about 2 in. x 2 in.). It is *very important* that the fencing be **removed before August 1st** so the young turtles can escape from the nest when they hatch!

REFERENCES

- ¹Association for Biodiversity Information. "Heritage Status: Global, National, and Subnational Conservation Status Ranks." NatureServe. Version 1.3 (9 April 2001). <http://www.natureserve.org/ranking.htm> (15 April 2001).
- Coffin, B., and L. Pfannmuller. 1988. Minnesota's Endangered Flora and Fauna. University of Minnesota Press, Minneapolis, 473 pp.

REFERENCES (cont.)

- Moriarty, J. J., and M. Linck. 1994. Suggested guidelines for projects occurring in Blanding's turtle habitat. Unpublished report to the Minnesota DNR. 8 pp.
- Oldfield, B., and J. J. Moriarty. 1994. Amphibians and Reptiles Native to Minnesota. University of Minnesota Press, Minneapolis, 237 pp.
- Sajwaj, T. D., and J. W. Lang. 2000. Thermal ecology of Blanding's turtle in central Minnesota. Chelonian Conservation and Biology 3(4):626-636.

Preventing Entanglement by Erosion Control Blanket

Plastic mesh netting is a common component in erosion control blanket. It is utilized to hold loose fibrous materials in place (EG straw) until vegetation is established. Erosion control blanket is being utilized extensively and is effective for reducing soil erosion, benefitting both soil health and water quality. Unfortunately there is a negative aspect of the plastic mesh component: It is increasingly being documented that its interaction with reptiles and amphibians can be fatal (Barton and Kinkead, 2005; Kapfer and Paloski, 2011). Mowing machinery is also susceptible to damage due to the long lasting plastic mesh.

Potential Problems:

- Plastic netting remains a hazard long after other components have decomposed.
- Plastic mesh netting can result in entanglement and death of a variety of small animals. The most vulnerable group of animals are the reptiles and amphibians (snakes, frogs, toads, salamanders, turtles). Ducklings, small mammals, and fish have also been observed entangled in the netting.
- Road maintenance machinery can snag the plastic mesh and pull up long lengths into machinery, thus binding up machinery and causing damage and/or loss of time cleaning it out.

Suggested Alternatives:

- Do not use in known locations of reptiles or amphibians that are listed as Threatened or Endangered species.
- Limit use of blanket containing welded plastic mesh to areas away from where reptiles or amphibians are likely (near wetlands, lakes, watercourses, or rock outcrops) or habitat transition zones (prairie – woodland edges, rocky outcrop – woodland edges, steep rocky slopes, etc.)
- Select products with biodegradable netting (preferably made from natural fibers, though varieties of biodegradable polyesters also exist on the market). Biodegradable products will degrade under a variety of moisture and light conditions.
- DO NOT use products that require UV-light to degrade (also called “photodegradable”) as they do not degrade properly when shaded by vegetation.

add bullet: Select BMP that does not contain plastic. EG disk anchoring

Solution: Most categories of erosion control blanket and sediment control logs are available in natural net options.

- Specify 'Natural Netting' for rolled erosion control products, per MnDOT Spec 3885. See Table 3885-1.
- Specify 'Natural Netting' for sediment control logs, per MnDOT Spec 3897



use: NT for category 0 (Table 3885-1)
use: 3N or 4N for Category 3 or 4 (Table 3885-3)

The plastic mesh component of erosion control blanket becomes a net for entrapment.

Literature Referenced

Barton, C. and K. Kinkead. 2005. Do erosion control and snakes mesh? Soil and Water Conservation Society 60:33A-35A.
Kapfer, J.M., and R.A. Paloski. 2011. On the threat to snakes of mesh deployed for erosion control and wildlife exclusion. Herpetological Conservation and Biology 6:1-9.

City of Brainerd Community Development Department

TO: Planning Commission

FROM: David Chanski, Community Development Director

DATE: July 15, 2020

RE: Harrison Elementary CUP Amendment

Reid Theisse, ISD #181 Director of Buildings and Grounds, has submitted a request on behalf of Independent School District #181 for an amendment to the Conditional Use Permit for Harrison Elementary School at 1515 Oak St., Brainerd, MN 56401.

This CUP amendment request is regarding the required boulevard trees along Oak St.

Findings of Fact

1. Harrison Elementary School is located in a R-2 (Medium Density Residential) District.
2. The operation of a school in a R-2 District is considered a conditional use per [Section 515-56-5.K](#) of the Code of Ordinances.
3. The current Harrison Elementary School CUP was approved by the City Council on April 1, 2019.
4. The current CUP has 3 conditions:
 - a. The lighting shall be no greater than 12' in height.
 - b. The applicant shall provide street trees of a species with a straight trunk and an upper canopy to frame the edge of Oak Street between the sidewalk and the curb in which the sidewalk will be moved 5' from the curb to accommodate the installation of trees.
 - c. Need to provide either a turnaround or easement across their property to allow access through the alley.
5. ISD #181 is requesting two changes to the second condition of the CUP:
 - a. Remove the requirement for boulevard trees in the sidewalk in front of the original building between 15th St. SE and vacated 16th St. SE.
 - i. Four mature trees are currently present on the school's property adjacent to the sidewalk line.
 - ii. The trees' canopies do hang over the right-of-way.
 - iii. It has been determined that there will be no need to remove these trees.
 1. At the time of CUP submittal in 2019, it was unknown whether these trees could be saved.
 - iv. ISD #181 does not intend to replace the section of sidewalk between 15th St. SE and vacated 16th St. SE at this time.

- b. Allow the boulevard trees in front of the new parking lot between vacated 16th St. SE and the residence at 1617 Oak St. be moved onto the school's property on the inside of the sidewalk.
 - i. This request is due to the fact that a CTC fiber optic line was found to run the length of that section of right-of-way, and there is a concern that the line could be cut during planting of trees or future tree growth may interfere with the line.
 - 1. Additionally, any maintenance to the line would likely result in damage to the trees.
 - ii. The 5' boulevard will still be seeded with grass and maintained by ISD #181.

As of this writing, a number of parties have contacted the Community Development Department with questions about this amendment request, but none have expressed concerns or objections to it.

Staff Opinion

Staff recommends approval of the CUP amendment request.

CERTIFICATION OF CONDITIONAL USE PERMIT

STATE OF MINNESOTA)
COUNTY OF CROW WING) ss.
CITY OF BRAINERD)

A meeting of the City Council of the City of Brainerd, Minnesota, was duly held at the Brainerd City Hall Chambers on the 1st day of April, 2019.

Upon roll call, the following members were noted present: Johnson, Hilgart, Lambert, Stunek, Bevans, Badeaux and Pritschet. Mayor Menk was also noted as present.

Conditional Use Permit – Request from Laine Larson, Superintendent ISD#181, 804 Oak Street, Brainerd on behalf of Brainerd Public Schools to construct an addition to Harrison Elementary School including but not limited to an addition to the school building, new parking and new playground. The properties included in this application are described as:

Lots 9, 10 and the East Half of Lot 8, all in Block 16, SLEEPER'S ADDITION TO THE CITY OF BRAINERD
PIN 09181016008A009 and 09181016009Z009

The West Half of Lot 8, and the South 60 feet of Lot 7, all in Block 16, SLEEPER'S ADDITION TO THE CITY OF BRAINERD
PIN 09181016007B009 and 09181016008B009

Township 45 Range 30 Section 30

Findings-of-Fact:

1. Upon rezoning from a B-2 Neighborhood Business District to an R-2 Medium Density Residential District, the operation of a school on the aforementioned properties is considered a conditional use per Section 515-56-5.K. of the Code of Ordinances.
2. The proposed addition meets the following criteria as required by the aforementioned section of the Code:
 - a. The site accesses a major collector.
 - i. The school is located on SE 15th Street between Oak and Norwood Streets
 - b. The site is landscaped in accordance with Section 20 of the Zoning Code.
 - i. The landscape plan has been reviewed by staff and deemed adequate
 - c. Off-street parking is provided in accordance with Section 22 of the Zoning Code.
 - i. The realignment of bus parking from Oak to Norwood Street in addition to a new parking lot constructed on Oak Street will provide sufficient off-street parking.
 - d. Off-street loading and service entrances are provided as regulated by Section 23 of the Zoning Code.
 - i. The provided off-street loading entrances are sufficient.
 - e. Emergency vehicle access is provided to and within the site.
 - i. There is sufficient access for emergency vehicles.
3. ISD#181 has submitted for the vacation of SE 16th Street between Oak and Norwood Streets.
4. ISD#181 has purchase agreements in place to acquire all the properties associated with this project that are not currently owned by the district.

Conditions:

- The lighting shall be no greater than 13' in height
- The applicant shall provide street trees of a species with a straight trunk and an upper canopy to frame the edge of Oak Street between the sidewalk and the curb in which the sidewalk will be moved 5' from the curb to accommodate the installation of trees.
- Need to provide either a turnaround or easement across their property to allow access through the alley.

Members Johnson, Hilgart, Bevans, Lambert, Stunek, Badeaux and Pritschet voted "aye". No member voted "nay". The Chair declared the motion carried.

(S E A L)

CASSANDRA TORSTENSON
City Administrator



City Planning Department

City Hall – 501 Laurel Street
 Brainerd, MN 56401
 218-828-2309/Fax 218-828-2316
www.ci.brainerd.mn.us

Receipt # _____
 Check # _____
 Date Paid: _____

CONDITIONAL USE/REZONING/VARIANCE APPLICATION

	RESIDENTIAL	COMMERCIAL
CONDITIONAL USE PERMIT	☐ (\$250.00)	☐ (\$400.00 + \$500.00 escrow deposit)
REZONING	☐ (\$300.00)	☐ (\$500.00)
VARIANCE	☐ (\$250.00)	☐ (\$400.00 + \$500.00 escrow deposit)

PROPERTY ADDRESS: 1515 Oak St, Brainerd, MN 56401

LEGAL DESCRIPTION: Lot(s): 8-10 Block: 16 Addition: Sleeper's Addition
 (attach description if lengthy)

Property Owner Name: ISD 181 - Brainerd Public Schools

Street Address: 804 Oak St City: Brainerd State: MN Zip Code 56401

Phone Number: 218-464-6906 Fax: _____ E-mail: reid.thiesse@isd181.org

Applicant Name: (If different than Property Owner) _____

Street Address: _____ City: _____ State: _____ Zip Code: _____

Phone Number: _____ Fax: _____ E-mail: _____

Description of Request: To ammend the CUP Conditions to allow for trees along Oak St to be either removed from the CUP plan because of the original trees being salvaged on site or to allow for the required trees to be planted on the north side of the Oak St sidewalk. In addition, the trees on the south side of the proposed parking lot located in the space between the sidewalk and Oak St are shown on the plans but are located over a CTC fiber duct bank. Request would be to relocate them to the north side of the sidewalk closer to the parking lot.

Reid Thiesse

Digitally signed by Reid Thiesse
 Date: 2020.07.01 13:07:15 -05'00'

Property Owner Signature

07/01/2020

Date

Reid Thiesse

(Please print name)

Reid Thiesse

Digitally signed by Reid Thiesse
 Date: 2020.07.01 13:07:51 -05'00'

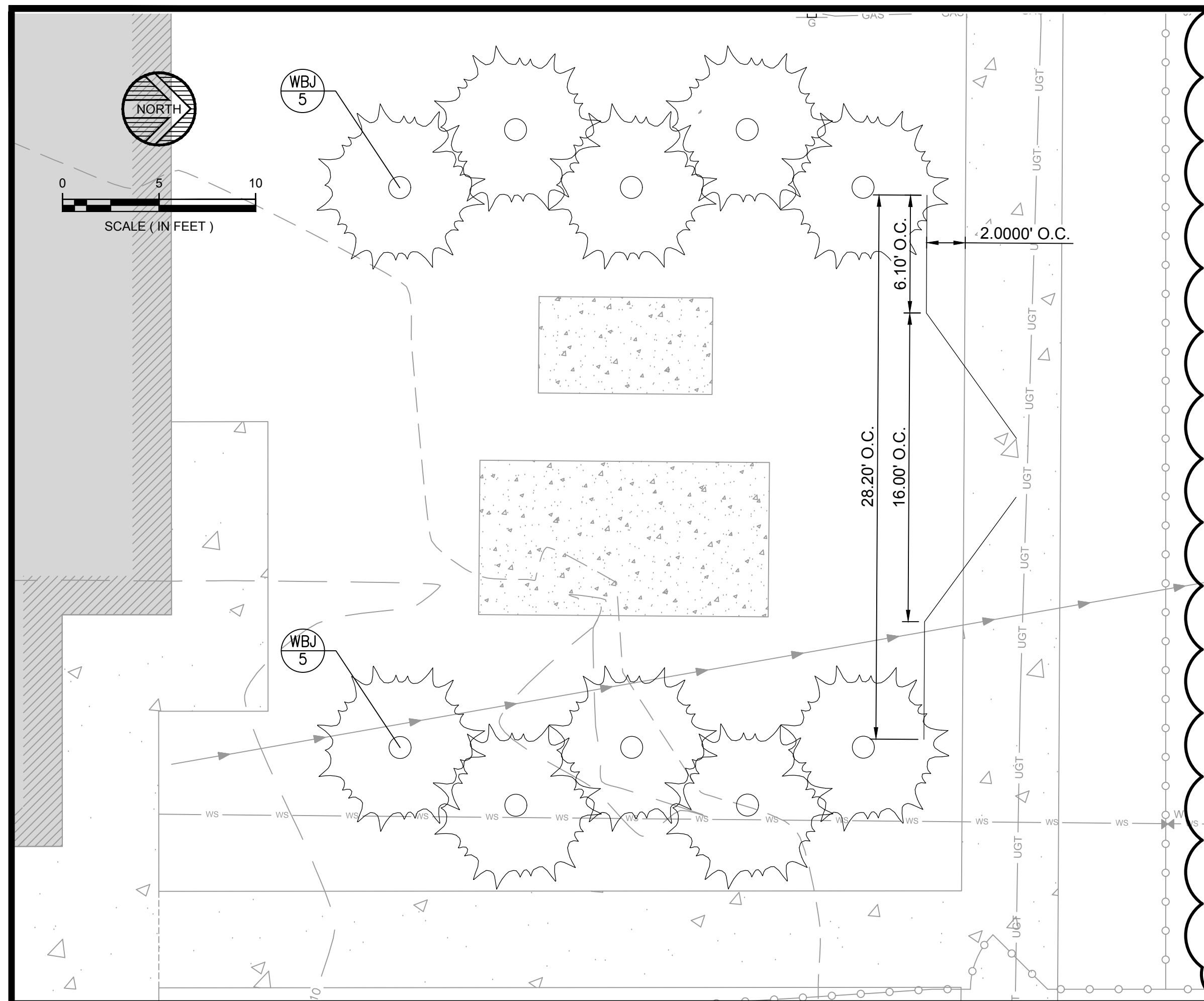
Applicant Signature

07/01/2020

Date

Reid Thiesse

(Please print name)



PLANT SCHEDULE						
ITEM	SYM	COMMON NAME	BOTANICAL NAME	QTY	MAX SIZE	ROOT
Deciduous Tree	NAH	Northern Acclaim Honeylocust	Gleditsia triacanthos var. inermis 'Harve'	3	H: 35-45' W: 30-35'	Ball
	BL	Boulevard Linden	Tilia americana 'Boulevard'	2	H: 60' W: 30'	Ball
	EHH	Eastern Hop Hornbeam	Ostrya virginiana	5	H: 30-50' W: 25'	Ball
Coniferous Tree	WBJ	Wichita Blue Juniper	Juniperus scopulorum 'Wichita Blue'	10	H: 18' W: 8'	Cont.
Shrub	MF	Meadowlark Forsythia	Forsythia 'Meadowlark'	6	H: 8-10' W: 6-10'	5 Gal.
	AJN	First Editions Amber Jubilee Ninebark 'Jefam'	Juniperus scopulorum 'Wichita Blue'	3	H: 18' W: 8'	Cont.
Perennial	MJ	Maney Juniper	Juniperus Chinensis 'Maney'	8	H: 4-6' W: 5-6'	Cont.
	LB	Blue Heaven Little Bluestem	Schizachyrium scoparium 'MinblueA'	20	H: 4-5' W: 24-30"	Cont.
	BES	Black Eyed Susan	Rudbeckia Fulgida 'Goldstrum'	10	H: 24-30" W: 24-30"	Cont.

- SYMBOLS LEGEND**
- | | | | |
|--|---|--|--|
| | SHADE TREE
NORTHERN ACCLAIM
HONEYLOCUST | | SHRUB
MEADOWLARK FORTSYTHIA |
| | SHADE TREE
BOULEVARD LINDEN | | SHRUB
AMBER JUBILEE NINEBARK |
| | SHADE TREE
EASTERN HOP HORNBEAM | | PERENNIAL
BLUE HEAVEN LITTLE BLUESTEM |
| | CONIFEROUS TREE
WICHITA BLUE JUNIPER | | PERENNIAL
BLACK EYED SUSAN |
| | SHRUB
MANEY JUNIPER | | |

- | | |
|--|------------------------------|
| | HARDWOOD MULCH |
| | BLUEBERRY
DELIGHT JUNIPER |

- PLANT SYMBOL (SEE SCHEDULE)
QUANTITY, THIS LOCATION

LANDSCAPE PLANTING REQUIREMENTS:
BASE REQUIREMENTS:

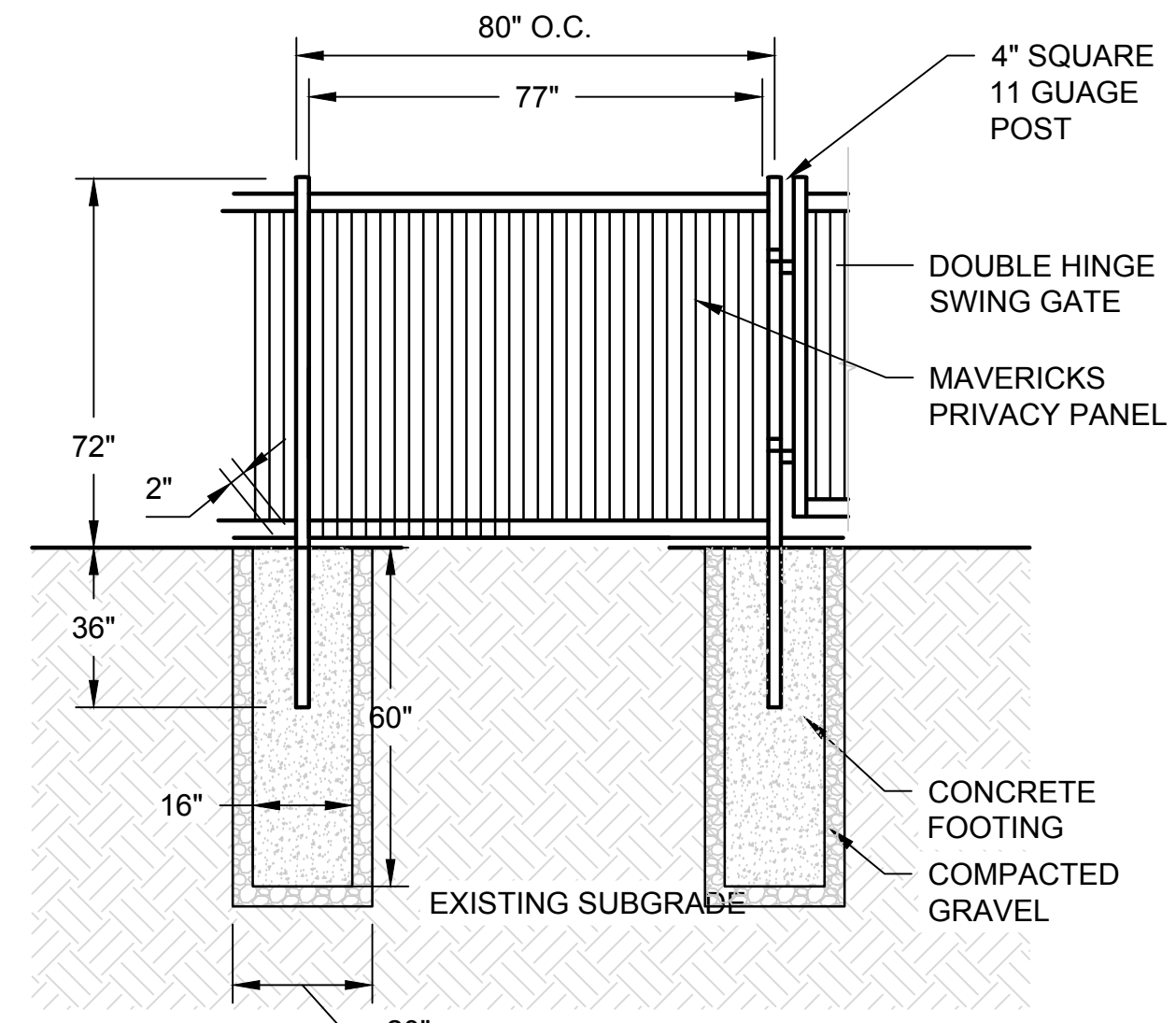
OVERSTORY TREES

1 TREE/ 3000 SF OF GREEN SPACE
-75,000 SF = 25 TREES
-10 EXISTING TREES = 10 TREES

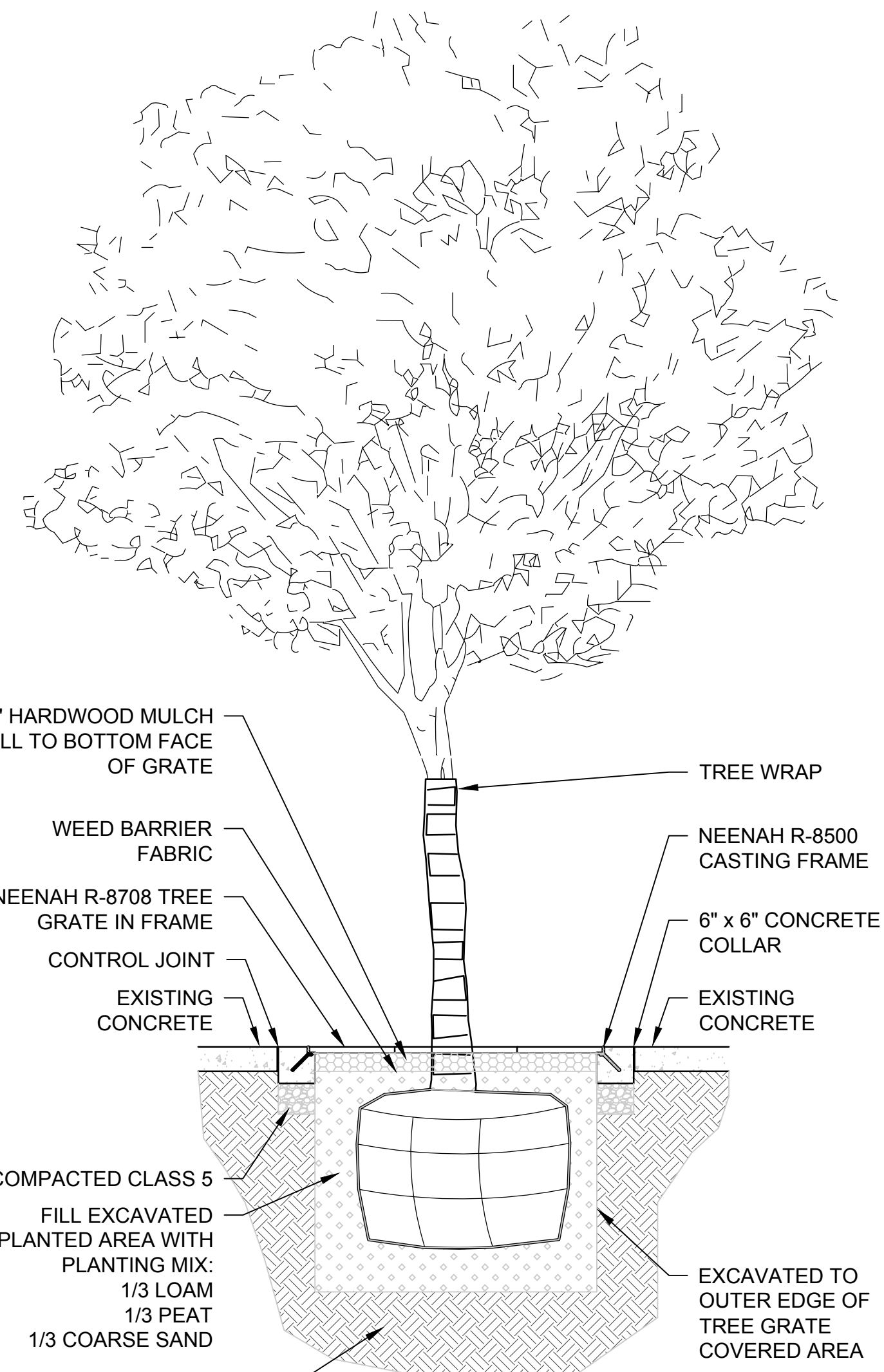
PARKING LOT REQUIREMENTS

1 TREE/ 10 PARKING SPACES
- NA = NA

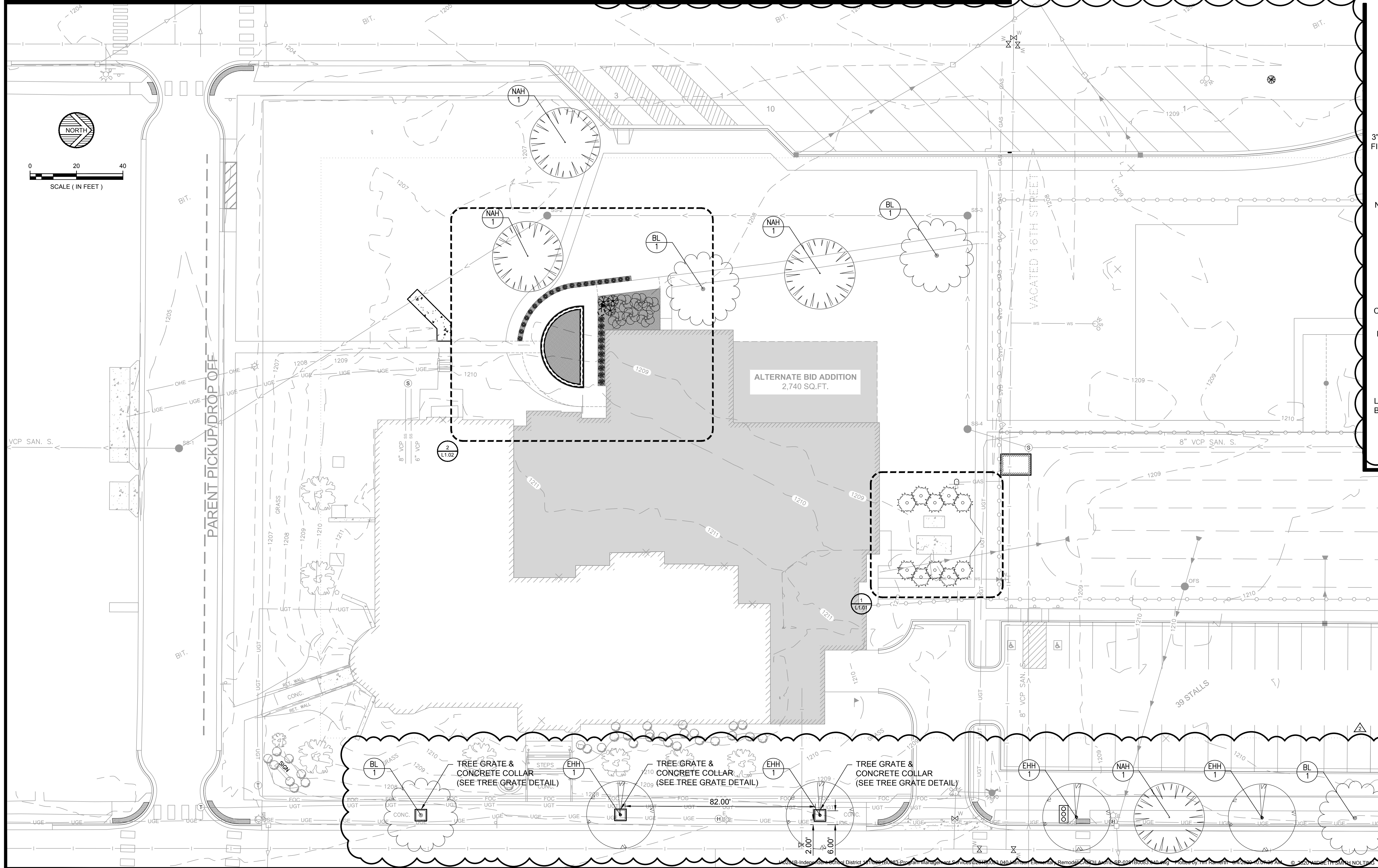
TOTAL TREES REQUIRED = 25
EXISTING TREES = 10
PROPOSED TREES = 15



FENCE DETAIL
SCALE: NONE



TREE GRATE DETAIL
SCALE: NONE



Project Name:



HARRISON
ELEMENTARY
SCHOOL
ADDITION &
REMODEL

Project Location:
1515 OAK
STREET
BRainerd, MN.

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THESE DOCUMENTS HAVE BEEN PREPARED SPECIFICALLY FOR THE PROJECT ONLY. THEY
ARE NOT TO BE REPRODUCED OR USED FOR ANY OTHER PROJECTS OR IN ANY MANNER WITHOUT
THE EXPRESS WRITTEN APPROVAL AND REPERATION OF ICS Consulting.

MARK	DATE	REVISION
△	3/26/19	ADDENDA NO. 2

I hereby certify that this plan, specification,
or report was prepared by me or under my
direct supervision, and that I am a duly
Licensed Professional Engineer under the
State of Minnesota.

Signature:
Printed Name: TIMOTHY T. RAMERTH
Date: 02/21/2019 Reg. No: 41956

Project Information:
Project No.: 028180083.040
Drawn By: RSH
Checked By: TTR
Date: FEBRUARY 2019
File Name:

Sheet Title:
LANDSCAPE PLAN

Sheet Number:
L1.01



07/07/2020 09:53



WHERE
EVERYBODY

**HARRISON
ELEMENTARY**

07/07/2020 09:55

NOTICE OF HEARING

TO WHOM IT MAY CONCERN:

Notice is hereby given that Reid Theisse, ISD #181 Director of Buildings and Grounds, has submitted a request on behalf of Independent School District #181 for an amendment to the Conditional Use Permit for Harrison Elementary School at 1515 Oak St., Brainerd, MN 56401. This CUP amendment request is regarding the required boulevard trees along Oak St. The property is legally described as:

*Lots 8 through 10 Block 16, Sleeper's Addition to the City of Brainerd
P.I.N. 41300599
Section 30, Township 45, Range 30*

The property is zoned R-2 (Medium Density Residential) District. A copy of the proposed site plan is on file for review with the Community Development Department.

A Public Hearing to consider this Conditional Use Permit amendment request will be conducted by the Brainerd Planning Commission at 6:00 p.m. on Wednesday, July 15, 2020 in the Brainerd City Council Chambers located 501 Laurel St., Brainerd, MN 56401.

Any individual needing special accommodations or would like more information about this request, please call (218) 828-2307.

Dated this 1st day of July 2020

Publication Date: July 5, 2020



David C. Chanski, MPA
Community Development Director

City of Brainerd
Request for Proposals and Qualifications
For Zoning Code Update Services

I. Summary

The City of Brainerd, Minnesota (the “City”) is seeking professional planning services (the “Consultant”) to lead the City in updating its zoning code. The City desires an approach that takes its current more traditional zoning standards and updates them in a way that specifically speaks to the unique character of the City’s neighborhoods and commercial corridors with an emphasis on in-fill and mixed-use development and redevelopment. The final product must be an innovative, intuitive, highly-illustrative, and user-friendly code that will implement the vision City’s comprehensive plan, which was updated and adopted by the City Council in October 2019.

Proposals must be received by the City no later than 4:30p.m. on Friday, August 14, 2020 and should be addressed to:

City of Brainerd
Attn: David Chanski
501 Laurel St.
Brainerd, MN 56401

Submit three (3) copies of the proposal in a sealed mailing envelope, or package, with the responder’s name and address written on the outside. The envelope, or package, must be clearly identified with “Zoning Code RFP” on the outside. At least one copy of the proposal must be signed in ink by an authorized member of the firm. **Prices and terms of the proposal as stated must be valid until December 31, 2020, and for the length of any resulting contract.** The City is not bound to enter into a contract with any respondent and may delay entering into a contract with any respondent for up to 4 months.

II. General Information

Incorporated in 1873 along the banks of the Mississippi River, the City of Brainerd is chartered, home rule city located in and is the seat of Crow Wing County, serves as the economic and social hub for the 5 region area of Crow Wing, Cass, Morrison, Todd, and Wadena counties, and is approximately 100 miles from the Twins Cities. The City has an area of approximately 8.4 square miles and a population of approximately 13,465. The City’s zoning code last underwent a significant update in 2008, and a major comprehensive plan update was adopted by the City Council in October 2019.

The majority of the City was developed prior to 1950, with much of the existing commercial and residential architecture as well as platting dating back to the late 1800’s.

While the City's planning commission dates back to the late 1950's, it did not have a dedicated planning operation until 1980's when it hired its first city planner. Due to these factors, much of the community does not conform to most traditional zoning standards. As such, the City is seeking an approach that reacts to the unique character of the City's neighborhoods and commercial corridors. Additionally, as the City is almost entirely built out, an emphasis on in-fill and mixed-use development and redevelopment is desired.

The City's zoning code can be found at: <http://ci.brainerd.mn.us/212/Zoning-Code>

The City's comprehensive plan can be found at:
https://www.ci.brainerd.mn.us/DocumentCenter/View/5324/Brainerd_ComprehensivePlan

III. Content of Proposal

The purpose of this section is to identify the information that should be submitted:

A. Title Page

Show the proposal subject, the name of the consultant's company, address, telephone number, email, name of the contact person, and the date.

B. Table of Contents

Include a clear identification of the material by section and by page number

C. Identification and Qualifications of Assigned Personnel

The ideal consultant (a company or individual) should have extensive experience in updating municipal zoning codes with an emphasis on form-based zoning and preservation of historical architecture. Include the following:

1. The names, qualifications, and resumes of the person(s) who will be responsible for the implementing the zoning code update.
2. Background information concerning the consultant, including the number of years in business under this name and the number and breakdown of personnel in the proposing office.

D. Consultant's Detailed Approach to the Scope of Services

The proposal shall address in detailed fashion the approach of the consultant to the Scope of Work.

E. Basis for Compensation

The consultant should outline the basis for compensation including identification of all rates and reimbursable expenses.

F. List of References and Potential Conflicts

1. A list of public clients shall be provided.
2. Potential conflicts of interest must be disclosed

G. Disclosures and Assurances

1. Applicant Authority – Assurance that the signatory making representations in the proposal on behalf of the consultant has the authority to do so.
2. Insurance Coverage – Documentation of current insurance coverage and limits, including professional liability insurance shall be provided with the proposal.

IV. Scope of Work

The finished product should be a complete repeal and replace – entirely or in part – of the zoning code. The new code must be intuitive, highly-illustrative, and user-friendly. While the entirety of the zoning code shall be under review, specific attention should be focused on reducing the City’s 18 zoning districts into compact mixed-use districts that speaks to the unique character of each neighborhood and commercial corridor.

The Scope of Work should include the items listed below. City staff will work with the selected consultant to establish specific times lines, budget and deliverables for the project. The Consultant shall be responsible for writing the new zoning code, as well as providing guidance on best practices and trends, and checking assumptions.

A. Diagnose Current Zoning Code

- Review current code for inconsistencies and conflicts with best practices and trends.
- Review the 2035 Comprehensive Plan. The Consultant will identify goals, recommendations, and implementation strategies, to ensure the new code is consistent with the Comprehensive Plan.
- Develop recommendation for the use of form-based elements within the code.
- Evaluate existing zoning districts and compare to the unique characteristics and needs of each neighborhood and commercial corridor.
- Propose timeline for the completion of the new code, including if such policies such as development moratoriums should be put into place during the update process.

B. Internal and External Outreach

- Conduct input and process update sessions with internal stakeholders including but not limited to the City Council, Planning Commission, and Housing & Redevelopment Authority.
- Develop and executive plan for informing and receiving input from the Brainerd community.

C. Draft Document

- Prepare drafts of the zoning ordinance, including graphics for review by staff, culminating in a final version to be presented to acted upon by the Planning Commission and City Council.

D. Implementation

- Work with City staff to make the new code interactive and accessible to the public.
- Work with City staff to develop informational campaign regarding major changes to the code.

V. Selection

The City of Brainerd reserves the right to reject any or all proposals and is not bound to accept the lowest cost proposal if that proposal is contrary to the best interest of the City. All proposals shall be considered valid until December 31, 2020.

Selection of the company or individual shall be based upon, but not limited to, the following criteria:

- The consultant's approach to and understanding of the Scope of Work.
- The consultant's experience with similar contracts and clients.
- The experience and qualifications of the proposed staff in providing similar services.
- The extent to which previous clients have found the consultant's services acceptable.
- The consultant's most significant qualifications for this project.
- Previous City experience with the consultant, if any.

VI. Terms and Conditions

- A. The City of Brainerd reserves the right to cancel or amend the request for proposals at any time. The City reserves the right to determine the successful respondent. The City reserves the right to reject any or all proposals.
- B. The City of Brainerd will not be liable for any costs incurred by the company or individual responding to this request.
- C. The company or individual shall not assign any interest in this proposal and shall not transfer any interest in the same without the prior written consent of the City of Brainerd.
- D. For the purposes of this agreement, the consultant shall be deemed to be an independent contractor, and not an employee of the organization. Any and all agents, servants, or employees of the firm or other persons, while engaged in the performance of any work or services required to be performed by the City of Brainerd under this agreement, shall not be considered employees of the City of Brainerd and any and all

actions which arise as consequence of any act or omission on the part of the consultant, its agents, servants, employees or other persons shall in no way be the obligation or responsibility of the City of Brainerd. The consultant, its agents, servants, or employees shall be entitled to none of the rights, privileges, or benefits of the organization employees except as otherwise may be stated herein.

- E. No official or employee of the City of Brainerd who exercise any responsibilities in the review, approval or carrying out of the proposal shall participate in any decision which affects his or her direct or indirect personal or financial interest.

Form-Based Codes: A Step-by-Step Guide for Communities



Acknowledgements

Special thanks to:

Daniel and Karen Parolek, *Opticos Design, Inc.*

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Heather Smith, *Congress for the New Urbanism*

Krysti Barksdale-Noble, *United City of Yorkville*

Jeff Brady, *Village of Glenview*

Robert Cole, *Village of Oak Park*

Kimberly Flom, *Village of Orland Park*

Bryan Gay, *City of Crest Hill*

Scott Magnum, *Village of Des Plaines*

David Mekarski, *Village of Olympia Fields*

Dustin Nilsen, *Village of Antioch*

Jeff O'Brien, *Village of Downers Grove*

Kimberly Stone, *Village of Lockport*

Additional thanks to the following firms for permission to use images of their work:

Dover, Kohl & Partners

Farr Associates

Ferrell Madden/Code Studio

The Lakota Group

Moule & Polyzoides, Architects and Urbanists

Teska Associates

Torti Gallas and Partners

Urban Advantage

Urban Design Associates



Chicago Metropolitan
Agency for Planning

The Chicago Metropolitan Agency for Planning (CMAP) is the region's official comprehensive planning organization. Its GO TO 2040 planning campaign is helping the region's seven counties and 284 communities to implement strategies that address transportation, housing, economic development, open space, the environment, and other quality of life issues.

See www.cmap.illinois.gov for more information.

Endorsed by

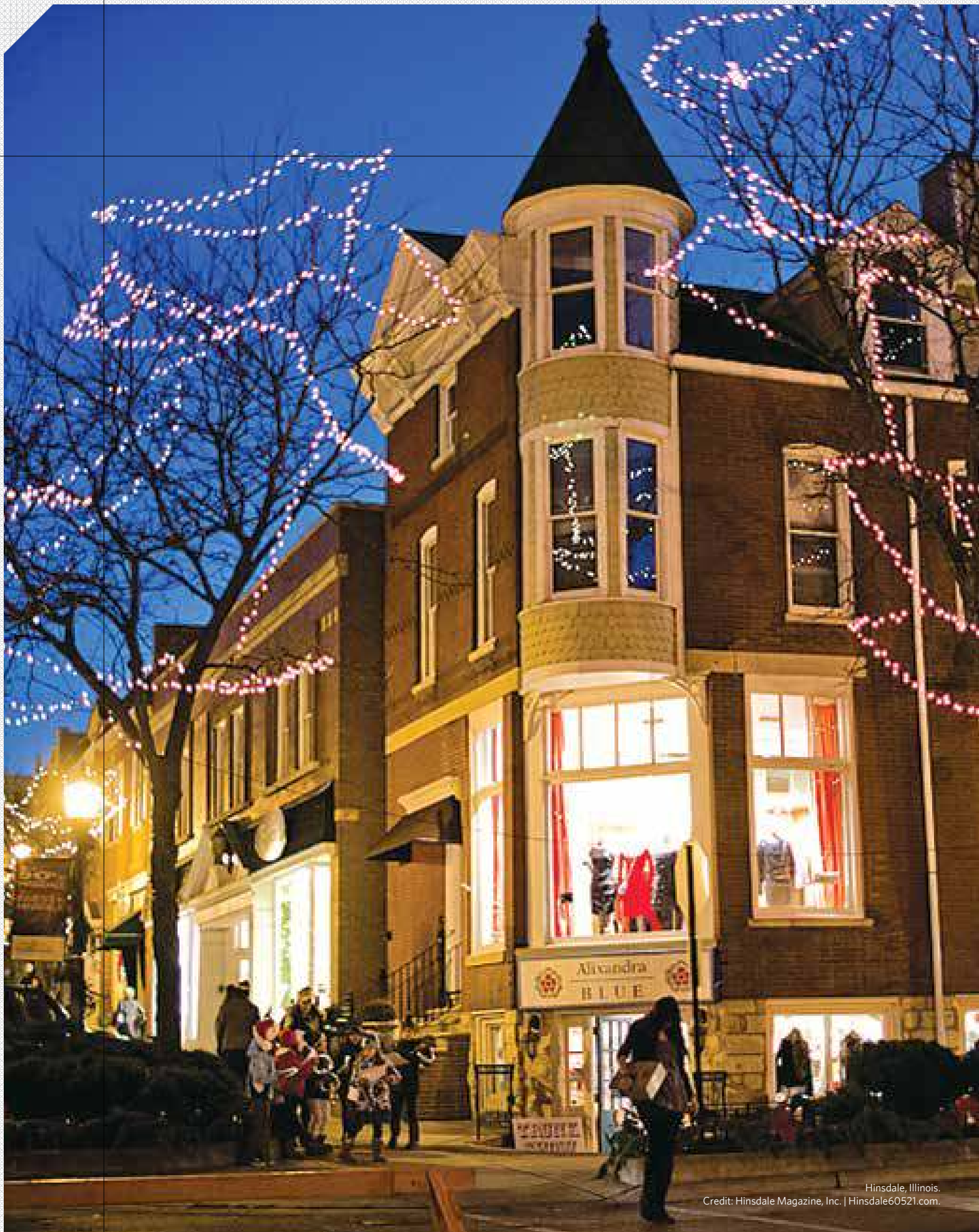


The Form-Based Codes Institute (FBCI) is a non-profit professional organization dedicated to advancing the understanding and use of form-based codes. FBCI pursues this objective through three main areas of action: developing standards for form-based codes, providing education, and creating a forum for discussion and advancement of form-based codes.

See www.formbasedcodes.org for more information.

Table of Contents

Purpose of Handbook	5
GO TO 2040	5
Who Should Use This Handbook?	5
Introduction: What are Form-Based Codes?	7
Conventional Zoning	8
Form-Based Codes	9
Should Your Community Adopt a Form-Based Code?	11
Different Methods	12
Step One: Scoping	15
Who Should Be Involved?	16
Define Your Form-Based Codes Area	16
Planning Process	16
Relationship with Existing Regulations	17
Organizing Principle	17
Template Codes	18
Step Two: Assessing Existing Conditions	21
Community Sub-Areas	22
Smaller Scale Details	23
Step Three: Visioning and Creating Regulations	25
Engaging the Community	26
Explaining and Illustrating the Zoning Districts	27
Creating the Regulating Plan and Zoning District Regulations	33
Optional Components That May be Included in a Form-Based Code	37
Creating the Development Review Process	40
Conclusion	43
Learn More	44



Hinsdale, Illinois.
Credit: Hinsdale Magazine, Inc. | Hinsdale60521.com.

Purpose of Handbook

One of the central goals of the GO TO 2040 comprehensive regional plan is to make our region a better place to live. This means creating livable communities at the local level through planning and development decisions made by local government officials, developers, and individuals. This handbook provides a step-by-step guide to form-based codes, an alternative approach to zoning.

GO TO 2040

GO TO 2040 states that defining “livability” is a challenge simply because people’s values and priorities are so diverse. However, when residents across the region describe their values and priorities, certain commonalities of livability emerge. Livable communities are healthy, safe, and walkable. Livable communities offer transportation choices that provide timely access to schools, jobs, services, and basic needs. Livable communities are imbued with strength and vitality, features which emerge from preserving the unique characteristics that give our diverse communities “a sense of place.”

GO TO 2040 states that the building blocks of local planning are comprehensive plans, consistent ordinances and other regulations, and trained decision-makers. Local comprehensive plans are the vision of what a community wants to become and the steps needed to meet that goal. Most communities find that a first necessary step to implement a comprehensive plan is to update their zoning ordinance.

As communities have sought to reinvigorate their downtowns or create viable commercial corridors, many have found that conventional methods of zoning, oriented around regulating land use, may not address certain physical characteristics that contribute to the sense of place in a community. While it is important to consider which uses should occur in a given place, we live in a visual world, and conventional methods of zoning often do not sufficiently address the fundamental aesthetic character of our communities — existing or desired.

Form-based codes, which emphasize the physical character of development, offer an alternative. This handbook explains what form-based codes are and how they are created to help communities assess whether they may be right for them.

Who Should Use This Handbook?

Most communities lack the staff expertise and time necessary to develop a form-based code on their own and therefore choose to hire consultants to lead the effort and perform most of the work.

However, it is vital that municipalities understand the scope of work that is required in the creation of a form-based code. Municipalities that educate themselves on the typical steps that are necessary will be in a better position to gauge the amount of outside assistance that is needed (and the amount of funding that will be required), write a more precise request for proposals (RFP), and evaluate consulting firms bidding for the project. Once the development of the form-based code is underway, well-informed municipal staff can better facilitate the process and monitor the work of hired consultants.

Municipal staff will be responsible for administering the new form-based code once it is adopted, and possessing an understanding of how it was created is likely to provide a more nuanced appreciation of the reasons behind the regulations, as well as the amount of hard work that went into its creation.

Introduction

What are Form-Based Codes?

Nearly everyone can identify things they like in their community and things they want to change. Whether a favorite house, street, or place, it's common to wonder why there isn't more of what we like and less of what we don't.

There are many reasons for this dissatisfaction with the physical character of many of our communities, especially the quality of the public realm. One reason is that conventional methods of zoning, which are focused on what uses are permitted, have often shaped the form of the built environment in unintended—and occasionally unwanted—ways.

Form-based codes include specification of what uses are permitted in a building or place, but focus on the physical character of development, particularly how it relates to the public realm that everyone shares. A growing number of communities across the country and in our region have found that form-based codes are a more precise and reliable tool for achieving what they want, preserving what they cherish, and preventing what they don't want.



Chicago suburbs from the air.
Credit: Flickr user Shawndra and Simon.

Conventional Zoning

Conventional methods of zoning arose out of the need to protect public health, safety, and welfare by preventing the most negative impacts of siting, size, and use of buildings. Limiting the spread of fire from one building to another, providing access to sunlight and air, and separating smoke-producing industry from residential uses are but a few of the worthy objectives that conventional zoning was intended to fulfill.

In addition to helping protect public health, safety, and welfare, conventional zoning was meant to protect property values by separating incompatible uses in a particular area or district. This separation is typically accomplished by creating single- or limited-use zones that segregate different land uses, such as residential and commercial.

Fueled in part by rapid national growth in population and gross domestic product that followed the end of World War II, the practice of separating “incompatible” land uses led to the near universal segregation of different land uses—often at great distance from one another. As a result, cities and towns have increasingly been placing residential uses in one area, commercial in another, and industrial in still another.

In particular, conventional zoning tends to isolate single-family homes from all other types of development. The development resulting from such zoning requirements often makes it difficult, if not impossible, to walk from home to purchase a quart of milk. Public transportation has become increasingly less efficient in these areas, and travel by personal automobile has often made more sense. Accordingly, maximizing the flow of traffic has been a top priority for street design, which has increasingly yielded streets designed for car travel, not pedestrians.

Over the decades, these and other related factors shaped the urban environment of many communities. Often a community’s unique “sense of place” has been diminished—or, in many new communities, was never achieved in the first place.

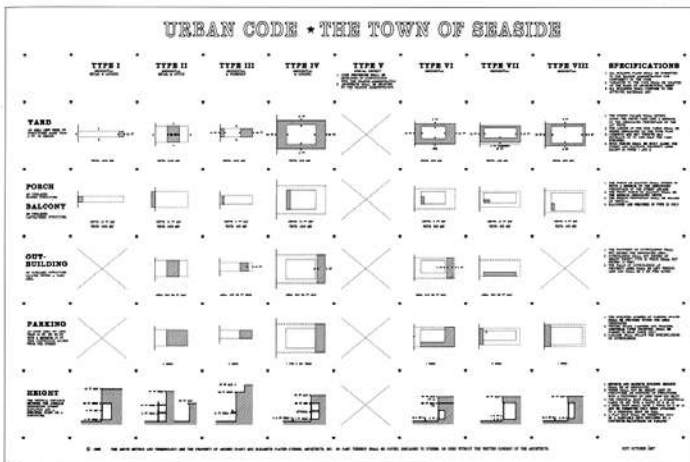
In general, conventional zoning:

- Separates uses related to daily activity, such as home, school, and work.
- Frequently promotes low-density development and relatively limited housing choices.
- Often encourages excessive land consumption and automobile dependency.
- Ends up focusing on what uses are not allowed, rather than encouraging what the community actually wants.
- Applies standards and design requirements generically, in a “one-size-fits-all” manner, throughout the entire community.
- Uses regulations such as floor area ratio, which can shape the form of development in ways that are hard to visualize beforehand and may encourage developers to “max out” the massing of a building within allowed limits, often at the expense of its architectural detailing and sensitivity to existing context.
- Regulates private development, but typically not the design or character of the streets that serve it. This usually leaves development of standards to the city engineer or public works department, which tend to focus on accommodating automobile traffic.

Ultimately, development and street standards in conventional zoning often do not promote the type of development envisioned by a community’s comprehensive plan, and even when created with the best of intentions, they can undermine the very plans they are supposed to support.

Form-Based Codes

In the 1980s, a group of planners and architects sought to create an alternative to conventional zoning, focused less on use and more on scale, intensity of development, the shape of public spaces, and the interrelationships between buildings. During this period, the design firm Duany Plater-Zyberk & Company drafted what was effectively the first modern form-based code to guide the development of Seaside, Florida, a new community based on traditional neighborhood design principles. A radical departure from conventional zoning, the entire “Urban Code” for Seaside was graphically presented on one poster.



Urban Code (1986), Town of Seaside, Florida.
Credit: Duany Plater-Zyberk & Company.

But what are form-based codes? Form-based codes are a method of development regulation, adopted into municipal or county law, that emphasizes the physical character of development (its form) and includes—but often de-emphasizes—the regulation of land uses. As in a conventional zoning ordinance, land uses are regulated, but land use is typically regulated more broadly, with land use categories in lieu of long lists of specific permitted uses.

A form-based code focuses on how development relates to the context of the surrounding community, especially the relationships between buildings and the street, pedestrians and vehicles, and public and private spaces. The code addresses these concerns by regulating site design, circulation, and overall building form.

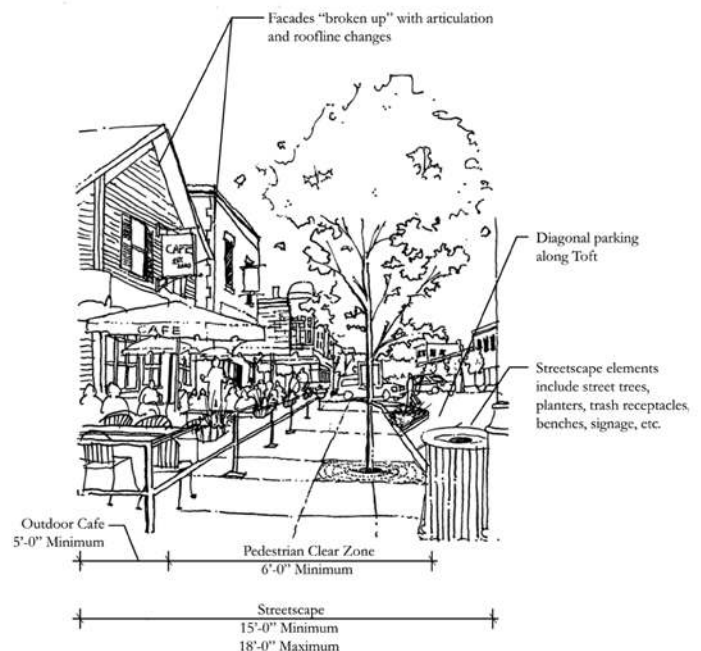
Due to this emphasis on design, form-based codes usually provide greater predictability about the visual aspects of development, including how well it fits in with the existing context of the community. They offer a community the means to create the physical development it wants and developers a clearer understanding of what the community seeks. Over time, these benefits can foster greater community acceptance of new development.

A form-based code can be customized to the vision of any community, including preserving and enhancing the existing character of one neighborhood or dramatically changing and improving the character of another. Typically, they do both.

But how do form-based codes differ from conventional zoning? In general, a form-based code:

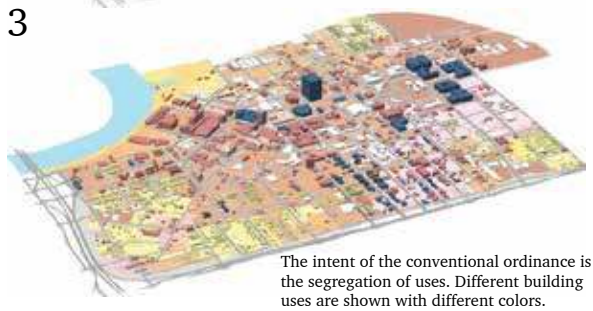
- Encourages a mix of land uses, often reducing the need to travel extensively as part of one's daily routine.
- Promotes a mix of housing types.
- Is “proactive,” focusing on what the community wants and not what it dislikes.
- Results from a public design process, which creates consensus and a clear vision for a community, to be implemented by the form-based code.
- Tailors the requirements to fit specific places or neighborhoods by reflecting local architecture and overall character.
- Emphasizes site design and building form, which will last many years beyond specific numerical parameters such as density and use regulations that are likely to change over time.
- Addresses the design of the public realm and the importance that streetscape design and individual building character have in defining public spaces and a special “sense of place.”
- Provides information that is easier to use than conventional zoning codes because it is shorter, more concise, and emphasizes illustrations over text.

Figure 3.22: Toft Avenue redevelopment and streetscape improvements

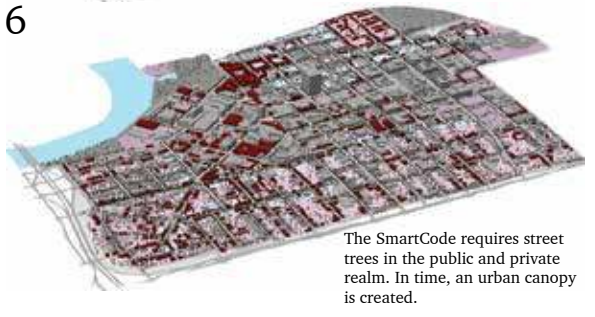
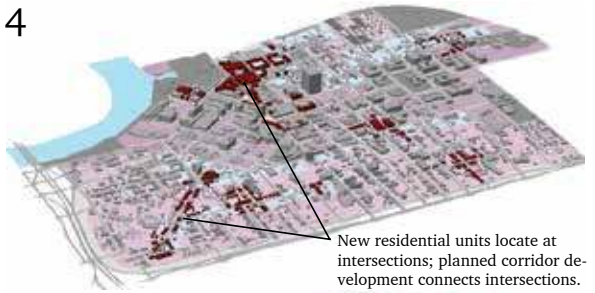
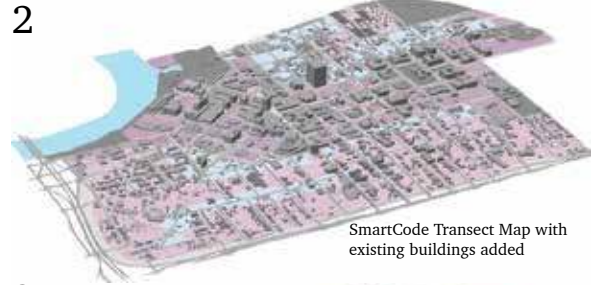
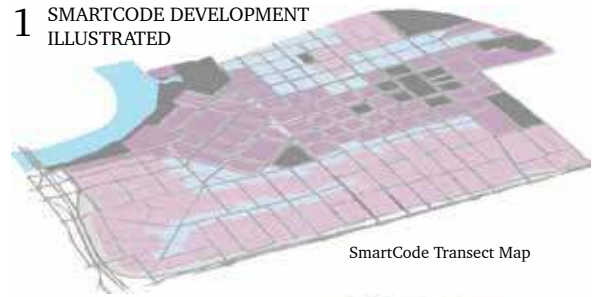


Toft Avenue improvements, Downtown Form-Based Code (2010), Village of Antioch, Illinois.
Credit: The Lakota Group.

1 CONVENTIONAL DEVELOPMENT ILLUSTRATED



1 SMARTCODE DEVELOPMENT ILLUSTRATED



Should Your Community Adopt a Form-Based Code?

Before embarking on the creation of a form-based code, a community needs to carefully consider whether a form-based code is the right tool to achieve community goals for the built environment.

Current regulations may be sufficient. A key indicator is whether the community has experienced a substantial amount of new development in recent years and if there is broad satisfaction with the built environment of a community (buildings, streets, public spaces, etc.). It is common for residents to express high satisfaction with their community's built environment when it has remained largely unchanged over several decades, often the result of strict preservation laws or low demand for new development.

A Means of Preservation and Transformation

If current regulations are not sufficient, form-based codes can preserve what residents love about the physical character of their community, ensuring that future development is in harmony with existing context or facilitating varying degrees of change. Either way, the main purpose of a form-based code is to proactively regulate the physical form and character of new development so that the community gets what it wants, rather than reacting to those elements of each development proposal on a piecemeal basis (or not at all).

It should be noted that while conventional architectural standards can be effective at preserving context, they are often applied subjectively. In addition, some architectural standards lack the necessary scope of regulation, leading to unforeseen consequences, such as new development that follows the letter of the law but only superficially fits in with existing context. For example, architectural standards may permit the construction of an outsized, modern building on a lot located between two historic cottages once the developer agrees to paste decorative shutters on the building's facade. Form-based codes are typically more comprehensive and directly address the aspects of building form that most impact the relationship between buildings and the public realm as a whole.

An Adaptable Approach

Form-based codes are not “one-size-fits-all,” but are tailored to the local context, objectives, and means of each community. These considerations include the community's existing physical character and goals for preservation or transformation, as well as its local political landscape and what financial and staff resources are available to support the effort.

Increasing Predictability, Lowering Risk, and Expanding Options for Developers

Nevertheless, it is common for municipalities to be wary of adopting new development regulations, especially in difficult economic times. Although the adoption of any new form-based code will require developers, not to mention municipalities, to learn a new system of development regulation, comprehensive form-based codes have the potential to encourage and facilitate development more effectively than conventional regulations. Form-based codes are often easier to follow than conventional codes and ultimately more comprehensive, providing municipalities and potential developers with a system that, once learned, is more transparent, predictable,

and thorough. As an added benefit, the need for review by a discretionary body such as a planning commission or design review board is often eliminated.

In addition, form-based codes typically—but not always—reduce regulation of what uses are allowed within buildings. This can expand the potential market for new development and result in structures that are more adaptable to different kinds of tenants, today and throughout the evolution of the community over many decades.



Photo simulation of proposed changes to Sheridan Road, Heart of Peoria Land Development Code (2007), Peoria, Illinois. Credit: Urban Advantage (www.urban-advantage.com).

Different Methods

There are many approaches to creating a form-based code. Nevertheless, most methods share many of the same steps and specific practices. The Form-Based Codes Institute (FBCI, www.formbasedcodes.org), led by Carol Wyant (who first coined the term “form-based codes”), is a non-profit professional organization dedicated to advancing the understanding and use of form-based codes. FBCI offers an introductory webinar on the “ABCs of Form-Based Codes” and advanced, two-day courses on creating, adopting, and administering form-based codes.

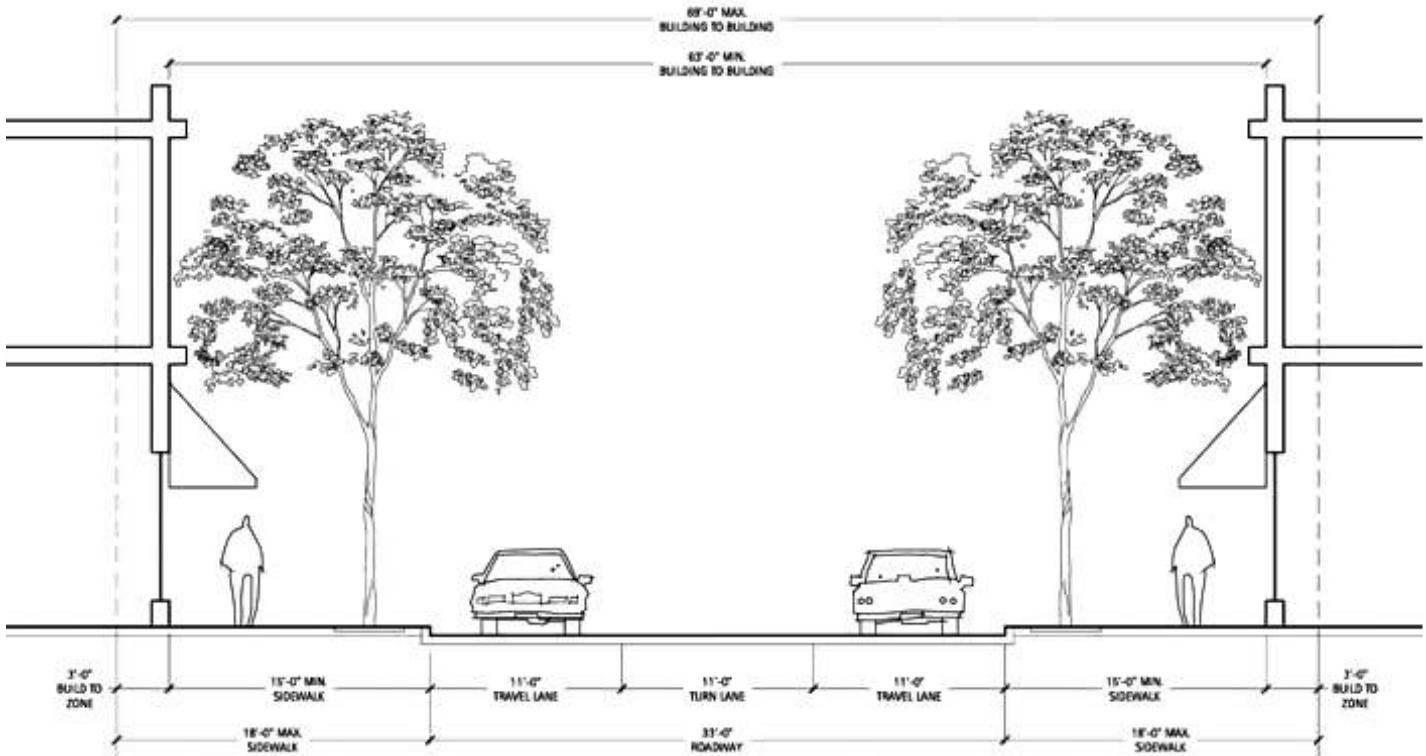
Architects Daniel and Karen Parolek of Opticos Design, Inc. are both on the FBCI Board of Directors and frequently serve as instructors for FBCI’s courses and webinars. Drawing upon years of experience developing award-winning form-based codes for communities across the nation, they wrote (with Paul Crawford) the influential textbook *Form-Based Codes: A Guide for Planners, Urban Designers, Municipalities, and Developers* (2008), which offers a highly-detailed, comprehensive process for creating a form-based code that impressively incorporates established best practices.

Their process may differ from that used by many consulting firms specializing in form-based codes, who often follow a highly customized process they’ve crafted over the years. But in order to provide municipalities in our region with an idea of what the creation of a form-based code could entail, a synopsis of the steps recommended by the authors follows. The steps include:

Step 1: Scoping defines the area of the community to be addressed through the form-based code and the extent to which form-based codes interact with existing regulations.

Step 2: Assessing Existing Conditions documents and analyzes the community’s existing urban form at different scales, providing a basis for the creation of the form-based code.

Step 3: Visioning and Creating Regulations defines the community’s vision for its future and determines the specific regulations and procedures of the form-based code.



Thoroughfare standards for Orchard Street in Transitional Core District, Downtown Form-Based Code (2010), Village of Antioch, Illinois. Credit: The Lakota Group.

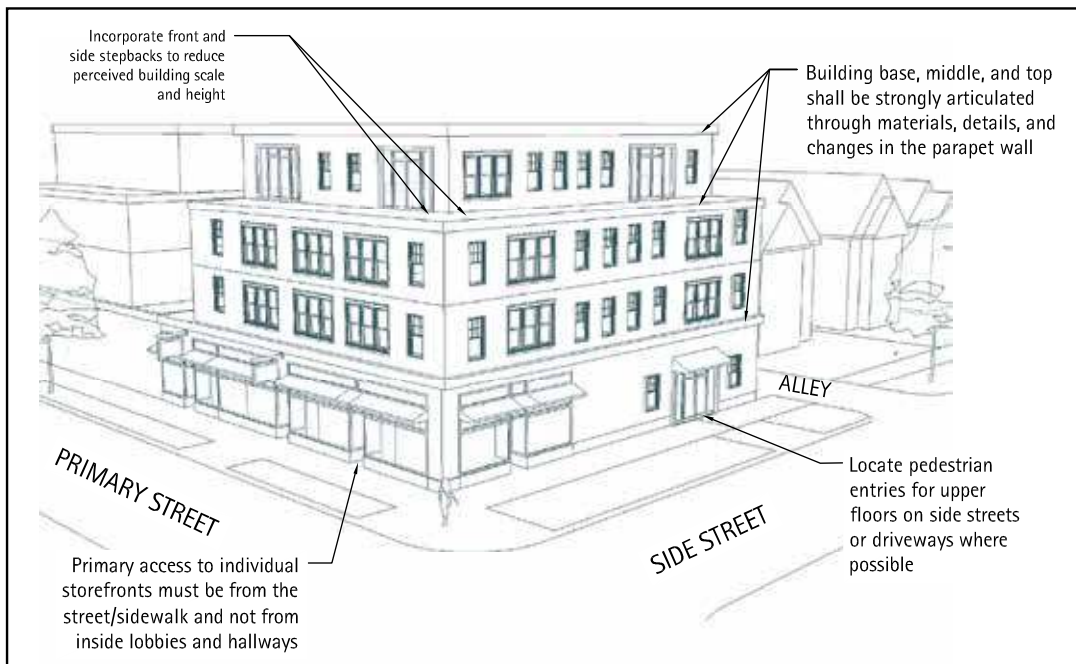
Glenview Downtown Development Code

Article 4: Design Standards

Building Types

4.6.1 Mixed Use

Figure 4.1: Mixed-use Building on Corner Lot



Example of mixed-use building on corner lot with articulated architecture.



Downtown Revitalization Plan (2006), Village of Glenview, Illinois. Credit: The Lakota Group.

Step One

Scoping

Once a municipality chooses to develop a form-based code, there are several questions the community will need to carefully consider at the beginning of the process, such as:

What staff should be involved?

How much help will we need from consultants?

Should the new form-based code cover the whole community, or just part of it?

How much change do we want?

The answers to these essential questions will determine the scope of the form-based code.

Who Should Be Involved?

Form-based codes address both the short- and long-term interests of several specialized areas. Therefore, it is vital to assemble a diverse team to lead the creation of the form-based code. Typically, this code team is composed of municipal staff with consultant assistance, frequently with the consultant team responsible for guiding the effort and completing the majority of tasks required by the planning process.



Photo simulation of proposed changes to Dexter Avenue, Downtown Montgomery Plan (2007), City of Montgomery, Alabama. Credit: Urban Advantage (www.urban-advantage.com).

Municipal Staff

Key municipal departmental staff are essential to the creation of the form-based code, participating—at a minimum—in an initial assessment of the existing zoning regulations, community visioning sessions and workshops, and code drafting and review. Departments that typically participate include planning, public works, parks and recreation, economic development, police, and fire.

Consultant Assistance

Consultants are typically engaged to augment the expertise of the municipal staff and often to lead the effort. These consultants are usually planners, architects, or urban designers. Depending on the focus and objectives of the form-based code effort, the consultant team could also draw on expertise from disciplines such as transportation planning, market analysis, historic preservation, legal support, and public participation. FBCI provides sample Request for Qualifications (RFQs) and RFPs at www.formbasedcodes.org.

Define Your Form-Based Codes Area

Form-based codes can be applied at a variety of scales.

Examples include:

- Sub-areas within a municipality:
 - Downtowns
 - Deteriorating strip commercial corridors
 - “Dead” big-box shopping centers
 - One or more undeveloped “greenfield” areas adjacent to a municipality that are intended to accommodate growth
 - Existing neighborhoods or other developed areas where infill development is intended to preserve or extend existing patterns of physical character
- Entire municipalities
- Counties or regions that include both urban areas and countryside
- Areas that have been targeted for economic revitalization, are undergoing changes in land ownership, or are the location of planned infrastructure improvements

Testing the Waters

Some municipalities may choose to first create a form-based code for a limited area before applying the techniques to more extensive areas or to the entire municipality. This may be due to uncertainty among elected officials and residents or a desire to create a pilot project that will provide an opportunity for municipal staff and elected officials to gain experience.

Planning Process

Form-based codes are typically created by integrating a planning process with the drafting of specific rules for development. Communities will need to take into consideration the timing of the most recent comprehensive plan update and whether the update included sufficient engagement with the community and urban design specifications in the plan, as well as the amount of funding available for the development of the form-based code.

Relationship with Existing Regulations

There are several different methods for introducing form-based codes into an established zoning ordinance. Their suitability often depends upon the degree of change that is desired by the community and a realistic assessment of political feasibility.

Comprehensive Replacement of Existing Code

The form-based code replaces the existing conventional zoning code for all or part of a community, and all development within the area must abide by the regulations of the form-based code. This approach generally offers the widest range of opportunities for transforming a targeted area of a community while maintaining established character in others. It also offers the advantage of consistency in regulatory vocabulary and procedures throughout the code.

Hybrid Zoning Code

A hybrid code is one that combines form-based zoning districts, and potentially other form-based standards, with a conventional zoning approach. Form-based standards can be merged with the existing conventional code or created in conjunction with new conventional zoning standards. A hybrid code can take the form of a chapter within the code, similar to a special district or overlay. The hybrid form-based code is cross-referenced to other sections of the pre-existing code for selected development standards, such as parking dimensions or landscaping standards. Areas that fall within the form-based code boundaries are rezoned to new zoning districts per the code. Within these areas, any and all development must abide by the new regulations for the form-based zones. This approach can be used for a sub-area in the phased replacement of an existing code, and can also be an effective way of responding to pressure for physical change in “sensitive” areas of the community.

Optional/Parallel Code

The form-based code is created as a standalone code but does not replace the existing conventional zoning code. Instead, in specific areas defined in the form-based code, the developer is given the choice to build under the existing conventional zoning or the new form-based code. The property does not have to be rezoned, but once the developer chooses a code, the entire development project must abide by it.

There are advantages to this approach, but the challenges of administering even a single zoning code are significant, and two codes may create confusion about the community’s commitment to the requirements and principles reflected in the form-based code. It may also result in developers attempting to pick and choose only those form-based code requirements that are most beneficial to their interests.

Organizing Principle

There are many different approaches to regulating the type, scale, form, and intensity of allowable development in a form-based code. Some common approaches are explained below, but it is important to note that any consulting firm that specializes in form-based codes is likely to have its own individualized approach.

Transect-Based Codes

Many form-based codes are organized using the concept of a rural-to-urban “transect,” in which zones are primarily classified by the physical intensity of the built form, the relationship between nature and the built environment, and the complexity of uses within the zone (please see diagram below explaining the concept). This allows for a gradual transition between different areas in a community. Applying the concept of the transect to a particular planning area often results in a modified version that responds to local conditions; indeed, this is how the transect-based SmartCode, a form-based code template, functions (an explanation of the SmartCode is provided on the following page).

Building Type-Based Codes

In this common approach, the form-based code is organized through different building types, each defined by specific development standards regulating the configurations, features, and functions of buildings. The building types and their accompanying development standards are applied to different blocks and districts within the planning area.

This approach is thought to work best in smaller planning areas, especially infill development, where the compatibility of new development with existing buildings is a high priority. In this scenario, the use of building types can reinforce the existing character of a community.



The Transect.
Credit: Topografis PC.

5.01.090 **Building Types**

5.01.090 Townhouse

General Note: the drawings and photos below are illustrative.



Five attached townhouses designed with a simple plane. Elevated covered stoops provide a secondary rhythm along the street.

A. Description

The Townhouse building type consists of structures that contain three or more dwelling units placed side by side. A small side or rear yard is provided for each unit as private open space. This building type provides a higher-density, fee-simple unit in a more urban form.



Four attached townhouses designed with a simple massing with a continuous porch. The dormers and slight plane shift in the end units help to break down the overall massing.



Three attached townhouses designed with a simple massing. Individual porches and gable ends on the end units provide the secondary rhythm.

5-16 **Livermore Development Code**

Building Types: Townhouse, Development Code (2010), City of Livermore, California.
Credit: Opticos Design, Inc.

1. Two-Lane Avenue

A wide median and plentiful street trees make the Two Lane Avenue a quiet address especially well suited to residential and office uses.

Notes:

1. Appurtenances may extend beyond the height limit.
2. Building fronts are required to provide shelter to the sidewalk by means of at least one of the following: arcade, colonnade, marquee, awning, or second-floor balcony.
3. The alignment of floor-to-floor heights of abutting buildings is encouraged to allow for shared use of elevators.

A. Building Placement:

Build-to-line location: 0–10 ft. from property line

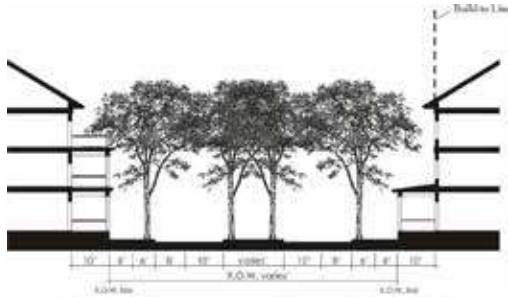
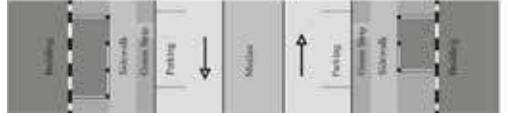
Space Between Buildings: 0 ft. if attached
6–10 ft. if detached

B. Building Volume:

Bldg. Width: 16 ft. minimum
160 ft. maximum

Bldg. Depth: 125 ft. maximum

Bldg. Height: 2 stories minimum
4 stories maximum
55 ft. maximum
The first floor shall be a minimum of twelve (12) feet in height

II-5
July 16, 2001

Street Types: Two-Lane Avenue, Central Hercules Plan (2001), City of Hercules, California. Credit: Dover, Kohl & Partners.

Street-Based Codes

Street-based codes are form-based codes that are organized by different street types, such as boulevards, arterials, and collectors. Each street type is defined by the level of traffic the roadway is designed to accommodate, design speeds, pedestrian crossing times, the width of vehicle lanes and sidewalks, the configuration of on-street parking, the presence of medians bicycle lanes, and other factors, including how buildings are required to address the street (in terms of height, frontage type, and build-to lines). Street-based codes are typically illustrated using section drawings.

Template Codes

A form-based code can be designed and developed locally from scratch or based on a predetermined “template” that has been used elsewhere and can be customized to serve local needs.

SmartCode

The most notable currently available code template is the SmartCode. It was originally created by the architectural firm of Duany Plater-Zyberk & Company and has since undergone continual refinement by the firm, other planning and design professionals, and communities that have used the code.

The SmartCode is a comprehensive, transect-based form-based code template (or “model ordinance”) that includes model language, standards, and requirements for multiple scales of development by public and private sectors, as well as administrative procedures for development review and approval. It is intended to be customized to the local context, priorities, and legal requirements of each community that uses it.

It has been used by several communities across the U.S., and in its largest implementation to date, it was used as the basis for the new development code for the City of Miami, Florida.

Considerations for Templates

If the form-based code will apply to an area composed of only one transect level, a transect-based approach such as the SmartCode may not be necessary. Also consider the extent to which local officials (particularly municipal attorneys) are confident that the template can be sufficiently calibrated to and customized to comply with applicable state law requirements, including consistency with the municipality's comprehensive plan.

Other templates

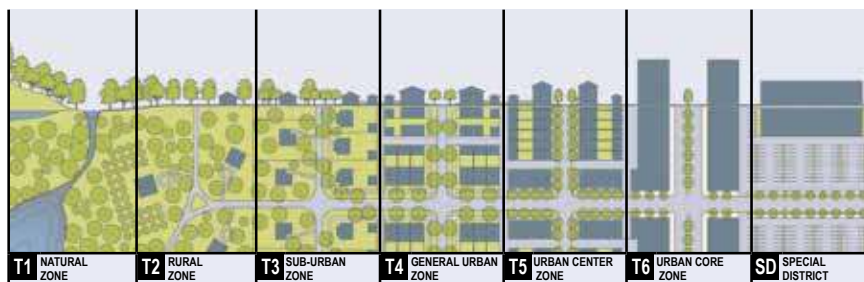
Consultant teams that have prepared more than a few form-based codes are likely to have developed at least one form-based code template. If the consultant team is based in the region, it is likely that their template will likely be customized to the local context and legal requirements of the municipality.

TABLE 14. SMARTCODE SUMMARY

SMARTCODE

Municipality

Note: All requirements in this Table are subject to calibration for local context.



	T1 NATURAL ZONE	T2 RURAL ZONE	T3 SUB-URBAN ZONE	T4 GENERAL URBAN ZONE	T5 URBAN CENTER ZONE	T6 URBAN CORE ZONE	SD SPECIAL DISTRICT
a. ALLOCATION OF ZONES per Pedestrian Shed (applicable to Article 3 only) (see Table 16)							
CLD requires	no minimum	50% min	10 - 30%	20 - 40%	not permitted	not permitted	
TND requires	no minimum	no minimum	10 - 30%	30 - 60 %	10 - 30%	not permitted	
RCD requires	no minimum	no minimum	not permitted	10 - 30%	10 - 30%	40 - 80%	
b. BASE RESIDENTIAL DENSITY (see Section 3.4)							
By Right	not applicable	1 unit / 20 ac. avg.	2 units / ac. gross	4 units / ac. gross	6 units / ac. gross	12 units / ac. gross	
By TDR	by Variance	by Variance	6 units / ac. gross	12 units / ac. gross	24 units / ac. gross	96 units / ac. gross	
Other Functions	by Variance	by Variance	10 - 20%	20 - 30%	30 - 50%	50 - 70%	
c. BLOCK SIZE							
Block Perimeter	no maximum	no maximum	3000 ft. max	2400 ft. max	2000 ft. max	2000 ft. max *	
d. THOROUGHFARES (see Table 3 and Table 4)							
HW	permitted	permitted	permitted	not permitted	not permitted	not permitted	
BV	not permitted	not permitted	permitted	permitted	permitted	permitted	
AV	not permitted	not permitted	permitted	permitted	permitted	permitted	
CS	not permitted	not permitted	not permitted	not permitted	permitted	permitted	
DR	not permitted	not permitted	permitted	permitted	permitted	permitted	
ST	not permitted	not permitted	permitted	permitted	permitted	not permitted	
RD	permitted	permitted	permitted	not permitted	not permitted	not permitted	
Rear Lane	permitted	permitted	permitted	permitted	not permitted	not permitted	
Rear Alley	not permitted	not permitted	permitted	required	required	required	
Path	permitted	permitted	permitted	permitted	not permitted	not permitted	
Passage	not permitted	not permitted	permitted	permitted	permitted	permitted	
Bicycle Trail	permitted	permitted	permitted	not permitted *	not permitted	not permitted	
Bicycle Lane	permitted	permitted	permitted	permitted	not permitted	not permitted	
Bicycle Route	permitted	permitted	permitted	permitted	permitted	permitted	
e. CIVIC SPACES (see Table 13)							
Park	permitted	permitted	permitted	by Warrant	by Warrant	by Warrant	
Green	not permitted	not permitted	permitted	permitted	permitted	not permitted	
Square	not permitted	not permitted	not permitted	permitted	permitted	permitted	
Plaza	not permitted	not permitted	not permitted	not permitted	permitted	permitted	
Playground	permitted	permitted	permitted	permitted	permitted	permitted	
f. LOT OCCUPATION							
Lot Width	not applicable	by Warrant	72 ft. min 120 ft. max	18 ft. min 96 ft. max	18 ft. min 180 ft. max	18 ft. min 700 ft. max	
Lot Coverage	not applicable	by Warrant	60% max	70% max	80% max	90% max	
g. SETBACKS - PRINCIPAL BUILDING (see Table 15)							
(g.1) Front Setback (Principal)	not applicable	48 ft. min	24 ft. min	6 ft. min 18 ft. max	2 ft. min 12 ft. max	2 ft. min 12 ft. max	
(g.2) Front Setback (Secondary)	not applicable	48 ft. min	12 ft. min	6 ft. min 18 ft. max	2 ft. min 12 ft. max	2 ft. min 12 ft. max	
(g.3) Side Setback	not applicable	96 ft. min	12 ft. min	0 ft. min	0 ft. min 24 ft. max	0 ft. min 24 ft. max	
(g.4) Rear Setback	not applicable	96 ft. min	12 ft. min	3 ft. min *	3 ft. min *	0 ft. min	
Frontage Buildout	not applicable	not applicable	40% min	60% min	80% min	80% min	
h. SETBACKS - OUTBUILDING (see Table 15)							
(h.1) Front Setback	not applicable	20 ft. min +bldg setback	20 ft. min +bldg setback	20 ft. min +bldg setback	40 ft. max from rear prop	not applicable	
(h.2) Side Setback	not applicable	3 ft. or 6 ft.	3 ft. or 6 ft.	0 ft. min or 3 ft.	0 ft. min	not applicable	
(h.3) Rear Setback	not applicable	3 ft. min	3 ft. min	3 ft.	3 ft. max	not applicable	
i. BUILDING DISPOSITION (see Table 9)							
Edgeyard	permitted	permitted	permitted	permitted	not permitted	not permitted	
Sideyard	not permitted	not permitted	not permitted	permitted	permitted	not permitted	
Rearyard	not permitted	not permitted	not permitted	permitted	permitted	permitted	
Courtyard	not permitted	not permitted	not permitted	not permitted	permitted	permitted	
j. PRIVATE FRONTAGES (see Table 7)							
Common Yard	not applicable	permitted	permitted	not permitted	not permitted	not permitted	
Porch & Fence	not applicable	not permitted	permitted	permitted	not permitted	not permitted	
Terrace or Dooryard	not applicable	not permitted	not permitted	permitted	permitted	not permitted	
Forecourt	not applicable	not permitted	not permitted	permitted	permitted	permitted	
Stoop	not applicable	not permitted	not permitted	permitted	permitted	permitted	
Shopfront & Awning	not applicable	not permitted	not permitted	permitted	permitted	permitted	
Gallery	not applicable	not permitted	not permitted	permitted	permitted	permitted	
Arcade	not applicable	not permitted	not permitted	not permitted	permitted	permitted	
k. BUILDING CONFIGURATION (see Table 8)							
Principal Building	not applicable	2 Stories max	2 Stories max	3 Stories max, 2 min	5 Stories max, 2 min	8 Stories max, 2 min	
Outbuilding	not applicable	2 Stories max	2 Stories max	2 Stories max	2 Stories max	not applicable	
l. BUILDING FUNCTION (see Table 10 & Table 12)							
Residential	not applicable	restricted use	restricted use	limited use	open use	open use	
Lodging	not applicable	restricted use	restricted use	limited use	open use	open use	
Office	not applicable	restricted use	restricted use	limited use	open use	open use	
Retail	not applicable	restricted use	restricted use	limited use	open use	open use	

ARTICLE 5

ARTICLE 2, 3, 4

DISPOSITION

CONFIGURATION

FUNCTION

SC42

SMARTCODE VERSION 9.2

Summary of sample SmartCode requirements (intended to be calibrated to the context and needs of each community). Credit: Duany Plater-Zyberk & Company.

Step Two

Assessing Existing Conditions

A form-based code guides development to build upon and strengthen the unique characteristics of a community, helping to preserve desired character. Before a form-based code is created, the code team identifies these unique characteristics by documenting and analyzing the community's existing urban form at different scales, from the broad characteristics of a community's neighborhoods to the specific architectural details of windows on typical houses within each neighborhood. The information gathered during this phase is organized and analyzed to provide a basis for the creation of the form-based code.

It should be noted that the following approach to documenting and analyzing existing conditions is not standardized, so a variety of approaches are possible. Many form-based code consultants choose a different process, such as documenting large and small scale elements simultaneously, rather than in two phases.

Community Sub-Areas



Site visit, Downtown Montgomery Plan (2007), City of Montgomery, Alabama. Credit: Dover, Kohl & Partners.

Documenting the existing conditions of a community's sub-areas helps the code team understand the composition of the community at a larger scale. Some common sub-areas that can be identified include:

Neighborhoods, which usually are areas that contain blocks or buildings that are unified in character or style. A neighborhood is often walkable and may have a clearly defined center or edge.

Districts, which are areas typically defined by a particular use or activity, such as light industrial districts.

Corridors, which can be man-made elements relating to movement, such as roads or railways, or natural elements such as rivers. Whether man-made or natural, these corridors often define boundaries within and between neighborhoods. However, roads that function as commercial corridors often serve as the center of many communities.

Preparation

Reviewing Background Documents

With the help of municipal staff, the code team should gather existing background documents, such as maps and past plans, for the area. These documents provide immediate context for the code team's analysis and will help them develop a form-based code that accommodates and works with existing regulations that will remain in effect after the form-based code is implemented. In addition, it is important for the code team to review any regulations that are being replaced in order to help understand the existing place and to learn from those regulations' successes and failures. Similarly, studying past plans can help the team to incorporate any previous visioning work that was completed by the community prior to the form-based code process.

Mapping Existing Conditions

To understand existing conditions and select areas to focus on during the site visit, the code team may create an existing conditions map with information such as public right-of-way lines, lot lines, building footprints, curbs and sidewalk locations, existing land uses, parking location, and natural features (such as rivers) that will impact development.

Analyzing Existing Conditions Maps

Existing conditions maps can be marked in response to any of the following questions:

- *Where are the centers or focal points?*
- *Which streets and roadways are regional connectors? Which are local connectors?*
- *Where are the green or pedestrian corridors?*
- *Which areas are currently slated for major changes in scale and/or use?*
- *Which places define the community's identity? Are historic developmental patterns intact in any of these places?*
- *Where do building and street patterns change and what might be the reason?*
- *Which neighborhoods would benefit from the preservation of their existing character?*
- *Are there any districts that are expressly zoned for a particular use or activity, such as light industry?*
- *Are there clear edges and transitions between neighborhoods?*
- *Which transect levels exist within the community?*

The code team will review these maps, looking for patterns and marking up the maps with the existing neighborhood, district, and corridor framework of the community. In addition, the team will usually mark the map in response to questions about the physical form of the community (please see inset above). If the team anticipates a transect-based form-based code (see page 17), it might begin to make an initial list of transect levels that are likely to be included in the form-based code.

Site Visit

Members of the code team will often visit the study area to determine the centers and boundaries of any neighborhoods, districts, and corridors, then mark them on a map (such as an existing conditions map created before the site visit).

Neighborhoods

For neighborhoods, the code team will often try to locate its center (which is a crossroad, commercial center, school, government building, or park) as well as its outer boundary (typically a street, rail line, or creek). The team is likely to take photographs intended to illustrate the physical character of each neighborhood; these photographs may be used later on to help the team determine which transect level is applicable to the neighborhood. The code team is likely to make an initial assessment of how much each neighborhood should change (such as "preserve," "preserve and enhance," "evolve," and "transform"). If relevant to the project, the team may note potential locations for new neighborhoods and neighborhood centers.

Districts

The code team usually will also mark any identified districts (on the existing conditions map, or equivalent), and take photographs of the area. If there are any districts, the team should assess the relationship of each district to the community, determining whether it is a healthy component of the community (such as an educational campus), an incompatible-use district (such as a heavy industrial area), or an area unnecessarily zoned as a district (such as single-use districts that could be appropriately placed within a mixed-use district). In addition, the team should consider whether each necessary district will need to expand in the future.

Corridors

The code team may also mark the location of any corridors, such as important roads, trails, or streams, and consider how the corridor is functioning as an element of the built environment and whether there is a balance between auto and pedestrian traffic.

Special Conditions

The team will usually note any other unique larger elements of the area, such as topography.

Organizing the Data

According to a methodology that is most helpful to them, the code team may create a series of spreadsheets, diagrams, or maps to organize the information from the site visit. Some teams may find it helpful to compile the data from all maps and diagrams onto a single summary diagram (some firms refer to this as an “existing framework diagram”).

If developing a transect-based form-based code, the team will likely review the summary diagram for the various transect levels noted for each neighborhood during the first round of site visits. Any photographs taken during the site visit will usually be organized by transect level. The code team may then create an “existing transect diagram,” which includes all neighborhoods and indicates which transect levels are found in each, usually illustrated by photographs from the site visits.

Smaller Scale Details

Documenting the existing conditions of smaller scale details provides dimensional measurements for the first draft of the form-based code, which will then be modified during the visioning and coding phases. Some of the basic elements to be documented by the code team are buildings (form, placement, frontages, types, and use), thoroughfares, lots and blocks, civic spaces (parks and plazas), and additional elements (such as architecture or landscaping) as desired by the community.

Preparation

Choosing Sampling Areas

To document the community at a smaller scale, the code team will usually select several “sampling areas.” If developing a transect-based form-based code, the team will generally review the range of transect levels previously documented, and then select four or five sampling areas (often a block-long street) for each that seem to represent typical conditions that are desired by the community.

However, if the code team has chosen an approach other than a transect-based code, the sampling method will be slightly different. For example, if the form-based code is to be organized by building types, the code team will usually identify existing buildings in the community that exemplify the physical characteristics of each building type, and then select which ones should be documented (or “sampled”). It is also important to document the area(s) where new building types are to be applied in order to understand the impacts of applying new development standards to those areas.

Site Visit

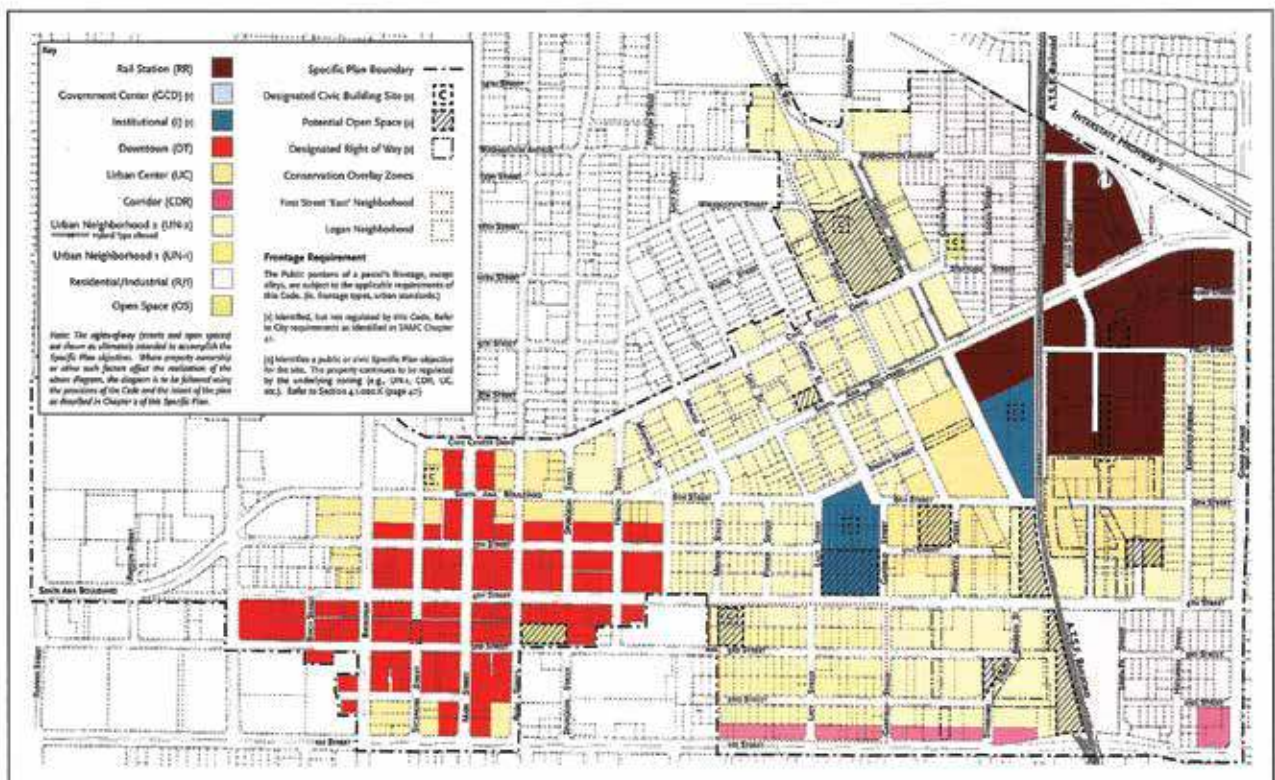
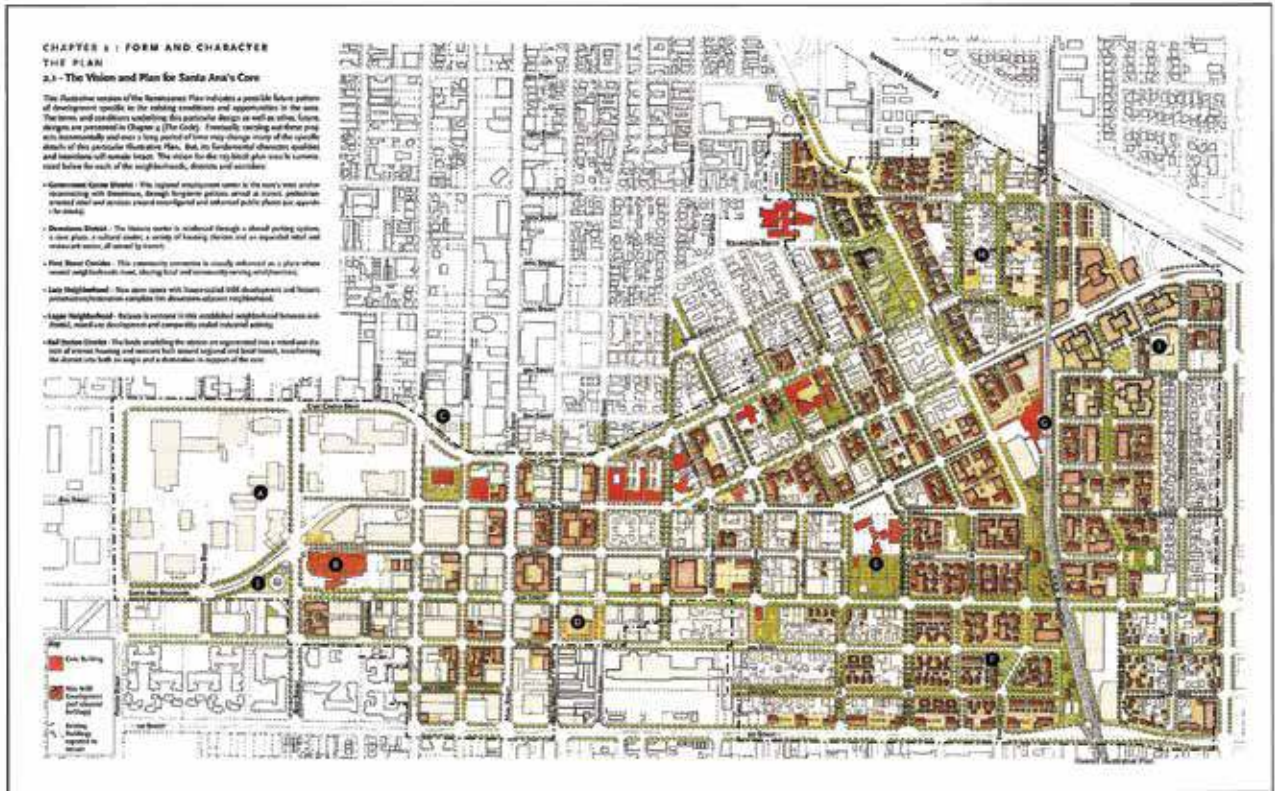
To document buildings for a transect-based form-based code, the code team will usually visit the areas they have chosen to sample, filling in details about the physical characteristics of each building and lot. Typically, this will include gathering measurements and other information about the form and dimensions of the building, its placement on the lot, the front of the building and its physical relationship to the street, number of parking spaces, and its associated land uses. The team may also take a variety of photos of the block, including building elevations and architectural features, views along the sidewalk, side street conditions, any alleys, and other views showing the relationship between buildings, landscaping, and the public realm.

Organizing the Data

Once the documentation of smaller scale details in the community is complete, the code team will generally begin determining which values among those collected from the sampling areas are most representative of typical conditions. For example, in transect-based form-based codes, the values that best exemplify typical conditions of each sampling area are then used to determine the most representative values for each transect. As mentioned previously, these values will become the base measurements used in developing the actual regulations of the form-based code.

“Ground-Truthing” the Findings

This would be a good time for the code team to hold a meeting with community stakeholders, presenting what the team found and documented during the first round of site visits. Any maps, diagrams, or photo galleries created by the team would be shared with stakeholders, who should be asked whether any important areas were missed or documented incorrectly. Stakeholders should also be asked which areas are successful, which need improvement, and which are good models to replicate elsewhere.



Illustrative plan (top) and regulating plan (bottom), Transit Zoning Code (2010), City of Santa Ana, California.
 Credit: Moule & Polyzoides, Architects and Urbanists.

Step Three

Visioning and Creating Regulations

A form-based code is intended to ensure a predictable outcome for the built environment. This requires the desired outcome—the “vision”—to be defined, in detail, by the community. Ideally, a community has already defined its desired outcome in part or in whole—for example, through the recent update of its comprehensive plan. If not, the code team works together with the community to create a detailed vision for its future.

Once this community vision is in place, the code team proceeds to create the specific regulations and procedures of the form-based code.



Public workshop, Village of Campton Hills, Illinois. Credit: Teska Associates, Inc.

Engaging the Community

The specific methods to reach a common community vision will vary, but the essential ingredient is active participation and discussion using a variety of methods, such as community workshops, design charrettes, and focus interviews with key stakeholders.

With the community actively engaged, a vision for the defined area is created. At this point in the process, some consulting firms will create a detailed drawing, sometimes called an “illustrative plan,” that shows the envisioned layout of the community. It includes the locations of neighborhoods, districts, and corridors, as well as thoroughfares, civic spaces, buildings, and transit lines. While this drawing is not a necessary step, it may be helpful to communicate significant proposed changes in a community.

Kickoff Meeting

Often at this point in the process, the code team will hold a kickoff meeting with the community (although this may occur earlier in the process).

The meeting should provide residents with a brief, lucid explanation of form-based codes, the overall process, and their role in the creation of the form-based code. If the kickoff meeting occurs at this point in the process, it’s likely that the team would present its findings from the documentation of existing conditions to the community. Maps, diagrams, or photo galleries that are easy for a

layperson to understand should be exhibited to help explain the team’s findings, as well as give the community something visual to respond to. Photo galleries that document the different areas and aspects of the community can be especially effective in helping residents understand new concepts relevant to the development of the form-based code, such as different transect levels or building types (and can help to give the code team credibility in understanding the community).

In response to the presentation, meeting participants typically will be asked which aspects of the community should remain, what should change, what should be a model for future development, and what they want overall. Four suggested categories for change are:

“Preserve”

The community wants to retain the existing physical character of one or more areas with distinct identities (i.e. neighborhoods, transit station areas, or downtowns) and to ensure that infill and redevelopment “fits in” with the existing context.

“Preserve and enhance”

The community wants to retain the existing physical character in one or more areas, but is interested in careful, targeted enhancements to them. This could include changes in the form of future private development or within the public realm (such as streets).

“Evolve”

The community wants to see desired physical change within the planning area over time, but is willing to allow change to occur more gradually, often according to the preferences of individual property owners within the planning area.

“Transform”

The community wants to see desired physical change occur within the shortest possible time. This often entails the combination of form-based codes that are more ambitious and rigorously enforced with other strategies, such as development incentives, housing density bonuses, accelerated processing of development applications, and street and streetscape improvements undertaken by the municipality.

The Importance of the Kick-Off Meeting

The kickoff meeting sets the tone for the creation of the community vision that will guide the form-based code. It's a collaborative effort that requires the input of a variety of stakeholders in the community (including the general public), along with key professionals necessary to complement the knowledge base and skill set within the community. A form-based code is a legal document that inherently affects and will need to be approved by the community, and an effective kickoff meeting is vital to its success.

After the Meeting

Following this meeting, the code team will usually take this feedback and information from the community, along with the products of their existing conditions analysis, and reevaluate larger elements (such as neighborhoods, districts, and corridors). If preparing a transect-based form-based code, the team will probably assign an intended transect level for each neighborhood, both existing and new, from the list of transect levels. In addition, the code team may designate the degree of change desired for existing neighborhoods (such as “preserve,” “preserve and enhance,” “evolve,” and “transform”), based upon input gathered at the community meeting.

If applicable, the code team will also reexamine other elements they have documented and analyzed (such as existing thoroughfares, blocks, civic spaces, and buildings), based on public input.

Explaining and Illustrating the Zoning Districts

The regulations of most form-based codes are assigned by zoning district based upon classifications such as transect level, building type, or street type. At this stage, the code team will usually begin to define and illustrate the main characteristics of each district.

The team will also begin to determine which details and elements belong in each district, such as what types of uses, buildings, frontages, thoroughfares, or civic spaces are allowed. A summary of this information is often paired with a written vision description and illustration of the district on a single page or two, which may be presented to the public as a poster for feedback and eventually serve as the main explanation of the district in the final form-based code document.

BOARDWALK FRONTAGE ■

The Boardwalk is one of the most memorable places in Virginia Beach. Cyclists, beachgoers, visitors, and residents intermix with cafes and clubs that address out onto the ground floors of the hotels that rise above. Hotels have a maximum base height of 75 feet with towers as high as 200 feet. The Boardwalk is made accessible by regular intersections with Beach Streets.

**SHOPPING FRONTAGES ■ ■**

Premier retail addresses within the Oceanfront Resort Area. Shopfronts, outdoor cafe seating, and other commercial uses front wide sidewalks and slower-moving traffic. Residential, office and hotel uses are typically located above the shops and restaurant uses. Streets include 17th, 19th, 31st, and Atlantic Avenue.

**GATEWAY FRONTAGES ■ ■ ■**

Primary routes to, through, and from the Oceanfront Resort Area. While these routes typically carry a higher volume of traffic, they still offer ample accommodations for the pedestrian. Parking and service is also accessed primarily from Gateway streets. Pacific Avenue is an example of a Gateway street.

**BEACH FRONTAGES ■**

Ways in which residents and visitors access the Boardwalk. Beach streets have clear visual and physical access to the Boardwalk and are lined with a mix of residential front doors and lobbies alongside outdoor dining and small retail establishments.



Frontage types, Oceanfront Resort District Form-Based Code (2012), City of Virginia Beach, Virginia. Credit: Urban Design Associates.

44.6-26. GAP Form-Based Code

D. Building Type Standards

Street design should result in the interaction of building types in order to create a street wall. Maintaining facade transparency adds visual interest as well as a sense of "eyes on the street." Adding to the sense of safety is the presence of welcoming entrances (either porches or stoops). Wherever possible, alleys should be implemented to access garages or parking lots.

Apartment Building. This building type blends in with the block by having a front entrance and a considerable amount of transparency on the front facade, similar to the other residential building types. The corner parcel allows for additional building entrances on the corner side facade.

House. This building type may be utilized either on mid-block or corner lots. Its height falls between 1 and 2.5 stories.

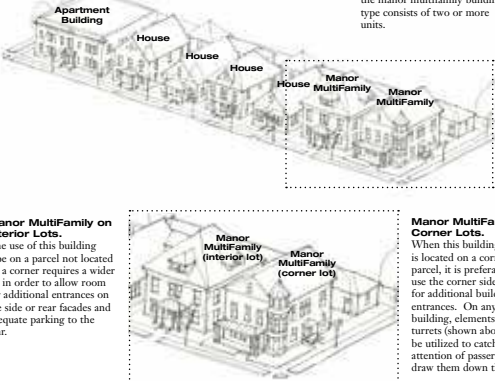
Manor MultiFamily. Similar in appearance to a house or estate building type, the manor multifamily building type consists of two or more units.

Manor MultiFamily on Interior Lots. The use of this building type on a parcel not located on a corner requires a wider lot in order to allow room for additional entrances on the side or rear facades and adequate parking to the rear.

Manor MultiFamily on Corner Lots. When this building type is located on a corner parcel, it is preferable to use the corner side facade for additional building entrances. On any corner building, elements such as turrets (shown above) should be utilized to catch the attention of passers-by and draw them down the block.

Figure D-2: Typical Block. This illustration details how the building types can be utilized on both mid-block and corner lots.

City of Bloomington; GAP Neighborhood Zoning Ordinance April 2007



9

Building Type Standards, Gridley, Allin, & Prickett Neighborhood Form-Based Code (2007), City of Bloomington, Illinois. Credit: Farr Associates.

The code team will also usually begin to create lists of other elements that will be regulated (such as the types of thoroughfares, civic spaces, building types, and frontages). The team will typically create a summary of each that includes descriptive text, illustrations, and diagrams as needed. For example, if thoroughfares will be regulated by the form-based code, the team will prepare a summary of each type of thoroughfare that is needed, usually including a section drawing of the intended thoroughfare design that indicates the basic standard dimensions that will be required.

Finally, the code team may assess whether there are any other optional elements the community wants to regulate, such as architectural style. If so, the team would usually determine the types (or styles) to be included in the vision and the code for these elements, and then create appropriate descriptive text and imagery for each.

Use Types

In conventional zoning, zoning districts are primarily defined by land use. Form-based codes emphasize the physical character of development (its form) and include the regulation of land uses.

Similar to conventional zoning, permitted and conditional or special uses are listed by district in most form-based codes. However, land uses may be regulated more broadly, with land use categories in lieu of long lists of specific permitted uses. Of course, form-based codes can also specify sub-types that are not allowed in certain locations or would be subject to discretionary review, such as businesses involving the sale of alcohol. Last, it is common for form-based codes to include requirements for the location of various uses within individual buildings (such as permitting office or residential uses on upper stories only).

Building Types

Some common building types used in form-based codes include “detached single-unit house,” “townhouse,” “duplex,” “courtyard apartment,” and “mixed-use building.” Building types typically include bulk regulations (such as minimum lot width, maximum building height, building setbacks, etc.) that are usually defined by zoning district in a conventional zoning code, as well as some design and architectural parameters (such as roof type, location of parking, minimum transparency requirements, building materials, etc.).

Regulating which building types are allowed is not required in a form-based code, but it can help a community ensure a diverse stock of buildings, which is key to the creation (or preservation) of vibrant urban places. It is one of the means by which a community can avoid the damaging effects of some conventional zoning regulations, such as floor area ratio, which can encourage developers to focus on achieving maximum volume allowed for a lot. In addition, requiring a diverse mix of building types might be necessary to mitigate decades of standards that promote single-use development and discourage alternative building types.

Specific to Building Types

1703-3.30

Table 1703-3.30.A: Building Types General

Building Type	Transect Zones										
 Carriage House. This Building Type is an accessory structure typically located at the rear of a lot. It typically provides either a small residential unit, home office space, or other small commercial or service use that may be above a garage or at ground level. This Type is important for providing affordable housing opportunities and incubating small businesses within walkable neighborhoods.	<table><tr><td>T3E</td><td>T3N</td></tr><tr><td>T4N.1</td><td>T4N.2</td></tr><tr><td>TSMS</td><td>TSN.1</td></tr><tr><td>TSN.2</td><td>TSF</td></tr><tr><td>T6C</td><td></td></tr></table>	T3E	T3N	T4N.1	T4N.2	TSMS	TSN.1	TSN.2	TSF	T6C	
T3E	T3N										
T4N.1	T4N.2										
TSMS	TSN.1										
TSN.2	TSF										
T6C											
 Detached House: Medium. This Building Type is a medium-sized detached structure on a medium-sized lot that incorporates one unit. It is typically located within a primarily single-family residential neighborhood in a walkable urban setting, potentially near a neighborhood main street.	<table><tr><td>T3E</td><td>T3N</td></tr><tr><td>T4N.1</td><td>T4N.2</td></tr><tr><td>TSMS</td><td>TSN.1</td></tr><tr><td>TSN.2</td><td>TSF</td></tr><tr><td>T6C</td><td></td></tr></table>	T3E	T3N	T4N.1	T4N.2	TSMS	TSN.1	TSN.2	TSF	T6C	
T3E	T3N										
T4N.1	T4N.2										
TSMS	TSN.1										
TSN.2	TSF										
T6C											
 Detached House: Compact. This Building Type is a small detached structure on a small lot that incorporates one unit. It is typically located within a primarily single-family residential neighborhood in a walkable urban setting, potentially near a neighborhood main street. This Type enables appropriately-scaled, well-designed higher densities and is important for providing a broad choice of housing types and promoting walkability.	<table><tr><td>T3E</td><td>T3N</td></tr><tr><td>T4N.1</td><td>T4N.2</td></tr><tr><td>TSMS</td><td>TSN.1</td></tr><tr><td>TSN.2</td><td>TSF</td></tr><tr><td>T6C</td><td></td></tr></table>	T3E	T3N	T4N.1	T4N.2	TSMS	TSN.1	TSN.2	TSF	T6C	
T3E	T3N										
T4N.1	T4N.2										
TSMS	TSN.1										
TSN.2	TSF										
T6C											
 Cottage Court. This Building Type consists of a series of small, detached structures, providing multiple units arranged to define a shared court that is typically perpendicular to the street. The shared court takes the place of a private rear yard and becomes an important community-enhancing element of this Type. This Type is appropriately-scaled to fit within primarily single-family or medium-density neighborhoods. It enables appropriately-scaled, well-designed higher densities and is important for providing a broad choice of housing types and promoting walkability.	<table><tr><td>T3E</td><td>T3N</td></tr><tr><td>T4N.1</td><td>T4N.2</td></tr><tr><td>TSMS</td><td>TSN.1</td></tr><tr><td>TSN.2</td><td>TSF</td></tr><tr><td>T6C</td><td></td></tr></table>	T3E	T3N	T4N.1	T4N.2	TSMS	TSN.1	TSN.2	TSF	T6C	
T3E	T3N										
T4N.1	T4N.2										
TSMS	TSN.1										
TSN.2	TSF										
T6C											
 Duplex. This Building Type is a small- to medium-sized structure that consists of two side-by-side or stacked dwelling units, both facing the street and within a single building massing. This Type has the appearance of a medium to large single-family home and is appropriately scaled to fit within primarily single-family neighborhoods or medium-density neighborhoods. It enables appropriately-scaled, well-designed higher densities and is important for providing a broad choice of housing types and promoting walkability.	<table><tr><td>T3E</td><td>T3N</td></tr><tr><td>T4N.1</td><td>T4N.2</td></tr><tr><td>TSMS</td><td>TSN.1</td></tr><tr><td>TSN.2</td><td>TSF</td></tr><tr><td>T6C</td><td></td></tr></table>	T3E	T3N	T4N.1	T4N.2	TSMS	TSN.1	TSN.2	TSF	T6C	
T3E	T3N										
T4N.1	T4N.2										
TSMS	TSN.1										
TSN.2	TSF										
T6C											

Key  Allowed  Not Allowed

City of Cincinnati Form-Based Code Public Review Draft: 9/21/12 1703-3-3

Building Types, Cincinnati Form-Based Code (Public Review Draft, 2012), City of Cincinnati, Ohio. Credit: Opticos Design, Inc.

5.0 Permitted Land Uses

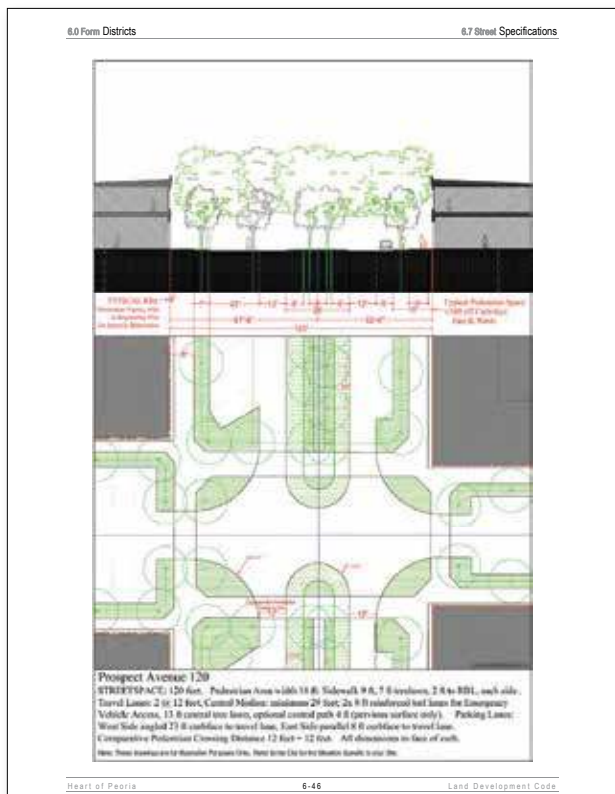
5.2 Permitted Use Table

5.2.2 Permitted Use Table

		KEY: Blank cell = Not Permitted ■ = Permitted □ = Subject to Special Use Review														Use Standard	
USE CATEGORY	SPECIFIC USE	R1	R2	R3	R4	R6	R7	R8	CN	CG	B1	N1	P1	I1	I2	I3	
RESIDENTIAL																	
Household Living (see 5.6.2.A)	Single-Family	■	■	■	■	■	■										
	Two o-Family (Duplex)	■	■	■	■	■	■										5.3.1A
	Tow nhouse					■	■		■	■							
	Apartment					■	■		■	■							
	Upper Story Residential								■	■	■	■					
Group Living (see 5.6.2.B)	Live-Work									■	■	■	■				5.3.1B
	Boarding House, Rooming House						□	□	□	□	■						
	Children's Home						□	□	□								
	Congregate Housing	□	□	□	□	□	□	□	□	□	□						
	Elderly Housing, Assisted Living Facility	□	□	□	□	□	□	□	□	□	□						
	Fraternity, Sorority, Student Dormitory											□					
	Family Care Facility	■	■	■	■	■	■	■	■								5.3.1C
	Group Care Facility	□	□	□	□	□	■	■									5.3.1C
	Monastery, Convent	□	□	□	□	□	□	□	□	□	□						
	Nursing Home, Full-time Convalescent, Hospice, Life Care Center						□	□	□	□	□						
CIVIC																	
Community Service (see 5.6.3.A)	Museum, Library	□	□	□	□	□	□	□	■	■	■	■					
	Neighborhood Arts Center or Similar Community Facility (public)	□	□	□	□	□	□	□	■	■	■	■					
	Philanthropic Institution										■	■					
	Police, Fire, EMS Substation	□	□	□	□	□	□	□	■	■	■	■			■	■	■
Day Care (see 5.6.3.B)	All day care, except as listed below:	□	□	□	□	□	□	□	■	■	■	■					
	Child Care Home (up to 8 children)	■	■	■	■	■	■	■									5.3.2A
	Day Care Center (8+ children)	□	□	□	□	□	□	□	■	■	■	■					5.3.2B
	Drop-in Child Care Center								■	■	■						
Educational Facility (see 5.6.3.C)	All educational facilities, except as listed below:	□	□	□	□	□	□	□	□	□	□						
	Academy (special training)								■	■	■	■					
	College, Community College, University											■					
	Job Training, Vocational Rehabilitation Service										■	■	■		■		
	School, Vocational, Business										■	■	■		■		
	School, Trade, no heavy equipment or truck operators										■	■	■		■		
Medical Facility (see 5.6.3.D)	All medical facilities, except as listed below:								□	■	■	■					
	Hospital, Medical Center											■					
	Medical or Dental Laboratory									■	■	■	■		■		
	Medical or Dental Clinic, Rehabilitative Clinic									■	■	■	■				
	Medical, Dental Office or Chiropractor									■	■	■	■				
Parks and Open Area (see 5.6.3.E)	All parks and open areas, except as listed below:	■	■	■	■	■	■	■	■	■	■	■			■	■	■
	Cemetery, Mausoleum, Columbarium, Memorial Park	□	□	□	□	□	□	□	□	□	□						
	Game Preserve, Wildlife Management Area, Refuge, Animal																
Passenger Terminal (see 5.6.3.F)	Airport, Heliport																
	Bus, Train Passenger Terminal											□				■	■
	Taxicab Dispatch Station, Limousine Service, Charter Service										□	□				■	■
Place of Worship (see 5.6.3.G)	All places of worship	□	□	□	□	□	□	□	■	■	■	■					
	Alcohol Abuse Treatment, Drug Rehabilitation						□	□		□	■						
Social Service Institution (see 5.6.3.H)	Halfway House							□	□	□	□	□					5.3.1C
	Psychiatric Institution, Sanatorium											■	■				
	Single Room Occupancy							□	□	□	□						
	Social Service Facility, Soup kitchen, Transient Lodging or Shelter for the Homeless											□					
Utilities (see 5.6.3.I)	All minor utilities	□	□	□	□	□	□	□	■	■	■	□			■	■	■
	All major utilities														□	□	□
	Wireless Communication Facility																see 5.3.2D
COMMERCIAL																	
Indoor Recreation (see 5.6.4.A)	All indoor recreation, except as listed below:										■	■	■				
	Auditorium, arena, stadium (indoor)										□	□					
	Convention Center											■					
	Indoor Shooting Range										□	□				□	
Office (see 5.6.4.B)	All offices									■	■	■			■		
Outdoor Recreation (see 5.6.4.C)	All outdoor recreation, except as listed below:										□	□			□	□	
	Outdoor Shooting Range															□	□
	Stadium or Arena, Commercial Amphitheater											□					
Overnight Lodging (see 5.6.4.D)	Bed and Breakfast	□	□	□	□	□	□	□	■	■	■						5.3.3B
	Hotel, Motel, Inn, Extended Stay Facility								□	■	■	□					
	Youth Hostel										□	■					
Parking, Commercial (see 5.6.4.E)	All commercial parking										□	■	■	■	■	■	
Restaurant (see 5.6.4.F)	All restaurants, except as listed below:										■	■	■				
	Restaurant, Drive-in											■					



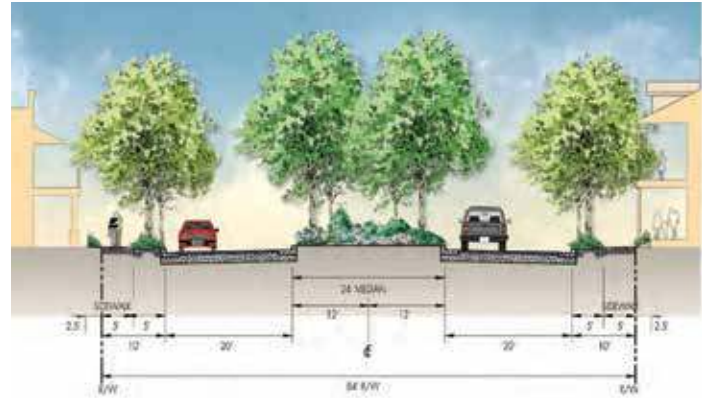
Concepts for Specific Streets, Transit Zoning Code (2010), City of Santa Ana, California.
Credit: Moule & Polyzoides, Architects and Urbanists.



Street Specifications - Prospect Avenue, Heart of Peoria Land Development Code (2007), Peoria, Illinois. Credit: Ferrell Madden/Code Studio.

Thoroughfare Types

Thoroughfare types may include alleys, lanes, roads, streets, commercial/main streets, avenues, and boulevards. Each thoroughfare type could be assigned regulations such as the number and width of lanes designated for both vehicular and bicycle travel, the width of space allotted for pedestrians, the number and width of areas designated for on-street parking, and the type and spacing of trees and street lights.



Thoroughfare standards for "Neighborhood Center Boulevard," Loma Rica Ranch Specific Plan (2011), City of Grass Valley, California. Credit: Opticos Design, Inc.

Thoroughfares

Thoroughfares can serve many roles in a community, and are integral to their success. They are a means of travel to destinations, near and far, and as the primary public space in most communities, frequently they are the destination for shopping and other activities.

In communities that have not reached their potential, walkability is frequently a missing element. In *Street Design Guidelines for Healthy Neighborhoods* (Center for Livable Communities, 1999), Dan Burden, an expert in the creation of livable communities, has stated that “Walkable streets form the backbone of friendly, interactive, safe, secure neighborhoods.” Focused on the safe and efficient flow of automobile traffic, most conventional thoroughfare standards are simply not up to the task of creating walkable communities.

Form-based codes can offer an opportunity to define thoroughfare standards that are carefully coordinated with other requirements, comprehensively addressing the needs of travel along with the broader needs of the public realm and the community as a whole. It should be noted, however, that if a community is mostly built out, thoroughfare standards are likely the responsibility of the public works department as they conduct ongoing maintenance and improvement of existing roadways, often working with minimal or insufficient budgets (making the implementation of new thoroughfare standards more challenging).

8.01.070Urban ParksCivic Spaces



8.01.070Urban ParksDescription

Urban parks include larger open spaces available for civic purposes, commercial activity, and unstructured recreation, as well as smaller structured recreation facilities and other passive uses. These parks should have a more formal urban character and be defined by the surrounding building frontages and adjacent tree-lined streets. All buildings adjacent to the square must have a front onto the park. The landscape should consist of lawns, trees, and shrubs planted in formal patterns and furnished with paths and benches. Shaded areas for seating should be provided. A civic element or small structure such as a kiosk, open shelter, pergola, or fountain may be included at a prominent location.

Urban parks may be centrally located at the geographic heart of neighborhoods and/or at the intersection of important thoroughfares. They may also be located at the edges of neighborhoods in locations where several residential areas may benefit from recreational amenities, and serve as a transition between developed areas and natural open spaces.

Size & Location

Min. Width	100'
Max. Width	N/A
Acres	0.5 – 4.9 acres
Transect Zones	T4MS, T4MS-O

Character

Formally Disposed
Passive/Active (Unstructured) Open Space
Building Frontage along at least one side
All buildings must front this space
Must front at least two streets
Paths, lawns, and trees formally arranged
Walkways and plantings at all edges
Civic element at prominent location
Allowed/Typical Uses
Passive /Active (Unstructured) Open Space
Civic Uses, including Outdoor Pavilions, Open-Air Shelters, Outdoor Assembly, Outdoor Seating, Public Restrooms
Commercial Uses, including Farmers' Markets subject to Special Event Permit
Playgrounds
Limited Community Facilities, Meeting Rooms, Community Centers
Small Structured Recreational Facilities
Stormwater Management Techniques
Integrated Runoff
Bioretention Best Management Practices
Extended Detention Basins
Porous Pavers and Landscaping

8-8Livermore Development Code

Civic Spaces - Urban Parks, Development Code (2010), City of Livermore, California. Credit: Opticos Design, Inc.

Civic Spaces8.01.100Playgrounds



8.01.100PlaygroundsDescription

Playgrounds are open spaces designed and equipped for the recreation of children. They shall be interspersed within residential areas so that every neighborhood or freestanding development area has at least one playground. Playgrounds may be freestanding or located within larger Plazas, Neighborhood Parks, Pocket Parks, or Civic Spaces.

Playgrounds should be quiet, safe places protected from the street, and should typically be placed so that children do not have to cross major roads to get to them. Often playgrounds and tot-lots are interspersed within residential areas. An open shelter, play structures or interactive art and fountains may be included with landscaping between. Shaded areas and seating must be provided. Playgrounds may be included within larger parks and public spaces.

Size & Location

Min. Width	n/a
Max. Width	n/a
Acres	n/a
Transect Zones	All Transect Zones

Character

Focused Towards Children
Fenced with Minimal Exits
Independent of Building Frontage
Protected from Traffic
Allowed/Typical Uses
Passive /Active (Unstructured) Open Space
Low-Impact Civic Uses, including Picnic Facilities, Outdoor Seating
Play Structures, Interactive Art, Fountains
Stormwater Management Techniques
Bioretention Best Management Practices
Porous Pavers and Landscaping

Livermore Development Code8-11

Civic Spaces - Playgrounds, Development Code (2010), City of Livermore, California. Credit: Opticos Design, Inc.

Civic Space Types

Civic space types are essentially open space or other public areas that may include parks, greens, squares, plazas, pocket parks, playgrounds, and playing fields. For civic space types, typical regulations include the minimum and maximum acreage of land required, requirements for the placement of civic spaces, the appropriate zones for each civic space type, the kind of recreation the civic space is intended to facilitate, and the overall intended look and feel of the space.

Civic Spaces

When wisely designed and located, abundant parks and other civic spaces make a community a more desirable place to live and work, improving the health of residents and the value of their homes. In addition, they can serve as a cherished place for residents, workers, and visitors to gather—within a block, neighborhood, or entire community—helping to define the identity of the area. As part of a comprehensive form-based code, wisely-developed standards can help communities make the most of rare opportunities to create new civic spaces.

SMARTCODEMunicipality

TABLE 13. CIVIC SPACE

a. Park: A natural preserve available for unstructured recreation. A Park may be independent of surrounding building Frontages. Its landscape shall consist of paths and trails, meadows, waterbodies, woodland and open shelters, all naturalistically disposed. Parks may be linear, following the trajectories of natural corridors. The minimum size shall be 8 acres. Larger parks may be approved by Variant as Special Districts in all zones.



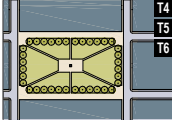
T1
T2
T3

b. Green: An Open Space, available for unstructured recreation. A Green may be spatially defined by landscaping rather than building Frontages. Its landscape shall consist of lawn and trees, naturalistically disposed. The minimum size shall be 1/2 acre and the maximum shall be 8 acres.



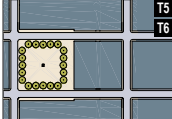
T3
T4
T5

c. Square: An Open Space available for unstructured recreation and Civic purposes. A Square is spatially defined by building Frontages. Its landscape shall consist of paths, lawns and trees, formally disposed. Squares shall be located at the intersection of important Thoroughfares. The minimum size shall be 1/2 acre and the maximum shall be 5 acres.



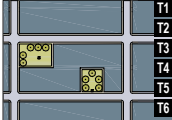
T4
T5
T6

d. Plaza: An Open Space available for Civic purposes and Commercial activities. A Plaza shall be spatially defined by building Frontages. Its landscape shall consist primarily of pavement. Trees are optional. Plazas shall be located at the intersection of important streets. The minimum size shall be 1/2 acre and the maximum shall be 2 acres.



T5
T6

e. Playground: An Open Space designed and equipped for the recreation of children. A playground shall be fenced and may include an open shelter. Playgrounds shall be interspersed within residential areas and may be placed within a Block. Playgrounds may be included within parks and greens. There shall be no minimum or maximum size.



T1
T2
T3
T4
T5
T6

SmartCode Version 9.2

SC41

Civic Space, SmartCode. Credit: Duany Plater-Zyberk & Company.

The following are some of the regulations that are typically determined first by the code team:

Building Form Standards

Building form standards typically include a broad set of requirements for the configuration, features, and functions of buildings that define and shape the public realm, such as building placement and form, lot sizes, parking, as well as allowed land uses, encroachments, and frontage and building types.

Building Placement

It would be difficult to overstate the importance of standards regulating the placement of buildings. Together with thoroughfare standards, they provide the foundation for establishing or preserving the character of a district. Some of the typical regulations for building placement standards include the build-to line, minimum setback, and minimum and maximum widths of lots (the latter to create the desired development scale).

Building Form

Regulations for building form also play a key role in establishing the character of a district. As the “walls” of public spaces, building façades are regulated for height to ensure the correct proportion. The maximum and minimum sizes of buildings are sometimes regulated to ensure that they are an appropriate size for the desired vision of the area, establishing a rich urban form through a harmonious range of building sizes. Some of the typical regulations

1703-3.140

Specific to Building Types

1703-3.140

Main Street Mixed-Use



Attached Main Street buildings form a unified streetscape along a vibrant commercial street.

T3B

T3N

T4N.1

T4N.2

T5MS

T5N.1

T5N.2

T5F

T6C

Key

T4 Allowed

T4 Not Allowed

A. Description

The Main Street Mixed-Use Building Type is a small-to-medium-sized structure, typically attached, intended to provide a vertical mix of uses with ground-floor retail, or service uses and upper-floor service, or residential uses. This Type makes up the primary component of a neighborhood main street and portions of a downtown main street, therefore being a key component to providing walkability.

Key

T4 Allowed

T4 Not Allowed

1703-3-26

Public Review Draft: 9/21/12

City of Cincinnati Form-Based Code

44.6-26. GAP Form-Based Code

H. Building Types: Commercial Building

Building Height

Allowable Upper Floors Height

Allowable Ground Floor Height

Height

Height

Figure H-2: Height & Use Requirements.

Building Height

Upper Story Facade Setback

Figure H-2(1): Option: Upper Stories Setback.

Transparency of the Upper Floors

Maximum Area of No Transparency

Principal Entrance Location

Entrance Spacing

Figure H-3: Facade Requirements.

2. Height & Use Requirements. (Refer to Figure H-2)

(a) Building & Floor Heights.

(b) Uses.

3. Facade Requirements. (Refer to Figure H-3)

(a) Transparency.

(b) Building Entrance.

(c) Allowable Cap & Base Types.

City of Bloomington: GAP Neighborhood Zoning Ordinance

April 2007

19

Building form standards, Gridley, Allin, & Prickett Neighborhood Form-Based Code (2007), City of Bloomington, Illinois. Credit: Farr Associates.

Specific to Building Types

1703-3.140

Main Street Mixed-Use

Alley

Front Street

Side Street

Alley

Front Street

Side Street

Key

ROW / Lot Line

Setback Line

Building

Frontage

Private Open Space

B. Number of Units

Units per Building

2 min.

C. Building Size and Massing

Height

2 stories min.; 4 stories max.1

1Height shall also comply with transect zone standards in Section 1703-2 (Specific to Transect Zones).

Main Body

Width

150' max.

Secondary Wing(s)

Width

100' max.

Depth

65' max.

D. Allowed Frontage Types

Forecourt

1703-2.80

Dooryard

1703-4.90

Lightwell

1703-4.100

Shopfront

1703-2.110

Terrace

1703-4.120

E. Pedestrian Access

Upper floor units located in the main building shall be accessed by a common entry along the front street.

Ground floor units may have individual entries along the front street or side street.

On corner lots, units in a secondary wing/accessory structure may enter from the side street.

F. Private Open Space

No private open space requirement.

City of Cincinnati Form-Based Code

Public Review Draft: 9/21/12

1703-3-27

Building form standards, Cincinnati Form-Based Code (Public Review Draft, 2012), City of Cincinnati, Ohio. Credit: Opticos Design, Inc.

for building form standards include maximum and minimum height, width, and depth of buildings, as well as the maximum and minimum heights of ground-floor and upper floor levels.

Allowed Encroachments

Encroachments involve building elements that may extend over the build-to line (which regulates the distance between the front property line and building facade) or into the setback, such as balconies, and bay windows. By specifying regulations for allowed encroachments in a form-based code, a community can enable a rich urban form.

Parking

The methods for regulating parking in a form-based code are similar to those in a conventional zoning ordinance. Minimum parking standards are typically established according to land uses, but also by zoning district classifications established by the form-based code that are defined by the intensity of development—such as “town center.”

Surface parking lots and garages can have a damaging effect on the physical quality of the public realm, creating unattractive gaps between buildings as well as curb cuts that are potential hazards for pedestrians using the sidewalk. In response, form-based codes often seek to minimize these negative impacts by requiring parking to be located at the rear or side of buildings or at the center of blocks, rather than between the building and the street. Similarly, some form-based codes include maximum parking requirements and promote shared and on-street parking for areas of higher-density and mixed-use development that have good access to transit.

In addition to the mandatory number of off-street parking spaces, typical regulations for parking standards include the area on the lot in which parking is allowed, including setbacks, sizes of parking spaces, and travel lanes in parking lots.

Figure 3.18: Shared parking between uses

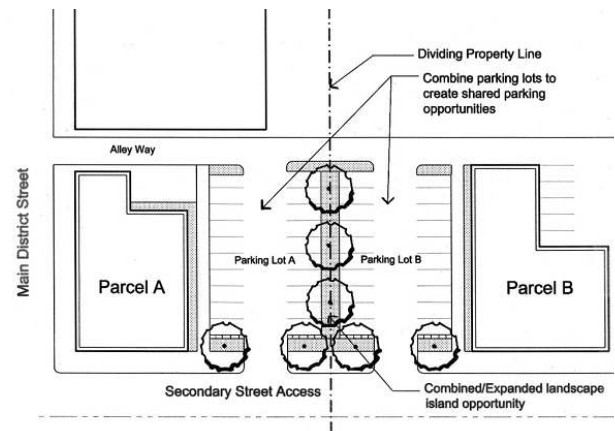
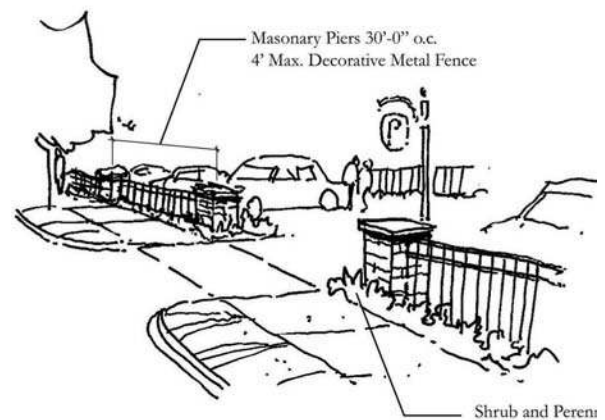


Figure 3.19: Parking lot screening



Parking Placement, Downtown Form-Based Code (2010), Village of Antioch, Illinois. Credit: The Lakota Group.

10.8 PARKING PLACEMENT

10.8.1 FRONT SETBACKS; PARKING LOCATED ADJACENT TO BUILDINGS

Within RR-T and RR-A districts where parking may be located adjacent to the building but not between the building and the front lot line, a minimum front setback of 7 feet is required for any such parking. (See Figure 9) Trees (a minimum of 2.5 inches caliper) and shrubs (a minimum of 24 inches in height) must be planted at the rate of one tree and 10 shrubs for every 40 feet of frontage.

Figure 9: Parking Setback in RR-T and RR-Districts



Parking Placement, Roosevelt Road Form-Based Zoning Districts (2010), Village of Oak Park, City of Berwyn, and Town of Cicero, Illinois. Credit: The Lakota Group.

Parking Strategies to Support Livable Communities

To help communities address their parking concerns with the end goal of making our communities more livable, CMAP created a step-by-step guide to municipal reform of parking policies, entitled *Parking Strategies to Support Livable Communities*. The guide can help municipal governments determine the appropriate steps for addressing their unique challenges and describes more than a dozen strategies to manage parking. It explains how to do a parking survey and effectively engage stakeholders, and also takes a detailed look at the costs of parking structures and available financing mechanisms.

Specifically, typical regulations for architectural standards include:

- The overall shape and size of buildings, categorized by building types, such as single-family homes, multi-family residences, and commercial buildings.
- Roof types, materials, and pitch, along with specifications for dormers, gables, skylights, etc.
- Massing elements that may be added to the main portion of a building, such as wings and bays.
- The composition of façade elements, such as locations of windows and doors, in relation to building corners and one another.
- The types of windows and doors which are allowed, with specifications for height and width, overall proportions, depth, ornamentation, shutters, etc.
- Other architectural elements that may define the local character of a community, such as eaves, cornices, porches, and balconies.
- Which materials are allowed, and how they can be used together.

Block Standards

To address larger project sites (typically larger than two acres) and encourage the creation of walkable neighborhoods, form-based codes may include block and subdivision standards to guide the division of large development sites into an interconnected network of new streets that follow the code's public space standards and smaller blocks that meet the code's standards for maximum block perimeter and length.

Whether to Include Architectural Standards

Whether architectural standards are necessary or appropriate depends on the intended scope and objectives of a community's form-based code, as well as the capabilities of those who will be administering the code. For some communities, developing good standards for the design of its blocks and thoroughfares in the public realm is sufficient or the most politically/economically feasible option.

Absence of architectural standards can yield development that is better than that which would be produced under conventional zoning, but which falls short of realizing the community vision. Communities that are developing a form-based code for special districts are likely to have high expectations for historic compatibility and design quality, and architectural standards will often need to be developed accordingly.

While the inclusion of wisely-developed architectural standards can help make administration of the form-based code more objective, to successfully administer a code with substantial architectural standards, communities will need to have staff with expertise in architectural design (which is somewhat uncommon), hire the consultant services of a "town architect" (an extra expense beyond the means of many communities), or assign the administration duties to a design commission (which can complicate the process, especially for developers, who are likely to be skeptical of the new form-based code anyway).

A. Site

Sites larger than 4 acres shall be subdivided further to create additional blocks.



Site to be subdivided: Illustrative Diagram

B. Introduce Streets

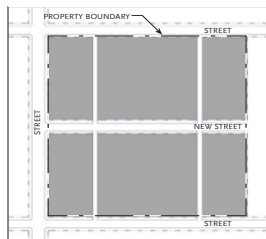
Sites being subdivided into additional blocks shall introduce streets from the list of existing and allowable street types and comply with the block-size requirements in Section 4.6.3.



Introduce Streets: Illustrative Diagram

C. Introduce Alleys

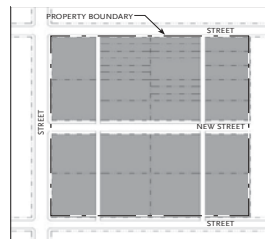
Access to blocks and their individual parcels is allowed only by alley/lane, side street or, in the case of residential development, via small side drives accessing multiple dwellings. The intent is to maintain the integrity and continuity of the streetscape without interruptions such as driveway access. Therefore, although residential development allows minor interruptions along the primary frontage, the introduction of rear service thoroughfares such as alleys and lanes is required.



Introduce Alleys: Illustrative Diagram

D. Introduce Lots

Based on the type(s) of blocks created and the thoroughfare(s) that they front, lots (parcels) are introduced on each block to correspond with the allowable building types in Section 4.4.



Introduce Lots: Illustrative Diagram

E. Introduce Projects

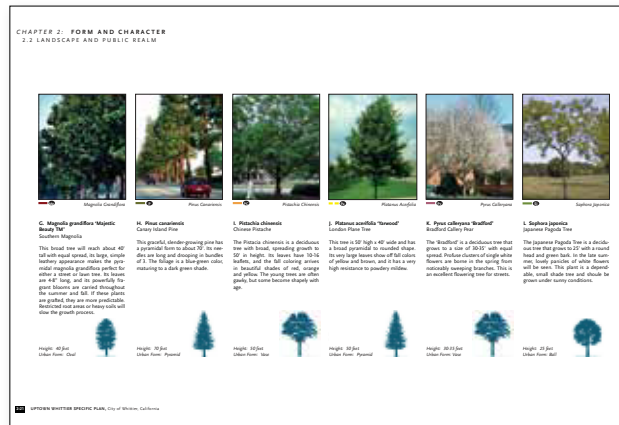
Each lot is designed to receive a building per the allowable building types identified in Section 4.4 and can be arranged to suit the particular organization of buildings desired for each particular block. The allowable building types then are combined with the allowable Frontage Types in Section 4.5 per the Zone in Section 4.3 in which the lot is located, in order to generate a particular urban form and character.



Introduce Projects: Illustrative Photo

Landscape Standards

Some form-based codes include requirements to control the character and quality of the landscape within private spaces as it affects the public realm and the public good, such as requiring native species to address water usage, as well as screening parking lots from the street, buffering more or less intensive uses, and greening parking lots.



Landscape and Public Realm - Street Trees, Uptown Whittier Specific Plan (2008), City of Whittier, California. Credit: Moule & Polyzoides, Architects and Urbanists.

Green Building Standards

Requirements for environmentally sensitive, energy efficient, and low carbon footprint buildings can assist in achieving community sustainability goals.

44.6-26. GAP Form-Based Code

R. Landscape Standards

3. Interior Parking Lot Landscaping.

To provide shade, minimize paving and improve the aesthetic look of parking lots, the following standards apply.

- (a) Applicability: Interior parking lot landscaping is required for all off-street parking areas, regardless of size. The requirements do not apply to all-paved lots. The requirements do not apply to all-tenant developments, except Hotels, Estates, Schools, and Major Multi-Family Buildings.
- (b) Requirements: Typical parking lot landscaping requirements are illustrated in Figure R-3.
- (c) Terminal Ends of Free-Standing Rows: Landscape Islands are required at the terminal ends of any free-standing rows of parking. Free-standing rows or bays of parking are those that are not abutting the parking lot perimeter, and can have a single row or multiple rows.
- (d) Landscape Islands: A landscape island shall be provided every ninth parking space for rows of parking that are more than eight (8) spaces in length. There shall be no more than eight (8) continuous parking spaces in a row without a landscape island.
- (e) Trees in Landscape Islands: Each landscape island must have one (1) medium or large tree planted within it.
- (f) Internal Area Not Dedicated to Parking or Drive: Any space within the parking lot limits that is not dedicated to parking, loading or driveway path shall be landscaped.
- a. One (1) medium or large deciduous tree is required in such spaces for the first one-hundred fifty (150) square feet.
- b. One (1) medium or large evergreen tree is required in such spaces for the first one-hundred fifty (150) square feet.
- c. Interior parking lot, on the side and rear yard buffer, or in the parking lot do not count toward any of the requirements of this section.
- (g) Parking Lot Interior: The paving for interior is defined as the area dedicated to parking on a given parcel as measured from edge of pavement to edge of pavement.
- (h) Landscape Median: A landscape median is required in each free-standing bay of parking along the length of the bay of parking.
- (i) Curbs: A variety of curb types may be utilized for interior parking lot landscaped areas.
- j. Limited types include ribbon, mountable, and slotted curbs.
- (j) Opaque Screen Wall.
- (k) Opaque Gate.
- (l) Landscape Islands

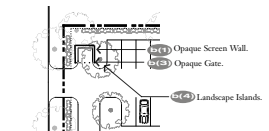


Figure R-4: Screening of Open Storage and Refuse Areas.

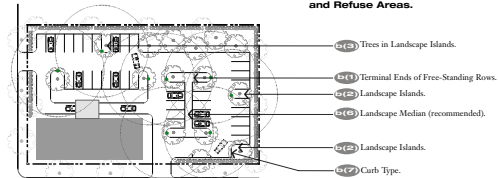


Figure R-3: Interior Parking Lot Landscape

42

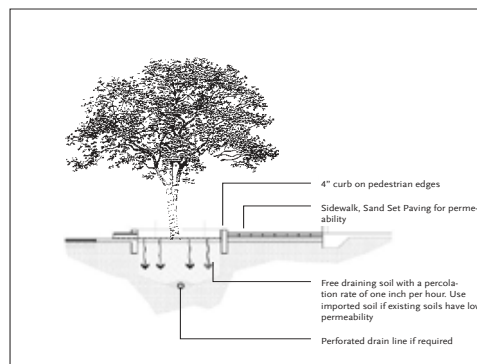
Landscape Standards, Gridley, Allin, & Prickett Neighborhood Form-Based Code (2007), City of Bloomington, Illinois. Credit: Farr Associates.

A.1.4 Storm Water Guidelines and Sustainability

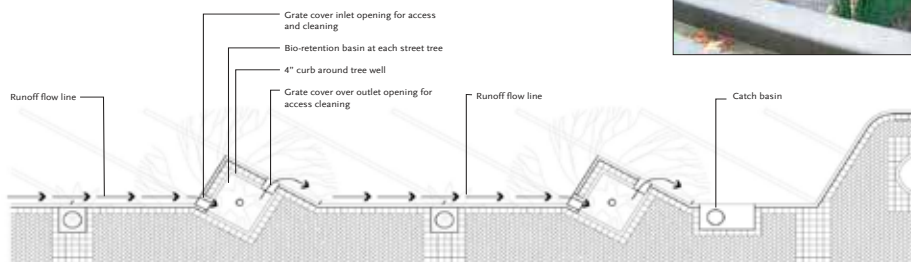
Soils and plant materials can successfully filter pollutants from water. Bio-retention is a soil and plant-based storm water best management practice employed to filter runoff from developed communities.

Various grasses, shrubs, and trees are established to promote evapotranspiration, maintain soil porosity, encourage biological activity, and promote uptake of some pollutants. Runoff from an impervious area is directed into the bio-retention facility. The water infiltrates through the plant/mulch/soil environment, providing the treatment.

Green space is made functional to keep storm water on-site, to minimize runoff by maximizing infiltration, and to employ natural processes for water quality improvement. This is accomplished by running the storm water collected from the sidewalks and streets in the gutter through the street tree planters. The soil level in the planters is six inches lower than the street gutter. Runoff is directed into the planter through a slot into the tree well. The pollutants are caught by the landscape filter and some water is percolated into the soil. Runoff is thus filtered prior to discharge into storm drain line.



Section of bio-retention basin incorporated into tree well



Diagrammatic plan of bio-retention basins and tree wells incorporated into diagonal parking

Right: Bio-retention has multiple utilitarian benefits, including filtering pollutants from stormwater runoff and serving as a landscape buffer to the road pavement. The stormwater collection area is also used for aesthetic purposes, to plant grasses, flowers, and trees.



Right: Water flows from the street into the bio-retention planter to be filtered before draining into the soil and a perforated drain line, if necessary.



Stormwater Guidelines and Sustainability, Uptown Whittier Specific Plan (2008), City of Whittier, California. Credit: Moule & Polyzoides, Architects and Urbanists.

Creating the Development Review Process

Finally, the code team—presumably guided, if not led, by municipal staff and elected officials—should define the process necessary for the submission and approval of development proposals once the form-based code is in place.

These include procedures for submitting, reviewing, and approving proposed development projects, along with a variety of optional sub-procedures, such as historic preservation review and the consideration of nonconformities. Essential rules guiding overall code administration are also included, such as rules for the interpretation of code requirements or resolving perceived conflicts between the form-based code and other municipal code provisions.

Administrative vs. Discretionary Review

Defining the development review process can begin at the conclusion of the creation of the form-based code, or be tentatively established much earlier in the process, perhaps as one of the initial goals of the form-based code effort. One of the key questions will be whether submitted development proposals can largely be approved administratively by staff or if a discretionary body such as a planning commission or design review board is needed.

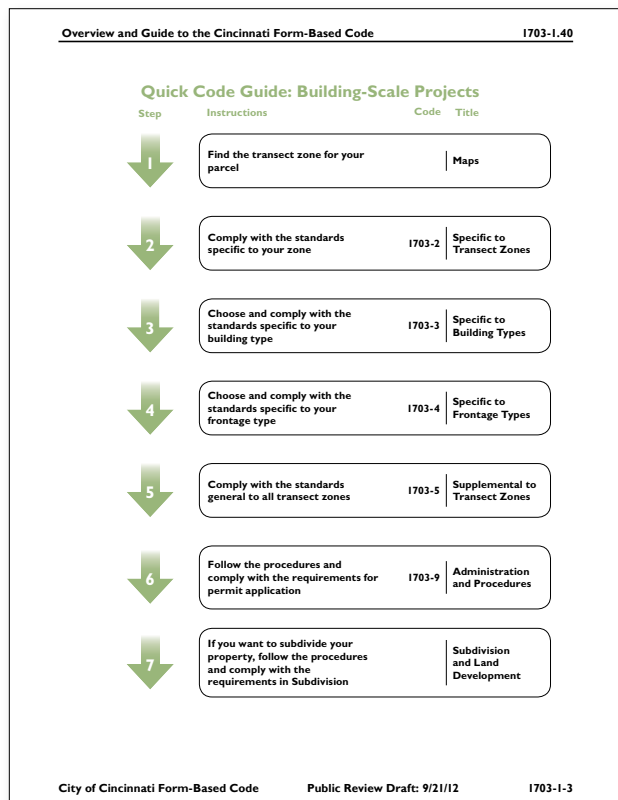
An important selling point for form-based codes is their potential to streamline the development review process. The requirements of a

form-based code are aimed at ensuring predictability in the quality and character of future development, and have been defined by a very specific, comprehensive vision developed in conjunction with the community. Therefore, administrative review and approval should be possible for all projects that comply with applicable form-based code requirements. Similarly, one of the goals of a form-based code should be to make the review and approval process as easy as possible for existing municipal staff.

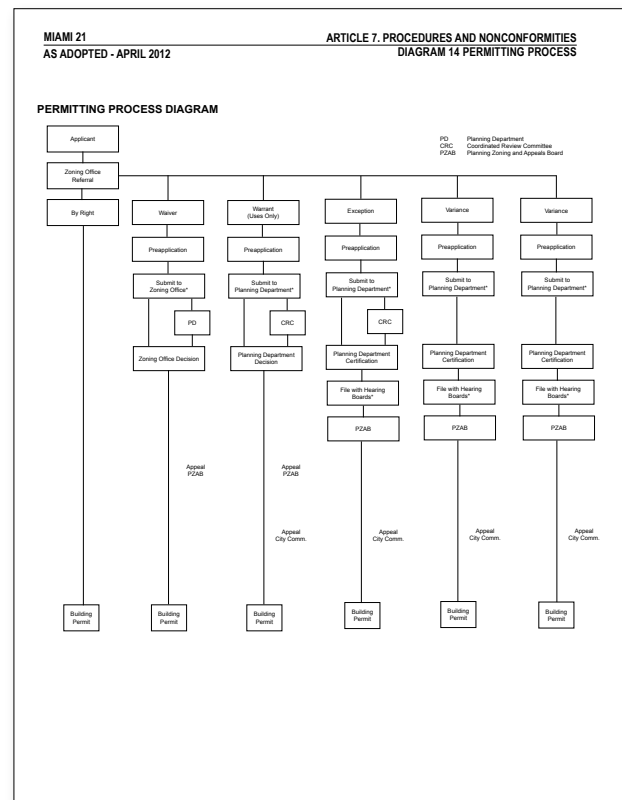
As a result, the substantial investment of time and other resources necessary to create a solid form-based code can be repaid by the reduction in time and resources necessary to review and assess individual development proposals in the future. In the end, administrative project review and approval can greatly reduce uncertainty and risk for developers, encouraging them to develop under it.

Variances

Some form-based codes will need to include a cautious variance process for dealing with development that is in-line with the community vision but proposed for sites with unusual characteristics that necessitate a relaxation or modification of specific requirements of the code.



Quick Code Guide - Building-Scale Projects, Cincinnati Form-Based Code (Public Review Draft, 2012), City of Cincinnati, Ohio. Credit: Opticos Design, Inc.



Permitting Process, Miami 21 Zoning Code (2012), City of Miami, Florida. Credit: Duany Plater-Zyberk & Company.

Nonconformities

Whether a community chooses to use conventional zoning approaches or a form-based code, the way in which it deals with development that does not conform with current standards—but which was legal when constructed—is an important indicator of the extent and speed of the changes it hopes to achieve by updating its zoning code. Determining the best approach depends on the local perceptions and priorities of the community; in some, a rigid approach may not be feasible in the near term, but delaying requirements for compliance or taking a case-by-case approach can threaten the effectiveness of the new form-based code.

Road Test the Code

Once the draft code provisions are completed, but before they are enacted, they should be tested using existing parcel dimensions and/or past or anticipated developments to determine how well the draft code addresses real world development and design issues. The code team and/or staff responsible for development review and approval (such as planning, public works, emergency services, and building officials) should apply the new form-based code procedures and requirements to determine whether the draft code would successfully implement the community's vision without being unnecessarily burdensome to the applicant. To thoroughly test the code, local developers should be invited to participate as well.

Monitor the Performance of the Code

After the code has been adopted, its performance should be systematically monitored by staff, applying criteria similar to that used to road test the code before adoption. The code can be amended as necessary on an annual basis.

2.0 Administration

2.1 REVIEW BODIES

2.1.1 Summary of Review Authority

The following table summarizes the required review and approval authority provided under this development code.

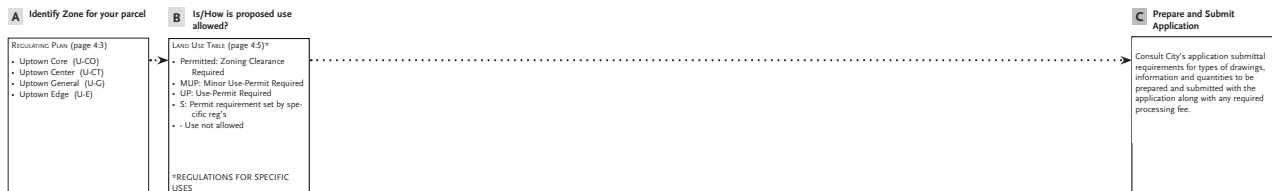
	2.1.2	2.1.3	2.1.4	2.1.5	2.1.6	2.1.7	
	Zoning Administrator	Site Plan Review Board	Planning Commission	Zoning Commission	Zoning Board of Appeals	City Council	Reference
Procedure							
Zoning Compliance Certificates	D	R					2.2
Certificate of Occupancy	D						2.3
Administrative Deviation	D						2.4
Uses Permitted with Administrative Approval	D						2.5
Minor Variations without Site Plan Review	D						2.6
Minor Variations with Site Plan Review	D	R					2.6
Major Variations without Site Plan Review	R				<D>		2.6
Major Variations with Site Plan Review	R	R			<D>		2.6
Appeals					<D>		2.7
Amendments	R	R		<R>		<D>	2.8
Special Use	R	R		<R>		<D>	2.9
Official Development Plan	R	R		<R>		<D>	2.10
Critical Traffic Management Areas	R	R				<D>	2.11
Traffic Impact Analysis	R	R				R	2.12
Subdivision Plat (with waiver)	R		<R>			<D>	2.13
Subdivision Plat (without waiver)	D						2.13
Tract Survey	D						2.13
Multifamily Plan			<R>			<D>	2.13
Certificate of Appropriateness (oNC only)	R	R		<D>			7.1
Annexations	R		<R>			<D>	2.1.4

KEY: R = Review or Recommendation D = Final Decision <> = Public Hearing

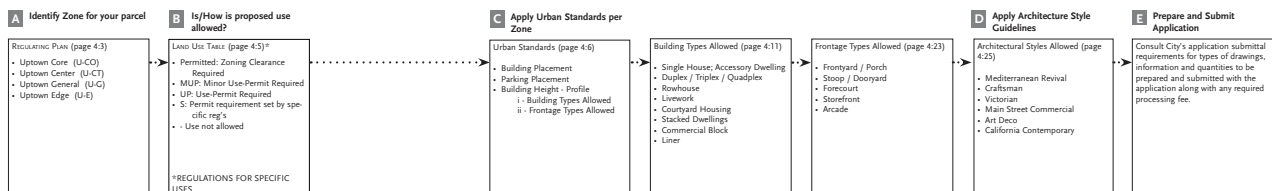
Summary of Review Authority, Heart of Peoria Land Development Code (2007), Peoria, Illinois. Credit: Ferrell Madden/Code Studio.

4.2. Code Organization and Use

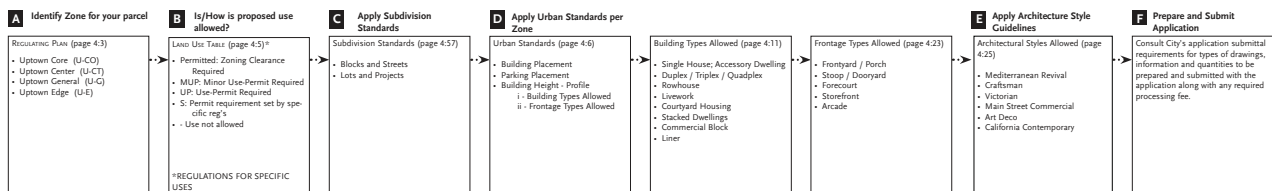
4.2.1 New Use in an Existing Building



4.2.2 New Use and New/Modified Building on Site Less than 2 Acres



4.2.3 Development of 2 acres or more



Code Organization and Use, Uptown Whittier Specific Plan (2008), City of Whittier, California. Credit: Moule & Polyzoides, Architects and Urbanists.



Photo simulation of proposed changes to the intersection of Sycamore Avenue at San Pablo Boulevard, Central Hercules Plan (2001), City of Hercules, California.
Credit: Urban Advantage (www.urban-advantage.com).

Conclusion

There are many options for municipalities that want to preserve or encourage a particular sense of place in their community. However, most find it difficult to do so.

One reason is conventional zoning's narrow focus on what uses are permitted (or rather what uses are prohibited). While this approach has been remarkably successful at protecting the health and safety of the public over nearly a century, conventional zoning has neglected to provide guidance—some would say leadership—on what the physical character of our communities should be.

How Flexible?

Admittedly, our individual aesthetic preferences are diverse. Some critics contend that form-based codes threaten to dictate architectural style, which encourages the creation of “cookie cutter” communities as monotonous as those they are meant to surpass. Many of these same critics observe that form-based codes and other design standards tend to favor architectural styles or features from specific—and possibly idealized—eras in the past, rather than addressing the actual needs and preferences of people living today (porches that are charming but rarely used are often cited as an example). Some even believe that conventional zoning, by focusing on what uses are permitted, allows for greater freedom in the design of our communities, from large urban areas to the buildings we call home.

Advocates counter that form-based codes are exceedingly flexible, and can be made to not only allow but facilitate a broad scope of architectural, landscape, and urban design in a community. At the same time, many of them will acknowledge that the most successful form-based codes tend to be those in which the community has comprehensively identified the specific details of form that it wants and will require of future development.

Will It be Accepted by Developers?

Some developers have expressed unease about having to adapt to a new system of regulation and development review, often complaining that the existing development review process (typically following conventional methods of zoning and regulation) is already too onerous and frustrating. Indeed, it's not uncommon for communities with exacting standards regarding use to be attracted to form-based codes, but choose to simply add a new layer of regulation to existing requirements.

However, the development of a comprehensive form-based code usually requires a community to reassess its existing system of development regulation. In addition, the greater precision and predictability inherent in most form-based codes can offer a community the opportunity to streamline the development review process, often with the aim of persuading local developers to support the new code and, ultimately, to encourage the type of development wanted by the community.

An Approach Deserving Wider Recognition

In the end, form-based codes are but one approach available to communities, but it is one that deserves wider recognition among municipal staff and elected officials. The term “form-based codes” is becoming familiar to many, but relatively few understand how they work, how adaptable they can be, and what would be entailed in creating one for their community. CMAP hopes that this guide will help advance that understanding within our region.

Learn More

This guide to form-based codes is intended as an introduction. We hope that it will help local staff, elected officials, and residents in municipalities throughout our region determine whether a form-based code might be right for their community.

Most communities will want to gain a fuller understanding of the details of form-based codes before they embark on the process of creating one. Fortunately, many resources are available for communities that want to take that next step.

Form-Based Codes Institute

Based in Chicago, FBCI is a non-profit professional organization dedicated to advancing the understanding and use of form-based codes throughout the United States. As part of its core mission, FBCI develops standards for form-based codes, identifying the essential elements of a well-crafted code and highlighting the best examples for other communities to learn from.

FBCI's website (www.formbasedcodes.org) provides several resources on form-based codes, including definitions, sample codes that exhibit best practices, a posting of current RFPs from communities developing form-based codes, and a sample RFQ that municipalities can use, along with an evaluation checklist to help communities evaluate consultant qualifications and work proposals.

FBCI provides education for municipal staff, elected officials, and residents engaged in planning for their communities. At present, FBCI offers the following courses, led by several of the world's leading experts on form-based codes, who continually review and write codes in their work:



FBC 101e: ABCs of FBCs On-Line

An 8-hour web-based course that provides a comprehensive introduction to the principles and components of form-based codes, as powerful regulatory tools to shape community form and character. The course is composed of eight segments arranged in sequential order, with recorded presentations, reading assignments and a virtual field exercise, which can be completed at the convenience of the participant in a single day or during a period of up to six weeks.

FBC 201: Preparing a Form-Based Code - Design Considerations

An advanced course for individuals who have completed FBC 101e. During two days, participants gain an in-depth understanding of urban form for a regulatory framework, exploring design possibilities for greenfield sites, redevelopment sites, already built-out communities, and regional plans. Instructors explain how design principles are applied to create the basic elements of a form-based code (such as building form and public space standards), through lecture and case study, combined with “hands-on” participatory exercises.

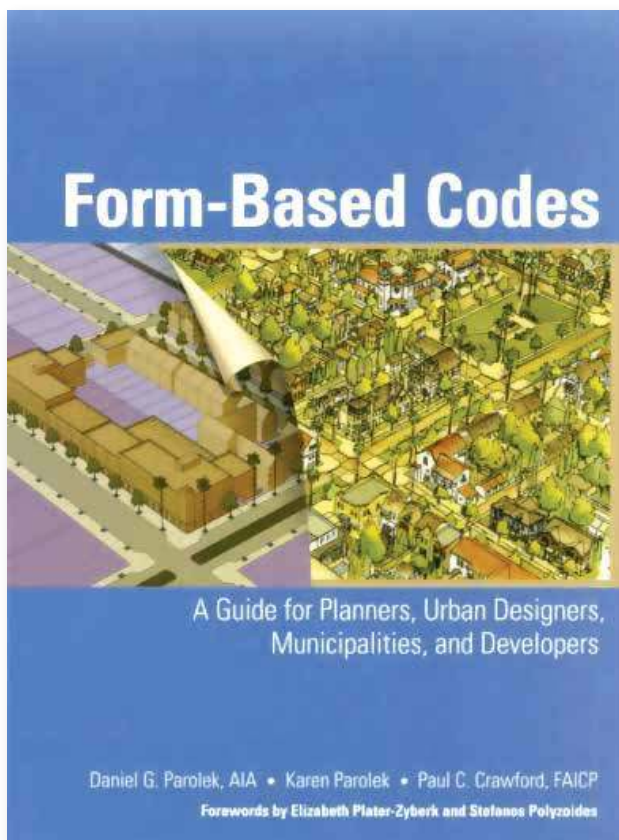
FBC 301: Completing, Adopting and Administering the Code

A two-day, advanced course for individuals who have completed FBC 101e, detailing the mechanics of creating, adopting, and administering a form-based code in a community, including:

- How to structure the coding process, including what must happen before and after the code is drafted.
- The legal aspects of adopting a form-based code (for example, its consistency with a comprehensive plan).
- What to keep or discard from an existing conventional code.
- The advantages and disadvantages of mandatory, parallel, and floating-zone form-based codes.
- The role of design standards within the development review process.
- How form-based codes are adopted and implemented.
- Insulating against potential challenges.

Form-Based Codes: A Guide for Planners, Urban Designers, Municipalities, and Developers

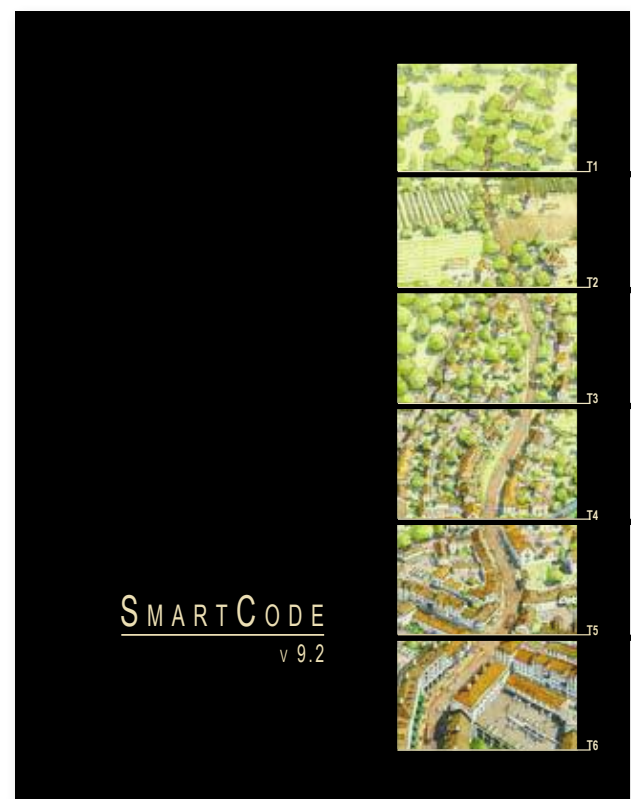
To explain how a form-based code can be developed, this guide follows the approach recommended by architects Daniel and Karen Parolek of Opticos Design, Inc. (www.opticosdesign.com), authors (with Paul Crawford) of *Form-Based Codes: A Guide for Planners, Urban Designers, Municipalities, and Developers* (John Wiley & Sons, 2008). At present, their textbook offers the most comprehensive explanation of how form-based codes work and how they are created, drawing upon years of experience developing award-winning form-based codes for communities across the nation (many of which are featured in the images included in this guide). The book is lavishly illustrated with diagrams, maps, plans, and renderings from numerous case studies that demonstrate best practices in the creation of form-based codes.

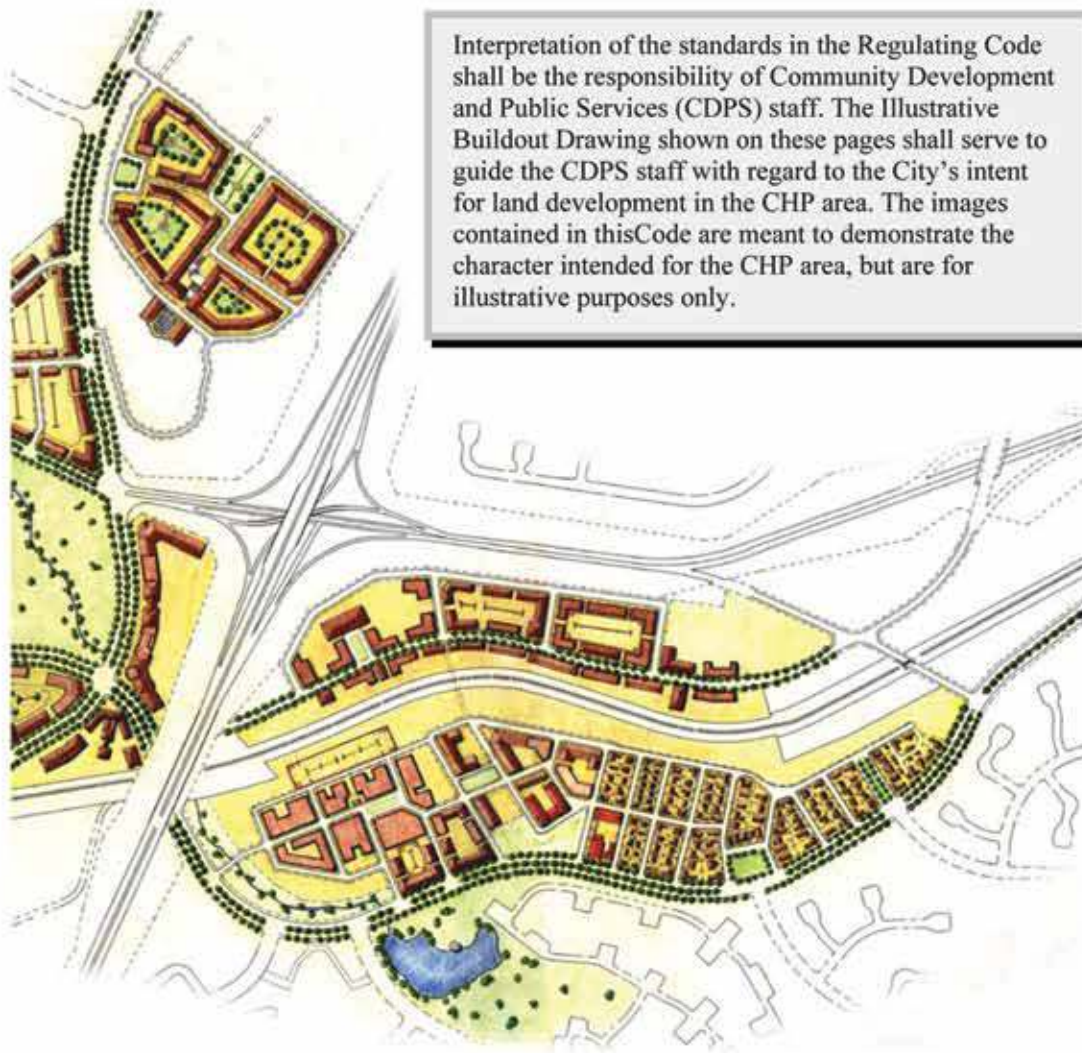


SmartCode

The SmartCode is a comprehensive, transect-based form-based code template (or “model ordinance”) that includes model language, standards, and requirements for multiple scales of development by the public and private sectors, as well as administrative procedures for development review and approval. It is intended to be customized to the local context, priorities, and legal requirements of each community that uses it.

Approachable and relatively easy to follow, it has been used by several communities across the United States, and refined over the years due to the fact that it is “open source” and free of charge. It is available for download at www.smartcodecentral.org.





How to Use the Regulating Code

1. Determine whether your use is permitted in the Central Hercules Plan area.
2. Determine whether your site falls within the Waterfront District, Central Quarter, Hospitality Corridor, or Hilltown.
3. Determine which Street Type your lot fronts. (If you have a corner lot, you must determine the primary space or street based on the hierarchy on page II-2. Review Chapter II for provisions about the Street Type that corresponds to the lot.
4. Review the Use Table (Chapter III) and the General Provisions (Chapter VI) which apply throughout the Central Hercules Plan area.
5. Review the Projecting Façade Elements and Architectural Regulations (Chapter IV) which contain specific rules for Buildings.

