

February 1, 2021

VIA EMAIL & HAND DELIVERD

Mr. John Sych, Director of Planning  
Charter Township of Garfield  
3848 Veterans Drive  
Traverse City, MI 49684

**Re: BATA HQ Transit-Oriented Mixed-Use Development PUD**  
Supplemental Information in advance of the Public Hearing

Dear Mr. Sych,

On behalf of the development partners, we are providing you with the enclosed supplemental information. Responses to the questions generated during the introductory meeting at the Township Planning Commission and as provided to us by Township staff are answered in blue italicized font below and are in the same order as they were received.

- 1) It was stated that the “Housing partnership is necessary for BATA”
  - a. If this is the case, then provide evidence of required link between transit and housing.  
*BATA and TCHC created a mutually beneficial partnership for this project. Each piece hinges upon the other.*

*For the transportation side, it is known and understood that the zoning of the parcel does not offer “use by right” for BATA’s operation, which is what led to the partnership idea and the concept of the transit oriented mixed-use development. It is a way to provide a public benefit that outweighs the special use of the land, thus realizing the spirit of a PUD. The Transit Oriented Development partnership is included in the narrative which resulted in Federal Funding for the transit portion of the project.*

*For the housing side, access to transportation is often a barrier to the funding sources needed to develop workforce housing. Certain State funding sources require land use approval by the local municipality for application.*

*Both partners have entered into an agreement for purchase of the land which is contingent on PUD approval.*

**See attached Federal Transit Administration grant funding project description which states that the project is associated with housing.**

- 2) Phasing Plan for the Development
  - a. This may include a phased approach for Residential Phase. Tony Lentych mentioned the idea of a Phase 1 consisting of 60-100 multi-family units.

*The Traverse City Housing Commission has posted a request for qualifications for a housing development partner with which to implement this project. Responses to the RFQ are currently being reviewed. Based on resulting discussions and timing of available funding opportunities, Traverse City Housing Commission will provide a phasing schedule as soon as possible.*

**A note indicating multi-family residential unit mix and density has been added to sheet C4.0-1 of the Civil Plan Set.**

3) Building Elevations

- a. Building heights for multi-family residential units and childcare center
- b. Building materials for buildings
- c. Clarification on dormers for multi-family residential units
- d. Façade elevations for single family residential units and childcare center.

*Please see updated building graphics and elevations.*

*The applicant is asking for multi-family building height of 3-stories/40feet as is allowed in the high-density residential zoning district.*

**See attached revised building elevations. Building heights have been noted on sheet C4.0-1 of the Civil Plan Set.**

4) Child Care Center Screening

- a. Screening between Transfer Station and Child Care Center

*Fencing and landscape screening has been added between the transit and daycare uses. A landscape plan for the Residential Phase is provided by Gibbs Planning Group.*

**See attached landscape plan and sheet C4.0 of the civil plan set.**

5) Café

- a. Will the building only be used for a café? At 2,500 square feet, it could accommodate other uses. Any other uses potentially located in the building?

*The café building site will be conveyed as an out lot within the PUD. The applicant intended for the café use to be a possible amenity to the transit use as well as on-site and surrounding residential uses, but other commercial and/or office uses are welcome at this location.*

**The civil plan set has been updated with the following note to reflect the possibility of various café/commercial/office uses allowed in the proposed structure.**

*BATA/TCHC MUD PUD – List of Possible Permitted Uses for Café Building*

*The following uses are permitted for the Café building. Drive-through, pick-up window or any auto- oriented feature are prohibited for any use of the building.*

- Financial Institution, without Drive-Through
- Medical Office, Clinic
- Office

- *Restaurant, without Drive-Through*
  - *An establishment where food and drinks are prepared, served, and consumed, mostly within the principal building such as lunch counters, dairy bars, bars, taverns, night clubs, coffee shops, and other similar establishments.*
- *Retail, Low Volume*
  - *The sale or rental of goods or merchandise, including the rendering of services incidental to the sale of such goods, taking place in a building of less than five thousand (5,000) square feet. Low volume retail primarily serves residents of the surrounding neighborhood.*
- *Service Establishment, Personal*
  - *Establishments primarily engaged in providing services involving the care of a person or their goods such as beauty shops, barber shops, laundry facility, jewelry repair shops, dry cleaning establishment (pickup only), and shoe repair, excluding the processing of physical materials.*

## 6) Wetlands

### a. Wetland delineation certification from EGLE.

*EGLE provides wetland certification during the summer months, between May and October. The applicant will apply for EGLE certification of the wetland delineation performed by third party Voice Environmental for review by EGLE at the earliest opportunity.*

**A pedestrian boardwalk wetland crossing between transit and residential phases has been added to the set civil plan. It will be included in EGLE review/permitting.**

## 7) Environmental Assessment

### a. Response planned for existing environmental conditions. Extensive details are not needed. We just need indication that the contamination will be addressed.

*Exposures to the impacted soils will be considered in the environmental planning for the site. Soils impacted with residual agrochemicals in the historic orchard area will be managed in that area through development of the project grading plan. The project grading plan will be developed such that soils in the orchard area remain in that area. Potential unacceptable exposures to the soils will be managed or mitigated by covering the soils with unimpacted topsoil and vegetation or covering with hard surface parking, driveway or buildings. Any excess soils in this area will be characterized and disposed of at a licensed facility. It is also possible that site specific exposure criteria for the specific future use in this area can be developed which will demonstrate acceptable exposure for future uses. - Roger Mawby*

**This note has been added to sheet C2.1 Demolition Plan of the civil site plan.**

## 8) Landscaping

### a. Landscaping Plan for Residential Phase

**A landscape plan for the Residential Phase is provided by Gibbs Planning Group.**

- b. Inventory and credit for existing landscaping along Hammond Road

*The existing stand of trees to remain along Hammond Road is a dense stand of sugar maple trees with predominant sizes ranging from 3-inch to 10-inch. The stand of trees is approximately 250-feet long and 45-feet wide and contains to may trees to provide an inventory of individual trees. The quantity of existing trees more than exceeds the requirements of the buffer yard landscaping.*

**Please see the attached photos for reference.**

9) East End of Site

- a. State no vehicular connection to Garfield Road on the site plan

**A note has been added to sheet C4.0 of the civil site plan.**

- b. Will there be any non-motorized connection to Garfield Road?

*The applicant is not proposing any non-motorized connection to Garfield Road. The applicant does intend to convey the wetland areas to a conservation agency. The applicant is not aware if that agency would want to develop nature trails on the site.*

- c. Identify use, management, and ownership for the east end of the site.

*The proposed conservation easement will include the entire east end of the PUD project boundary. The applicant has reached out to the conservation agency and will share any documented interest as soon as it becomes available.*

10) Open Space

- a. Identified amenities and access – trails, benches, etc.

**The civil plan set has been updated to include recreational amenities such as a playground, benches, additional trails, and a dog park area.**

11) Access

- a. Alignment of driveway with proposed church site to the north.

*The applicant has provided the church group with plans for the proposed shared driveway for future collaboration and planning.*

- b. Alignment of driveway intersection with LaFranier with Ridge45 entrance to the west.

**The northern driveway along LaFranier has been modified to align directly across the street from the existing Ridge45 entrance.**

*The applicant is in contact with the Church developer to the north regarding the shared driveway.*

12) Traffic Impact Study

*Progressive AE has had discussions with Township staff regarding the scope of this task and is working towards providing a traffic impact study (estimated 6 weeks to complete).*

13) Vehicular Parking



- a. Justification for relief from parking requirements  
**See attached Best Practices for Workforce Housing and TOD Parking memorandum provided by third party consultant McKenna. The civil plan set has been modified to reflect 1 parking space provided per each multifamily unit. 210 total multifamily units/210 total multifamily parking spaces.**
- b. Documentation to support parking needs for multi-family residential. Documentation may include:
  - i. Parking demand at other TCHC locations - What is the number of transit users at those locations?
  - ii. Parking passes for tenants?  
*TCH requires tenants to display a parking pass for vehicles in facility parking lots.*
  - iii. Unit type and size – floor plan  
**Multifamily type, size and count has been added to the civil plans.**

<u>Multi-Family Residential Unit Mix</u>		
48%	100	Studios (400sf)
33%	70	One-Bedroom (600sf)
19%	40	Two-Bedroom (800sf)
100%	210	TOTAL UNITS
- c. Documentation to support parking needs for bus facility.  
*BATA representatives have provided a list of staff for the proposed Headquarters facility. Staff totals 85 persons on site. A 100-space parking lot is provided.*  
  
*The proposed BATA facility is almost identical in physical scale of the buildings as the GT County Road Commission facility located across the street. The Road Commission parking lot has less than 100-parking spaces.*  
  
**See attached staff count and parking needs assessment.**

#### 14) Park and Ride Lot

- a. Deferred parking may be considered for this lot. If this is proposed, then the location of such parking needs to be identified on the site plan per Section 551.C(9)  
*Research of MDOT's park-n-rides within the 10-county region indicate an average 25-30 parking spaces per park-n-ride facility. Best-practices of peak usage of park-n-ride facilities from transit agencies indicates a maximum occupancy of 9am – 3pm on average. The occupancy averages combined with BATA's average park-n-ride usage of less than 10 vehicles would indicate ample excess parking for patrons of the café and housing development after daytime working hours.*  
*-Tyler Bevier, BATA Transportation Planner*

#### 15) Parking Surface

- a. Removed grass parking near fuel station.  
**Grass parking has been removed.**

16) Bicycle Parking

- a. Number of bike parking spaces in Residential Phase.  
**The required number of bike parking spaces per the zoning ordinance has been added to the residential phase of the civil site plan.**
- b. Number of bike parking spaces for childcare center, café, park and ride lot.  
**The required number of bike parking spaces per the zoning ordinance has been added to the transit and commercial uses of the residential phase of the civil site plan.**

17) Non-Motorized Circulation

- a. Sidewalks from BATA headquarters to LaFranier Road and Hammond Road sidewalks.  
**The sidewalk extensions have been added to the civil plan set.**
- b. Sidewalk from the bus transfer station to LaFranier Road sidewalk  
**The sidewalk extensions have been added to the civil plan set.**

18) Fueling Station

- a. The site plan shall state that the only fueling permitted is for LPG.  
*BATA will have 75% of the fleet using propane within next 5 years. The remaining 25% will be diesel and/or gasoline and will fuel off-site.*  
**A note has been added to sheet C4.0 of the civil plan set.**

19) Lighting

- a. Lighting and photometric plan for the Residential Phase.  
**The photometric plan has been revised to include the entire PUD, Transit Phase and Residential Phase.**

20) Signs

- a. A complete sign plan, including multi-family residential buildings, childcare center, café, etc.  
**Please see the attached, updated sign plan.**

21) Snow Storage

- a. Information on how the amount of snow storage was calculated included with these numbers, such as the total amount of impervious area proposed.  
**Please see the attached snow storage calculation exhibit.**

22) Dumpsters

- a. Dumpster details should be provided on the site plan  
**The dumpster detail was added to sheet C1.2 of the civil plan set.**

23) Other Bus Services

- a. Only BATA bus services will be provided in the PUD. No other bus services will be provided at this location, including Indian Trails. BATA services only. This condition shall be noted on the site plan.

*BATA intends to continue to serve Indian Trails intercity bus riders via its Hall Street Transfer Station. Bus service at the proposed LaFranier transfer station is intended for primarily BATA bus services, but the applicant does not wish to limit any future additional regional transportation opportunities such as employer shuttle busses etc.*

**The note above has been added to sheet C4.0 of the civil plan set.**

Please feel free to contact me should you have any questions or require any further clarification.

Respectfully submitted,



Douglas L. Mansfield  
President

CC: Kelly Dunham, Executive Director -Bay Area Transportation Authority  
Tony Lentych, Executive Director -Traverse City Housing Commission  
Douglas R. Luciani, Vice President of Strategy & Community Impact -Cunningham-Limp  
Jason Lipa, Director of Pre-Construction Services -Cunningham-Limp  
Seth Horton, P.E. Senior Project Manager -Progressive AE  
Robert Gibbs, FASLA, AICP, President -Gibbs Planning Group  
Petra Kuehnis, Landscape Architect -Mansfield Land Use Consultants

- 1) Federal Transit Administration  
BATA project funding description



Federal Transit Administration



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## Related Links

- [Grants for Buses and Bus Facilities Program](#)

## Related Documents

- [FY 2020 Grants for Buses and Bus Facilities Project Selections Notice](#)

## Contact Us

Office of Program Management  
Federal Transit Administration  
1200 New Jersey Avenue, S.E.  
Washington, DC 20590  
United States

**Phone:** 202-366-2053  
**Fax:** 202-366-7951  
**Business Hours:**  
8:30 a.m.-5 p.m. ET, M-F

## Fiscal Year 2020 Buses and Bus Facilities Projects

State	Project Sponsor	Project Description	Funding Amount
AK	Fairbanks North Star Borough	Fairbanks North Star Borough in Alaska will receive funding to complete construction of the second phase of a project to replace its current transit facility, which has exceeded its useful life. The new facility will include warm storage, administrative offices and operations facilities as well as additional maintenance bays, which will improve transit service and reliability in Fairbanks.	\$10,403,343
AK	Ketchikan Indian Community (KIC)	Ketchikan Indian Community (KIC) in Alaska will receive funding to purchase a new transit vehicle to expand transit service for tribal residents within the Ketchikan Gateway Borough. This project will improve safety, reliability and mobility for tribal residents in southeastern Alaska.	\$93,000
AL	City of Huntsville, Alabama	The City of Huntsville, Alabama, will receive funding to construct a multimodal transfer station and renovate its existing operating facility. The project will improve safety and reliability, and accommodate growing ridership for Huntsville Transit.	\$12,541,782
AZ	City of Phoenix Public Transit Department	The City of Phoenix Public Transit Department in Arizona will receive funding to purchase new buses that will replace aging buses that have exceeded their useful life. The new vehicles will improve the safety and reliability of transit service for residents in the Phoenix area.	\$6,948,750
CA	Butte County Association of Governments	The Butte County Association of Governments in California will receive funding to purchase electric buses and related charging equipment and infrastructure for B-Line (Butte Regional Transit). This project will improve the safety and reliability of transit service for residents in Chico, Oroville, Paradise, and communities throughout Butte County.	\$1,767,769
CA	California Department of Transportation on behalf of Kern Regional Transit	The California Department of Transportation will receive funding on behalf of Kern Regional Transit to construct a bus maintenance facility in Kern County. This project will improve the safety and reliability of transit service for residents in the City of Bakersfield and throughout Kern County.	\$1,400,000
CA	City of Davis	The City of Davis in California will receive funding to purchase new battery-electric buses to replace aging buses that have exceeded their useful life. This project will improve the safety and reliability of Unitrans public transit, which serves residents of the City of Davis, including students and employees of the University of California-Davis.	\$3,760,000

	State	Project Sponsor	Project Description	Funding Amount
	ME	City of Bangor	The City of Bangor, Maine, will receive funding to add passenger shelters and bus boarding areas for its Community Connector service, which has used a "flag stop" hailing model with no designed bus stops. The project will produce a bus stop location plan considering ridership, connectivity, transfer points, accessibility, safety, streetscapes and rider amenities, creating more efficient, better connections to jobs, schools and community services.	\$396,800
	ME	Greater Portland Transit District	The Greater Portland Transit District in Maine will receive funding to replace aging buses that have exceeded their useful life. The bus replacements will be ADA-compliant and improve safety and efficiency for the fleet, which serves a growing ridership in the City of Portland.	\$821,526
	ME	Maine Department of Transportation	The Maine Department of Transportation will receive funding to build an intermodal welcome center at the Acadia Gateway Center in Trenton, Maine, near the entrance to Acadia National Park. The center will serve as the headquarters for Downeast Transportation, Inc.'s popular Island Explorer bus system, which serves the National Park and surrounding communities.	\$9,000,000
	MI	City of Battle Creek (Battle Creek Transit)	The City of Battle Creek (Battle Creek Transit) will receive funding to purchase buses to replace aging vehicles that have exceeded their useful life. The new buses, which will feature modern safety technology for drivers and riders, will allow Battle Creek Transit to improve reliability and reduce maintenance costs.	\$5,340,000
	MI	Capital Area Transportation Authority (CATA)	The Capital Area Transportation Authority (CATA) in Michigan will receive funding to rehabilitate its bus terminal in downtown Lansing. The project will allow CATA, which serves Lansing, Ingham County and surrounding areas, to improve safety and accessibility for passengers and keep the terminal in a state of good repair.	\$1,824,416
	MI	Michigan Department of Transportation	The Michigan Department of Transportation will receive funding for bus facility rehabilitation and expansion projects for four rural transit providers. The project will allow the City of Big Rapids, Gladwin County, Ogemaw County and the Roscommon County Transportation Authority to enhance transit safety and access and improve service reliability.	\$2,365,600
	MI	Michigan Department of Transportation	The Michigan Department of Transportation will receive funding to purchase transit vehicles for rural transit agencies across the state. The new vehicles will allow the agencies to replace aging vehicles and expand their fleets, resulting in enhanced safety and service reliability for riders.	\$4,924,382
BATA Transit Oriented Development	MI	Michigan Department of Transportation	The Michigan Department of Transportation will receive funding for the construction of a new headquarters and transfer station for Bay Area Transportation Authority (BATA). BATA, which provides transit service in Leelanau and Grand Traverse counties, is constructing the project in tandem with the Traverse City Housing Commission which is developing affordable workforce housing on an adjacent site.	\$13,380,000
	MN	Metropolitan Council on behalf of Minnesota Valley Transit Authority (MVTA)	The Metropolitan Council will receive funding on behalf of the Minnesota Valley Transit Authority (MVTA) to improve and modernize the Burnsville Bus Garage. The project will allow MVTA, which provides transit service to Twin Cities suburbs in Dakota and Scott counties, to improve safety and efficiency and accommodate future fleet and service expansions.	\$2,800,000



State	Project Sponsor	Project Description	Funding Amount
WI	City of Madison	The City of Madison, Wisconsin, will receive funding to purchase new 60-foot articulated buses and upgrade a maintenance facility to accommodate the larger buses. This project will reduce overcrowding on Metro Transit's high demand bus routes, and improve transit service and reliability for residents of Madison and the surrounding communities.	\$4,676,760
WI	Milwaukee County	Milwaukee County in Wisconsin will receive funding to replace an aging roof that is 35 years old and has exceeded its useful life at the Milwaukee County Transit System Fleet Maintenance Facility. The new roof will improve maintenance activities and ensure a state of good repair so the transit system can continue to provide safe and reliable transit service for residents throughout Milwaukee County.	\$3,003,628
WY	Wyoming Department of Transportation on behalf of the University of Wyoming	The Wyoming Department of Transportation on behalf of the University of Wyoming will receive funding to construct a new transit maintenance and storage facility in Laramie, Wyoming. The new facility will replace an obsolete facility that is over 70 years old, improve maintenance activities and ensure a state of good repair for University of Wyoming Transit Services.	\$4,237,262

**Funding Total:**  
**\$463,848,929**

Last updated: Tuesday, August 11, 2020

U.S. DEPARTMENT OF TRANSPORTATION

**Federal Transit Administration**

1200 NEW JERSEY AVENUE, SE

WASHINGTON, DC 20590

202-366-4043

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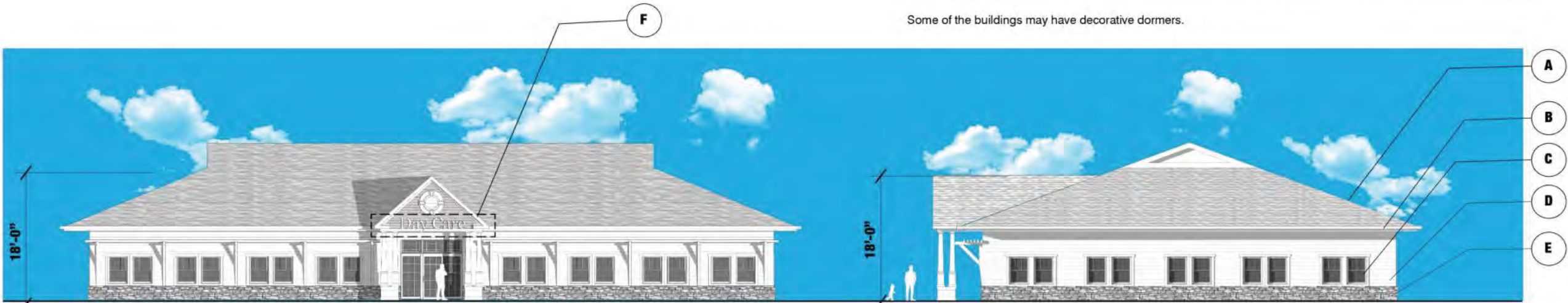
[Web Standards](#)

### 3) Building Elevations Residential Phase updates

Architectural Standards  
**Conceptual Daycare Building**

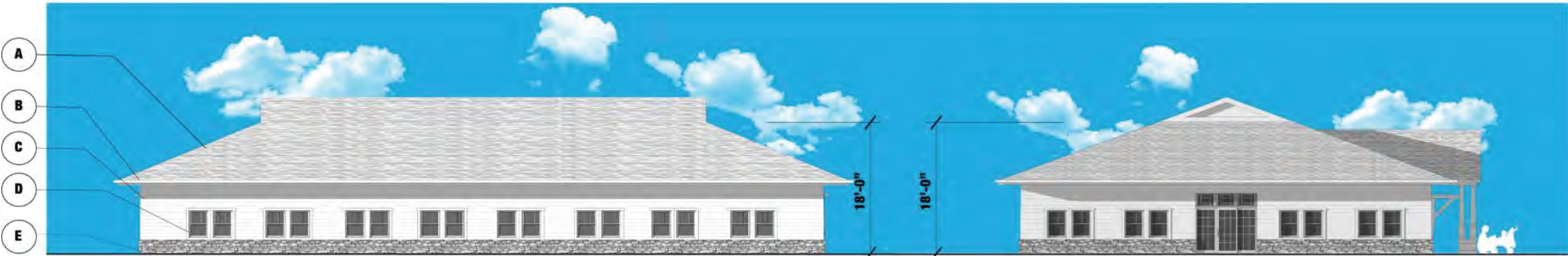
Key	Description	Color	Manufacturer	Style/Material
A	Asphalt Shingle	Black	Firestone or equal	Metal
B	Pre-finished mtl trim	Benjamin Moore Harbor Grey, AC-25	Unclad or equal	Alum.or Mtl.
C	Wall Siding	Benjamin Moore Harbor Grey, AC-25	James Hardie	Fiber-Cement Panel
D	Dbl Hung Window	White	T.B.D. or equal	Vinyl
E	Wall Stone	Limestone, tan, grey or approved equal	T.B.D. or equal	Natural or Manufactured
F	2' x 20' signage (40 sq. ft)	White or approved equal	T.B.D. or equal	Wood or Mtl.

Some of the buildings may have decorative dormers.



**Front Elevation**

**Right Elevation**



**Rear Elevation**

**Left Elevation**





**Front Elevation**

Architectural Standards  
**Conceptual Apartment Building**

Key	Description	Color	Manufacturer	Style/Material
A	Asphalt Shingle	Black	Firestone or equal	Metal
B	Pre-finished mtl trim	Benjamin Moore Harbor Grey, AC-25	Unclad or equal	Alum.or Mtl.
C	Wall Siding	Benjamin Moore Harbor Grey, AC-25	James Hardie	Fiber-Cement Panel
D	Dbl Hung Window	White	T.B.D. or equal	Vinyl
E	Wall Stone	Limestone, tan, grey or approved equal	T.B.D. or equal	Natural or Manufactured
F	Wall Siding	Benjamin Moore Smokey My. AC-18	James Hardie	Fiber-Cement Panel

Some of the buildings may have decorative dormers.



**Rear Elevation**



**Left & Right Elevation**

Apartment Building Concept Renderings

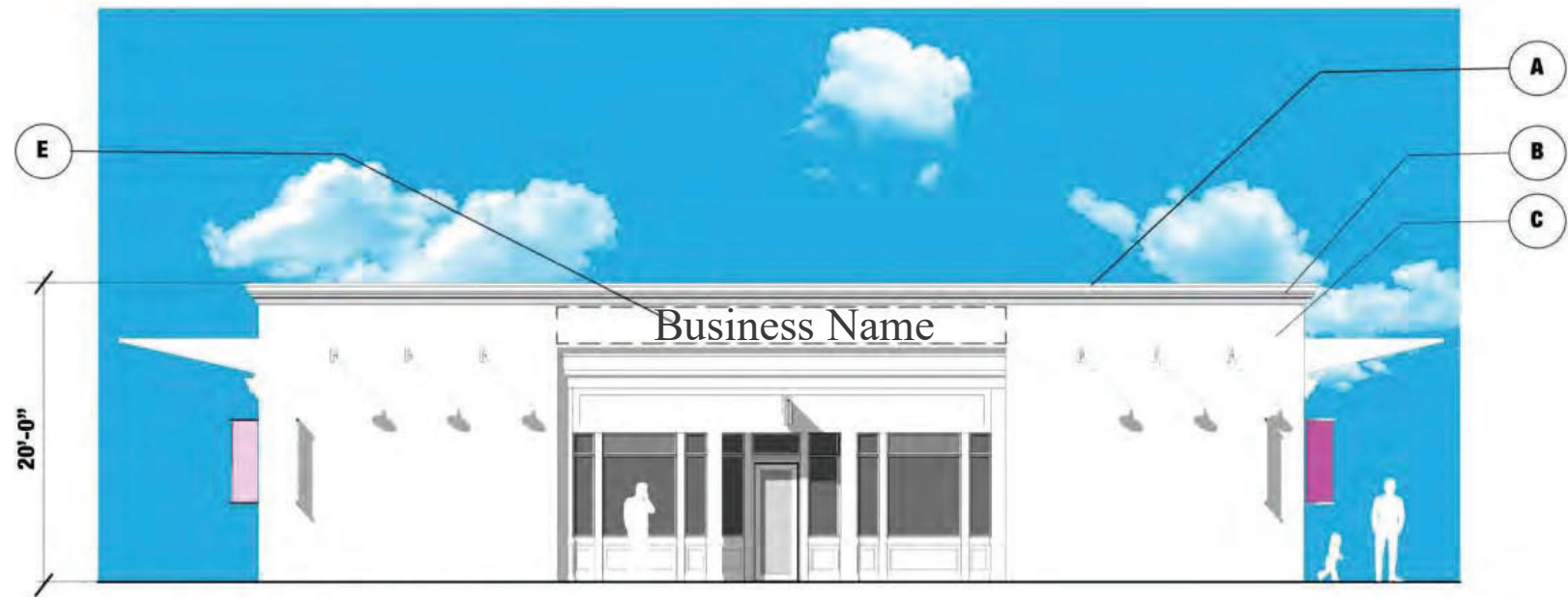
# BATA North Site Master Plan

Garfield Township, Michigan 20 January 2021





Architectural Standards  
**Conceptual Cafe Building**



**Front & Rear Elevation**



**Right & Left Elevation**

Commercial Building Size: 36' x 70'

Key	Description	Color	Manufacturer	Style/Material
A	Commercial Roof	Black	Firestone or equal	Single Layer or BUR
B	Pre-finished Fascia trim	Benjamin Moore Harbor Grey, AC-25	Unclad or equal	Alum. or Mtl.
C	Wall Siding	Benjamin Moore Harbor Grey, AC-25	James Hardie	Fiber-Cement Panel
D	Storefront Window/Door	Silver or approved equal	T.B.D. or equal	Aluminum
E	2' x 20' signage (40 sq. ft)	T.B.D.	T.B.D.	Wood or Mtl.

Commercial Building Concept Renderings

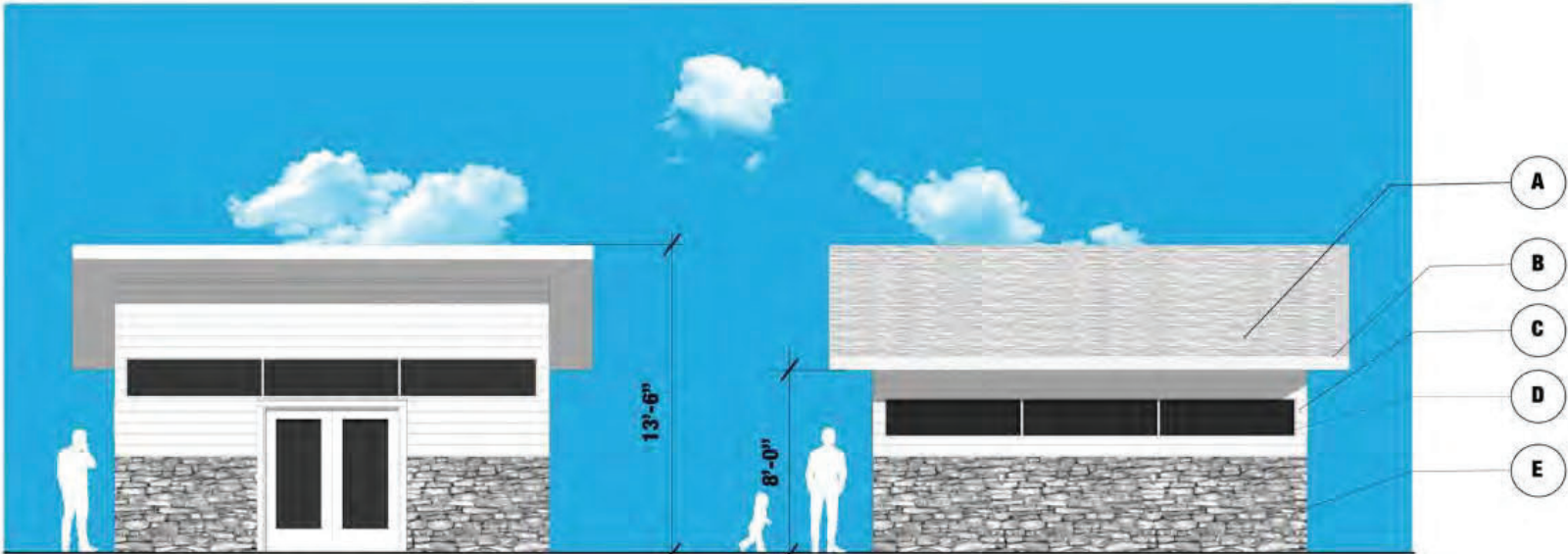
# BATA North Site Master Plan

Garfield Township, Michigan 20 January 2021



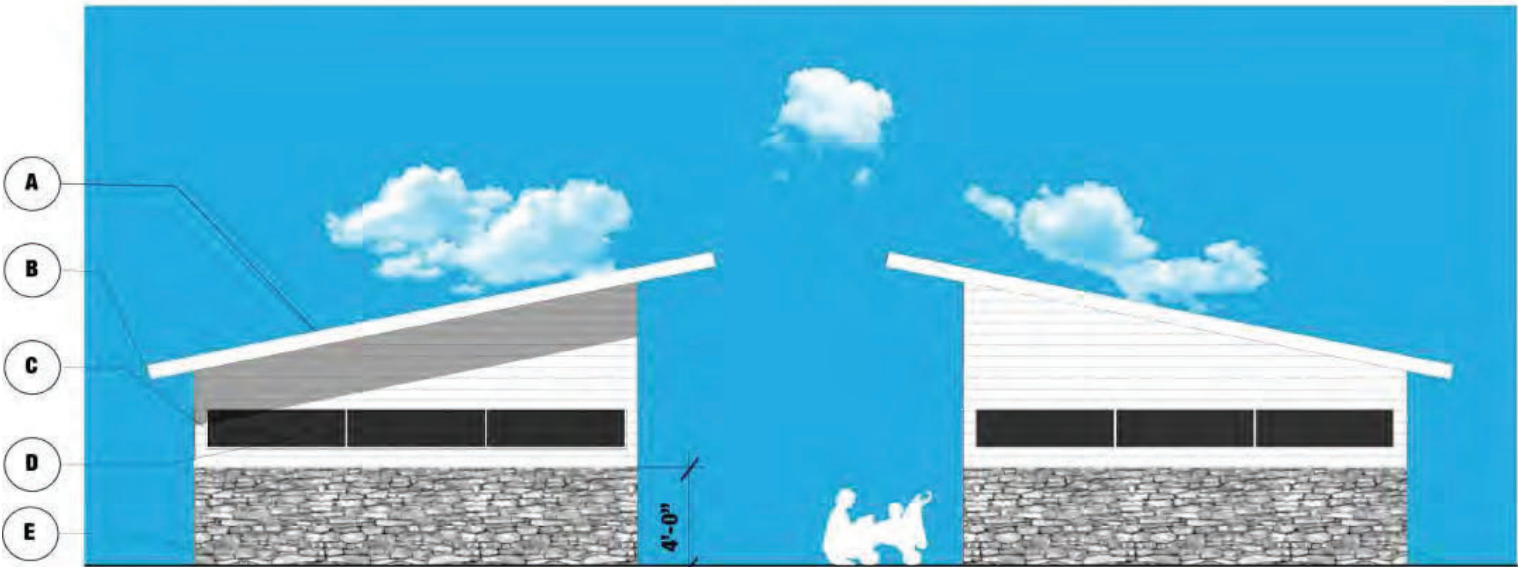
Architectural Standards

**Conceptual Bathroom Building**



**Front Elevation**

**Rear Elevation**



**Left Elevation**

**Right Elevation**

Building Size: 20' x 20'

Key	Description	Color	Manufacturer	Style/Material
A	Asphalt Shingle Roof	Black	Firestone or equal	Dimensional
B	Pre-finished mtl trim	Benjamin Moore Harbor Grey, AC-25	Unclad or equal	Alum. or Mtl.
C	Wall Siding	Benjamin Moore Harbor Grey, AC-25	James Hardie	Fiber-Cement Panel
D	Storefront Window	Silver or approved equal	T.B.D. or equal	Aluminum
E	Wall Stone	Limestone, tan, grey or approved equal	T.B.D. or equal	Natural or Manufactured

Some of the buildings may have decorative dormers.

BATA Employee Restroom Building Concept Renderings

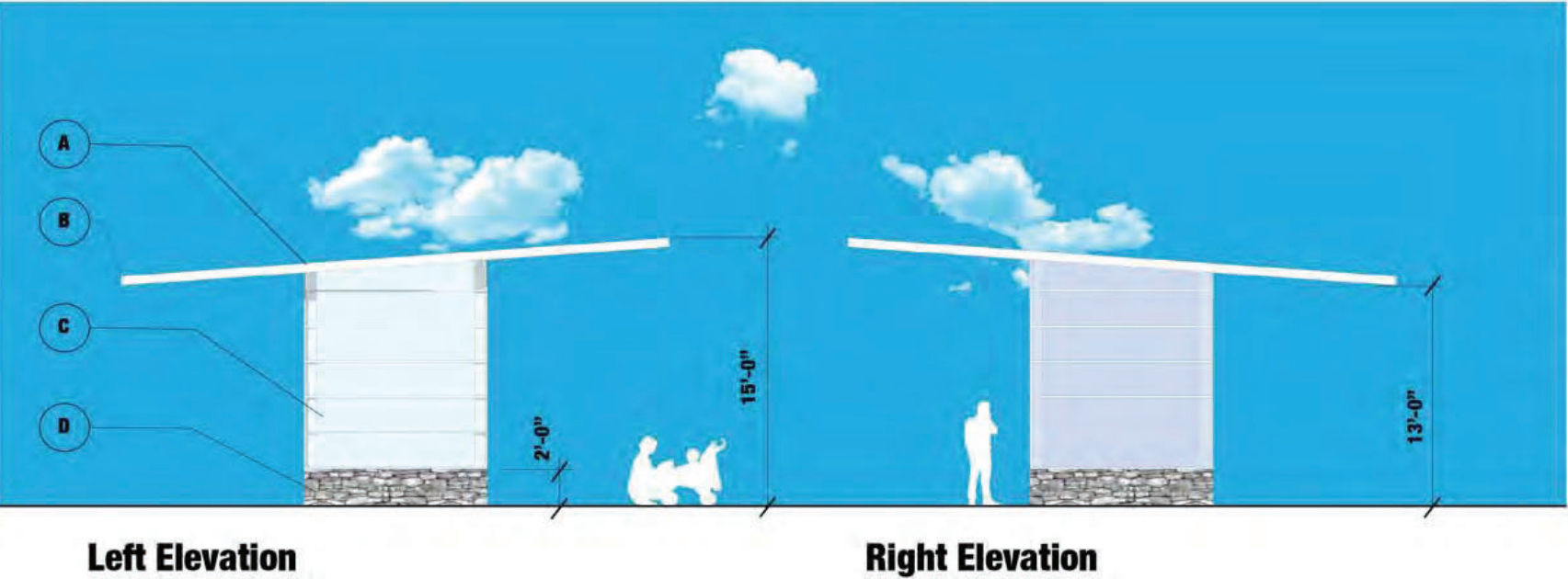
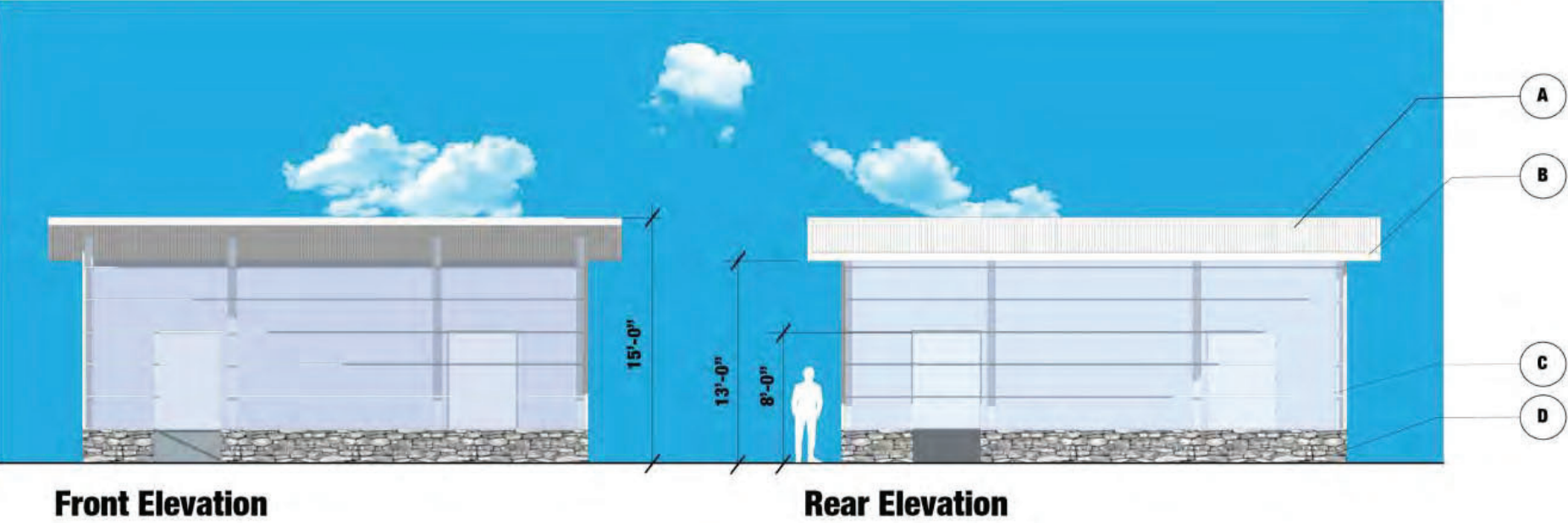
# BATA North Site Master Plan

Garfield Township, Michigan 20 January 2021 Not to Scale





Architectural Standards  
**Conceptual Bus Shelter**

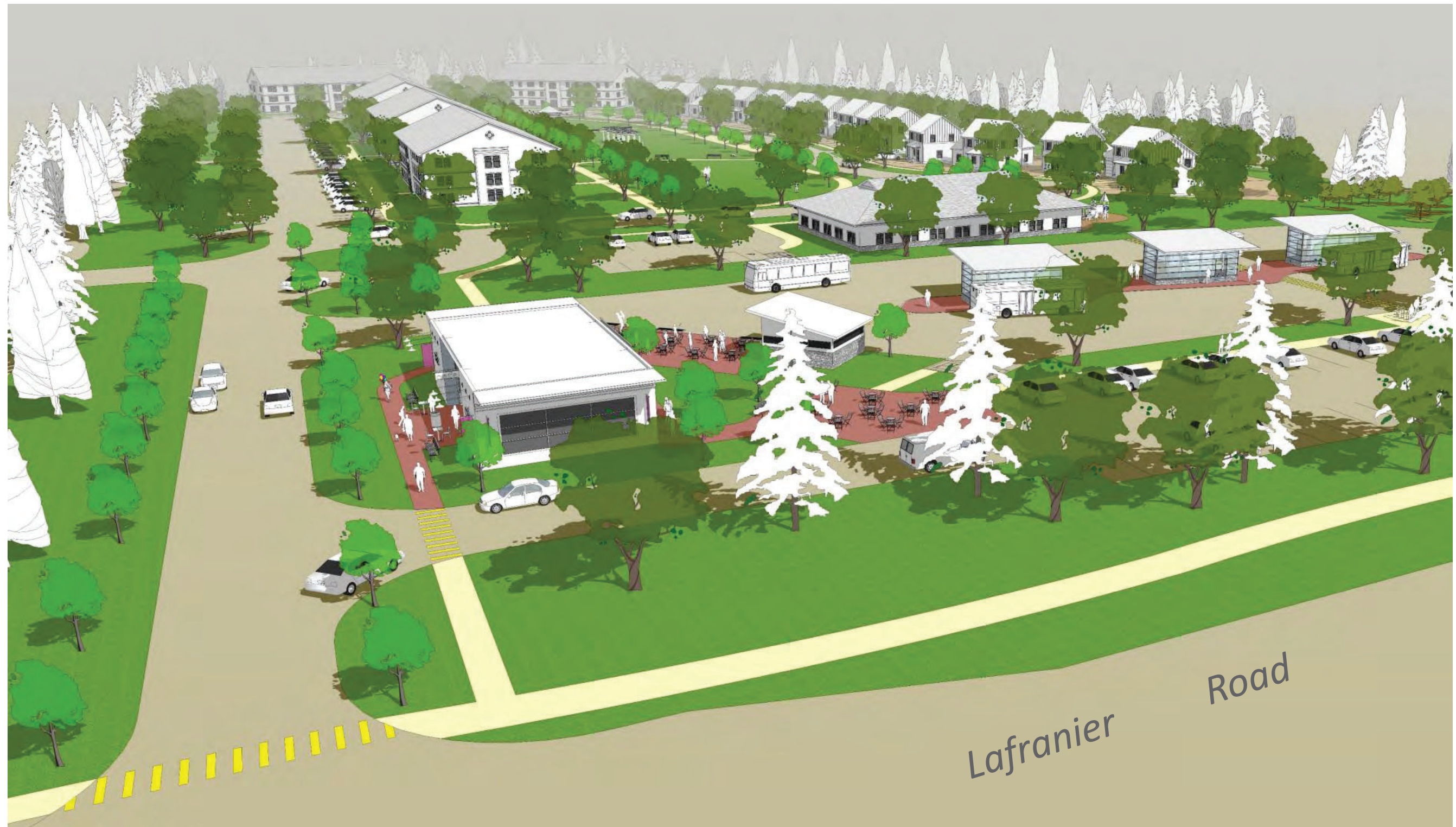


Shelter's Size: 10' x 30' Each

Key	Description	Color	Manufacturer	Style/Material
A	Shingle or Metal Roof	Black	Firestone or equal	T.B.D.
B	Pre-finished mtl trim	Benjamin Moore Harbor Grey, AC-25	Unclad or equal	Alum.or Mtl.
C	Storefront Window	Silver or approved equal	T.B.D. or equal	Aluminum
D	Wall Stone	Limestone, tan, grey or approved equal	T.B.D. or equal	Natural or Manufactured

Some of the buildings may have decorative dormers.





Option A: Cottage Homes View Looking SE  
**BATA North Site Master Plan**

Garfield Township, Michigan 20 January 2021



**Gibbs**  
 Planning Group





Option A: Cottage Homes View Looking NE  
**BATA North Site Master Plan**  
 Garfield Township, Michigan 20 January 2021







Option A: Cottage Homes View Looking NE  
**BATA North Site Master Plan**  
Garfield Township, Michigan 20 January 2021







Daycare Center Building Concept Renderings  
**BATA North Site Master Plan**  
Garfield Township, Michigan 20 January 2021

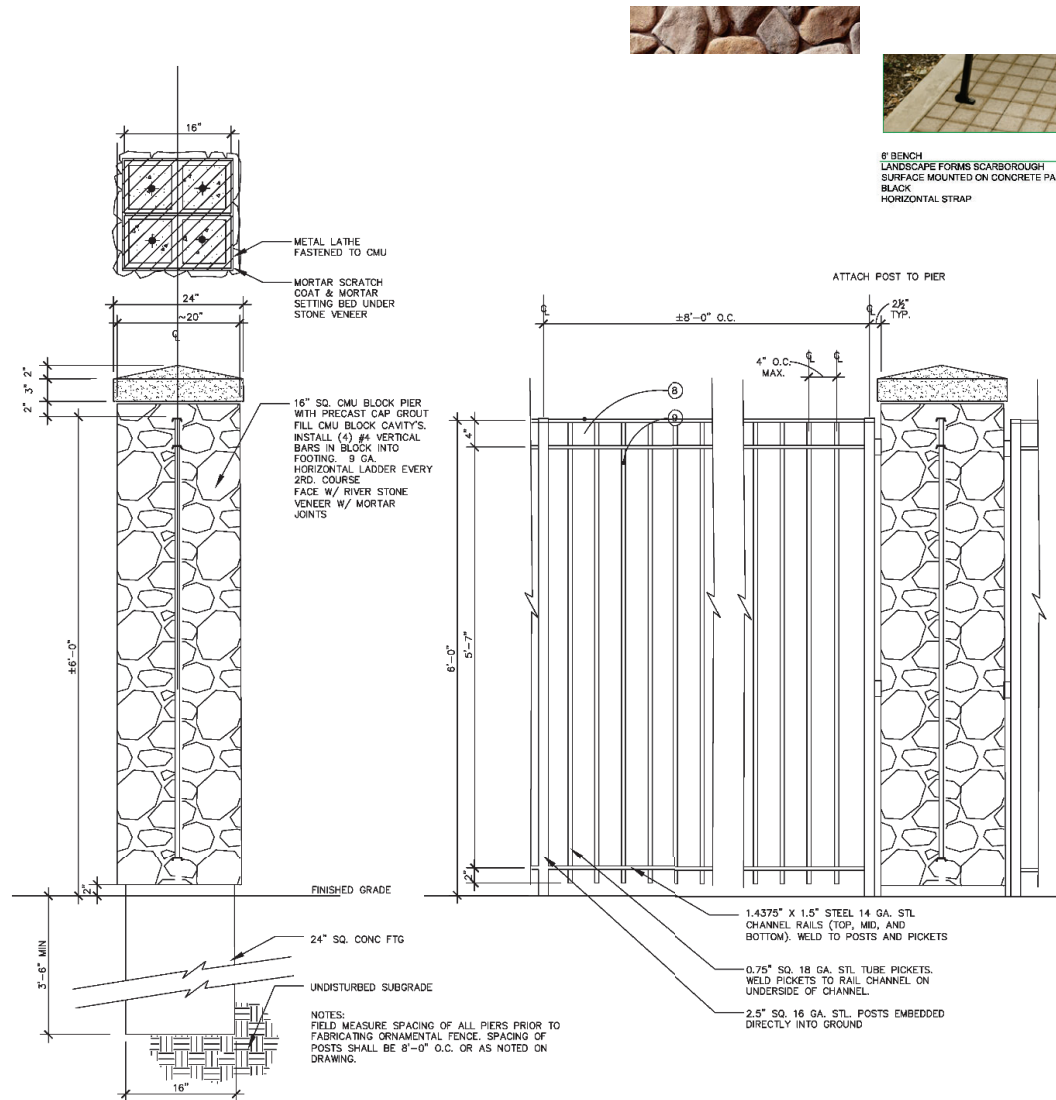


- 8) Landscaping  
Residential Phase landscaping  
Inventory of existing trees



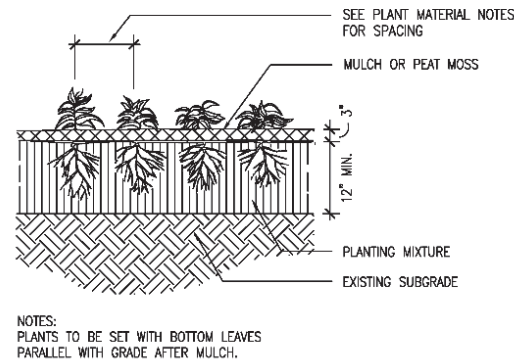




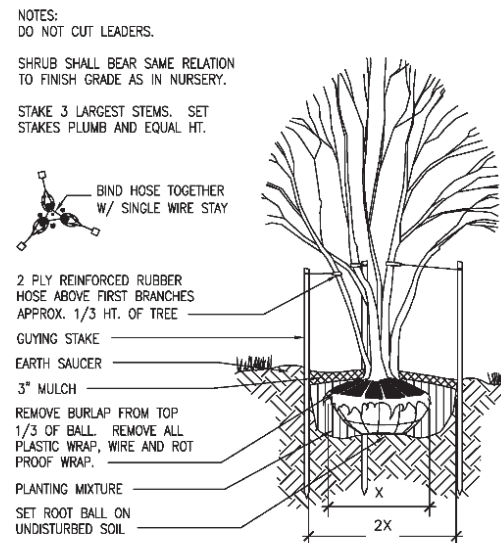


**4** ORNAMENTAL FENCE DETAIL & CMU PIERS WITH W/ STONE VENEER  
L1.3 SCALE: 1" = 1'-0"

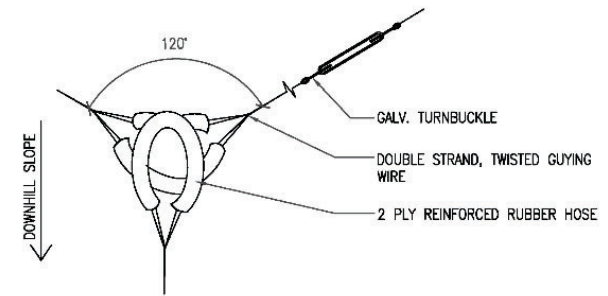
**8** BENCH  
LANDSCAPE FORMS SCARBOROUGH  
SURFACE MOUNTED ON CONCRETE PAD  
BLACK HORIZONTAL STRAP



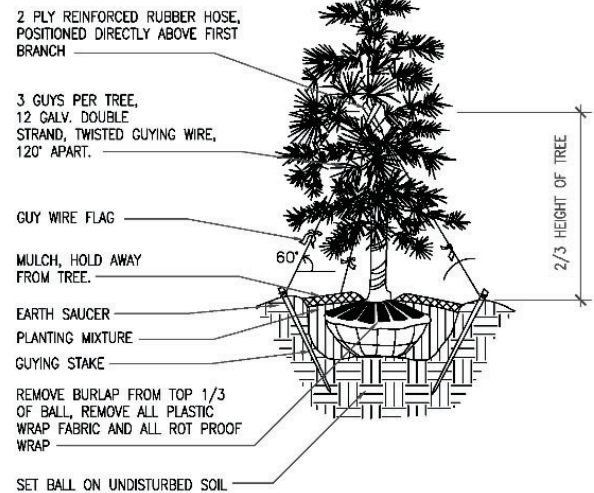
**2** GROUNDCOVER & PERENNIAL PLANTING  
L1.3 1/2"=1'-0"



**3** MULTI STEM TREE PLANTING  
L1.3 1/4"=1'-0"



**NOTES:**  
DO NOT CUT LEADER  
TREE SHALL BEAR SAME RELATION TO FINISH GRADE AS IN NURSERY.



**1** EVERGREEN TREE STAKING  
L1.3 1/4"=1'-0"

REFER TO SHEET L1.0 FOR TREE PLANTING AND SHRUB PLANTING DETAILS

# BATA North Landscape Details

Garfield Township, Michigan 22 December 2020



**Gibbs**  
Planning Group



1-25-2021

## **Landscaping**

### **8) Landscaping**

#### **b. Inventory and credit for existing landscaping along Hammond Road**

*The existing stand of trees to remain along Hammond Road is a dense stand of sugar maple trees with predominant sizes ranging from 3-inch to 10-inch. The stand of trees is approximately 250-feet long and 45-feet wide and contains to may trees to provide an inventory of individual trees. The quantity of existing trees more than exceeds the requirements of the buffer yard landscaping.*



*West end of the existing trees.*



*Existing trees facing north from Hammond.*



*East end of the existing trees.*



*Size and spacing of existing sugar maple.*

13) Vehicular Parking  
McKenna Memorandum  
BATA account of parking needs



**MCKENNA**

# Memorandum

**TO:** Bob Gibbs, FASLA, AICP, President, Gibbs Planning Group

**CC:** John Jackson, AICP, President, McKenna

**FROM:** Paul Lippens, AICP, Vice President, McKenna

**SUBJECT:** **Garfield Township: Best Practices for Workforce Housing and TOD Parking**

**DATE:** January 25, 2021

Mr. Gibbs,

This letter is in response to your request for an independent planner opinion on best practices for residential development parking standards as applied to the pending proposal for a Transit Oriented Development (TOD) with workforce housing in Garfield Township. Per our discussion, the subject site is located northeast corner Lafranier Road & Hammond Road, south of airport. We understand the development will be pursued in partnership with the Traverse City Housing Authority and will include new affordable housing, a regional transit station, a daycare, and cafe. We understand that this development will propose 250 residential units with 325 bedrooms, made up of 50 studio units, 125 one-bedroom units, 75 two-bedroom units. The site includes 15 cottage homes.



**TOD Subject Site: Northeast Corner of Lafranier Rd. and Hammond Rd. in Garfield Township.**

**WEST MICHIGAN**  
151 South Rose Street  
Suite 920  
Kalamazoo, Michigan 49007

○ 269.382.4443  
F 248.596.0930  
**MCKA.COM**

**Communities for real life.**





## GARFIELD TOWNSHIP TOD PROPOSED PARKING MIX

The site plan for the Garfield Township TOD proposed constructing 250 parking spaces, with an area reserved for an additional 31 deferred spaces. These spaces could be constructed at a later date if shared visitor spaces with the transit park & ride results in a need for more spaces.

### Workforce Housing Parking:

- 179 paved surface spaces in parking lots adjacent to the multi-family buildings
- 25 on-street parallel parking spaces
- 46 spaces in the transit parking lot for visitors, available weekends and after business hours

### Cottages, Daycare, and Deferred Parking:

- The 15 cottages will self-park, with minimum of 2.5 spaces per cottage
- 11 spaces are planned for the daycare
- 31 differed parking spaces, held in reserve on grass areas if the need arises.



**BATA North Site Master Plan, January 11, 2020.**





## BEST PRACTICES FOR WORKFORCE RESIDENTIAL PARKING STANDARDS

The most widely accepted industry source for estimating parking demand is the *Parking Generation Manual*, published by the Institute of Transportation Engineers. Applying the recommendations of this resources to the Garfield Township TOD, yields the following results.

### Institute of Transportation Engineers - Parking Generation Manual

The 5th edition of ITE's *Parking Generation Manual* is the publication most commonly used by transportation professionals for parking analysis. *Parking Generation* defines Land Use 221: Multi-Family Housing (Mid-Rise), as developments averaging 261 units, with a mix of apartments, townhomes and condos, and ranging 3 to 10 stories in height. This seems to be the most appropriate corresponding land use code to the proposed Garfield Township development. For General Urban / Suburban sites, within ½ mile of transit, the parking supply ratio for Mid-Rise Housing is 1.5 spaces per unit or 0.8 space per bedroom. Using the 85th percentile of demand is considered an industry best practice for supply recommendations. This yields a parking space requirement of 1.275 spaces per unit, or 0.68 spaces per bedroom.

#### ITE Per Unit Calculation for Garfield Township TOD:

1.5 Spaces Per Unit \* .85 (85<sup>th</sup> percentile of demand) \* 250 Units = 319 Spaces

#### ITE Per Bedroom Calculation for Garfield Township TOD:

1 Spaces Per Bedroom \* .85 (85<sup>th</sup> percentile of demand) \* 325 Bedrooms = 221 Spaces

*The above calculation shows that a per bedroom calculation is more appropriate for this development given that the unit mix leans heavily to studio and one-bedroom units.*

### Best Practices For Workforce Residential Parking Summary Table

Source	Unit Rate	Total # of Spaces for Garfield Township TOD
ITE Trip Generation Manual 5th edition <sup>1</sup> Spaces per Unit Calculation, 250 Units	1.275 per Unit	319
ITE Trip Generation Manual 5th edition <sup>1</sup> Spaces per Bedroom Calculation, 325 Bedrooms	0.68 per Bedroom	221

<sup>1</sup>Based on Land Use 221: Multifamily Housing (Mid-Rise), General Urban/Suburban (within ½ mile to rail transit)



### JUSTIFICATION FOR 1-SPACE PER UNIT FOR WORKFORCE HOUSING

Workforce housing, is often comprised of smaller unit sizes, including studios and 1-bedrooms. The Garfield Township TOD proposes “right-sized” units, which are desirable for smaller family sizes, aging population, and “ride by choice” residents that are looking housing options that support a car-free lifestyle. Following table illustrates that using a adjusting the per unit calculation, to 1-space per unit (B2), is a more practical parking solution for the site than the alternative, which would be to create larger units without reducing the number of bedrooms (B1).

Parking per unit scenarios	A1 Per Bedroom Calculation  0.68 per Bedroom	A2 Per Unit Calculation  1.27 per Unit	B1 Larger Units Per Unit Calculation  1.27 per Unit	B2 Adjusted Per Unit Calculation  1 per Unit
Total Units	250	250	197	250
Total Bedrooms	325	325	325	325
Studio	50	50	50	50
1-bedroom	125	125	72	125
2-Bedroom	75	75	128	75
Total Spaces	221	319	250	250

Both Scenario B1 and B2 maintain 325 bedrooms, but B2 adjusts the per-unit calculation to 1-space per unit, to accommodate the desirable unit sizes for workforce housing. All four scenarios above reflect the same number of bedrooms, but A1 and B2 reflect a parking scenario that best achieves the desired unit and parking mix for the Garfield TOD. This analysis provides reasonable justification to use a parking requirement of **1-space per unit** for the development.

### PARKING SPACE DIMENSIONS

Parking space dimensions are another controlling factor for providing efficient vehicular access through site design. Many zoning ordinances default to a minimum dimension of 10 ft. by 20 ft. for perpendicular parking spaces with minimum aisles of 20 to 24 feet for a double loaded module. While these dimensions make calculations easy, they result in overbuilt parking areas. Based on the geometric factors of vehicle speed, vehicle size, and turning radii, the vast majority of vehicles could park comfortably in a 9 ft. by 18. ft. space with an 18 ft. to 20. ft. two-way aisle.

The Urban Land Institute's “*The Dimensions of Parking*,” 5<sup>th</sup> Edition, breaks down the contributing factors to parking geometrics. Vehicle size, or design vehicle, is perhaps the most significant of the control factors. According to ULI's research, since 1999, the 85<sup>th</sup> percentile of vehicle size has remained relatively constant. ULI, and the National Parking Council, recommend using a design vehicle width of 6.58 ft. and a length of 17.25 ft. This translates to a recommendation for stall with of 8.25 ft. to 8.75 ft. for low turnover spaces, like employee lots or student lots, and 8.75 ft. to 9 ft. for high turnover lots, like community retail or medical facilities. The recommended length of 18 ft. for vehicle spaces does not change based on turnover. ULI recommends 9 inches over the design vehicle length to account for the distance from the bumpers to the edge of the stalls.



## RECOMMENDATION

Based on our application of industry best practices, using a **1-space per unit** parking rate will be most appropriate for the Garfield TOD. We would recommend a parking rate of **1-space per unit** as a maximum to encourage transit and multimodal trips as a primary method for user access.

This recommendation is based on transit access being provided in a manner comparable to how ITE defines “rail transit” in the general urban / suburban land use types. We note that within the context of Northern Michigan, there would likely be little operational differences between a bus or BRT system operated by BATA and a Light Rail system. However; we did not review operational details of the proposed transit service in preparing this analysis.

Finally, we find that parking stall dimensions of 9 ft. by 18 ft. will support comfortable vehicle access given the proposed uses of the Garfield Township TOD.

We have not at this time conducted an analysis of Garfield Township parking requirements, or other zoning requirements that apply to the proposed Garfield Township development; however, we can confidently recommend using the ITE *Parking Generation Manual* to inform the Township’s decision-making process.

Please feel free to contact me with any questions about our analysis.

Sincerely,

**McKENNA**

Paul Lippens, AICP  
Vice President, McKenna



## BATA Headquarters -Transit Oriented Development

### Parking Counts 10 AM Weekday

**85**

Estimated Parking Count

1/25/2021

<b>Administration</b>	<b>16</b>
Executive Director	1
Director of Admin. Services	0.5
Director of Development	1
Operations Manager 1	1
Operations Manager 2	1
Controller	0.5
Fleet & Facilities Manager	1
Fleet Service Coordinator	1
Human Resources Generalist	1
Planner	1
Mobility Manager	1
I.T. Coordinator	1
Advertising Coordinator	1
Administrative Assistant	1
Payroll & Benefits	1
<b>Proposed (Procurement)</b>	<b>1</b>
<b>Proposed ( )</b>	<b>1</b>

<b>Mechanics</b>	<b>4</b>
<b>Bus Operators</b>	<b>53</b>
<b>Customer Service</b>	<b>4</b>
<b>Facilities</b>	<b>3</b>
<b>Visitor Parking</b>	<b>5</b>

**69**

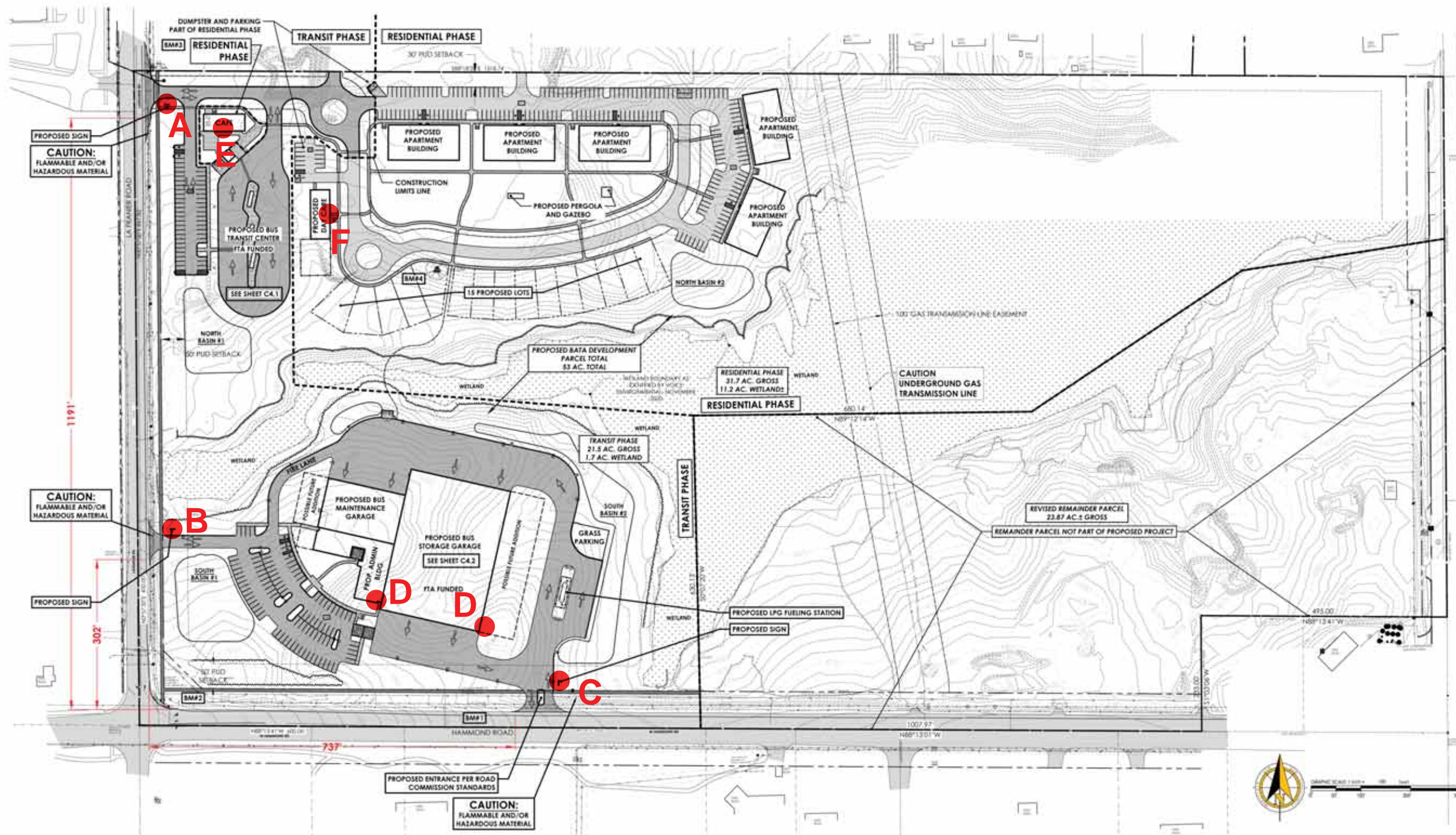
19) Lighting  
PUD Photometric Plan





20) Signs  
PUD Sign Plan





BM#1: ELEV = 684.63 (NAVD 88)
EXIST. SAN. CLEANOUT MH RIM
BM#2: ELEV = 731.65 (NAVD 88)
EXIST. SAN. AIR RELEASE MH RIM
BM#3: ELEV = 701.95 (NAVD 88)
EXIST. WATER VALVE #12&9
BM#4: ELEV = 691.35 (NAVD 88)
BENCH TIE IN 10' OAK

Mansfield

Land Use Consultants

progressive

OVERALL SIGNAGE PLAN

Bay Area Transportation Authority

BATA HQ Transit-Oriented Development PUD

OVERALL SITE PLAN

Section 23, Town 27 North, Range 11 West

Garfield Township, Grand Traverse County, Michigan

PUD SUBMITTAL

20108

C4.0

"A" MONUMENT SIGN

MONUMENT SIGN:  
80 SF MONUMENT SIGN, (2) TWO SIDED  
INTERNALLY ILLUMINATED

"B" DIRECTIONAL SIGN

GROUND MOUNTED SIGN:  
6 SF, MOUNTED ON 2" X 2" ALUMINUM POSTS  
(2) TWO SIDED

"C" DIRECTIONAL SIGN

GROUND MOUNTED SIGN:  
6 SF, MOUNTED ON 2" X 2" ALUMINUM POSTS  
(2) TWO SIDED

"D" BUILDING SIGN

BUILDING MOUNTED SIGN:  
UP TO 80 SF WALL MOUNTED SIGN  
(2) TWO LOCATIONS

WALL MOUNTED SIGN:  
LOCATION "E" 40 SF 2' x 20' AREA

WALL MOUNTED SIGN:  
LOCATION "F" 40 SF 2' x 20' AREA



# BATA BUILDING SIGN CONCEPT

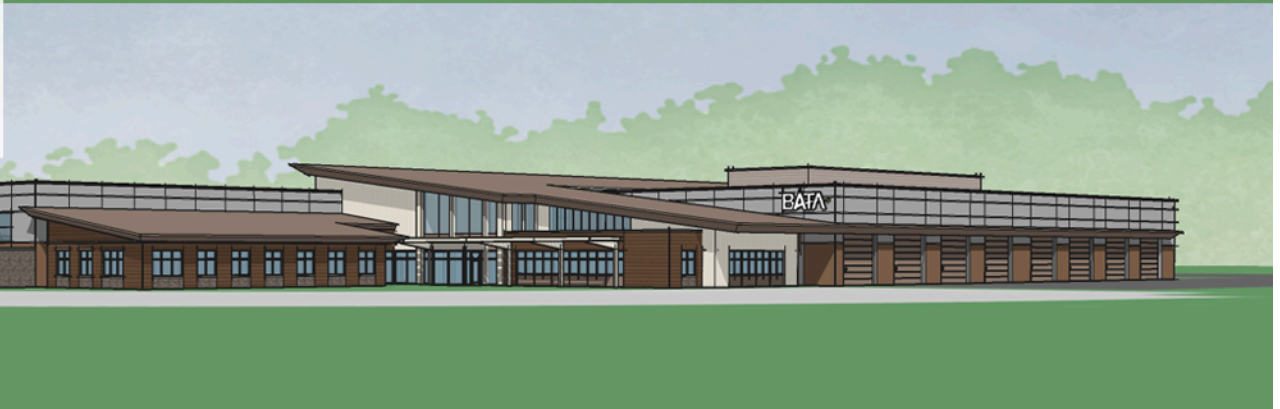
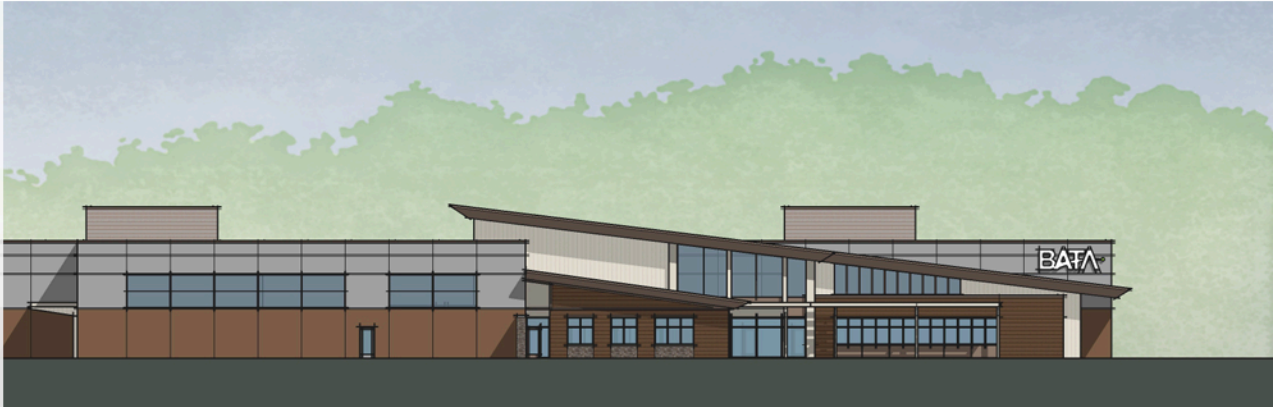
P:\88760002\03 WIP\C3 DISCIPLINE\Arch | 12/01/2020 | THE INFORMATION IN THIS DOCUMENT IS THE INTELLECTUAL PROPERTY OF PROGRESSIVE AE. IT IS INTENDED SOLELY FOR USE BY THE INDIVIDUAL OWNER. REPRODUCTION OF ANY PORTION OF THIS DOCUMENT FOR ANY PURPOSE IS STRICTLY PROHIBITED

progressive ae

Bay Area Transportation Authority | Maintenance and Storage Facility | 88760002

Wall mounted internally lit logo signs

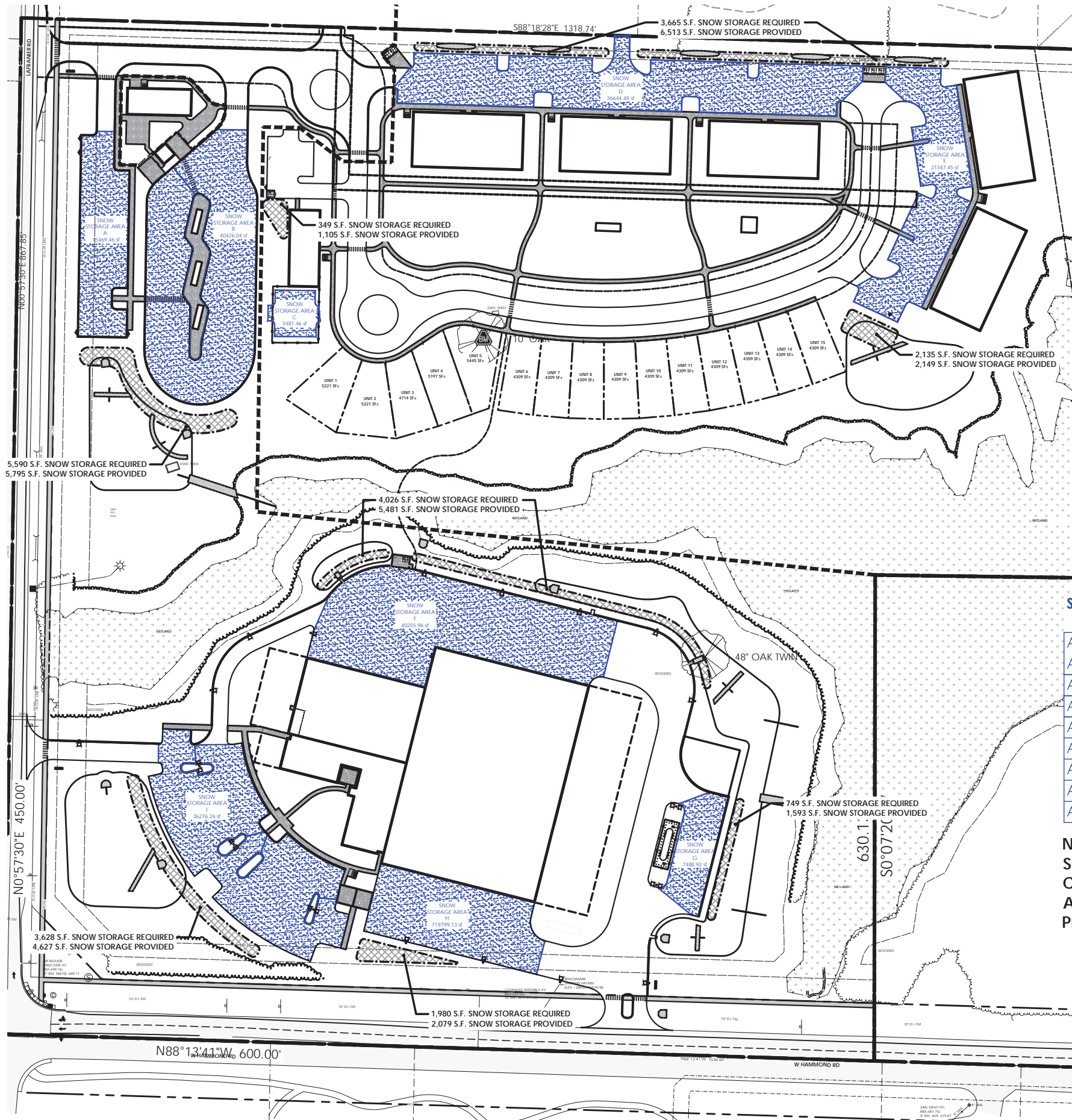
80 sf each on East and West Elevations of Storage Building



## 21) Snow Storage

Snow storage calculation exhibit

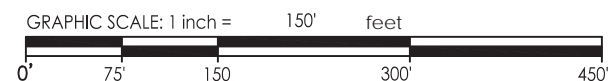




## SNOW STORAGE CALCULATIONS

	SF EXIST.	SF/100	X10sf (area needed for snow storage)			
AREA A	15,469.46	154.69	1,546.95	5,589.55	(a & b combined)	<u>5,795.15</u> provided
AREA B	40,426.04	404.26	4,042.60			
AREA C	3,481.46	34.81	348.15			1,105 provided
AREA D	36,644.49	366.44	3,664.45			6,513 provided
AREA E	21,347.45	213.47	2,134.75			2,149 provided
AREA F	40,255.96	402.56	4,025.60			5,481 provided
AREA G	7,488.92	74.89	748.89			1,594 provided
AREA H	19,799.13	197.99	1,979.91			2,079 provided
AREA I	36,276.26	362.76	3,627.63			4,627 provided

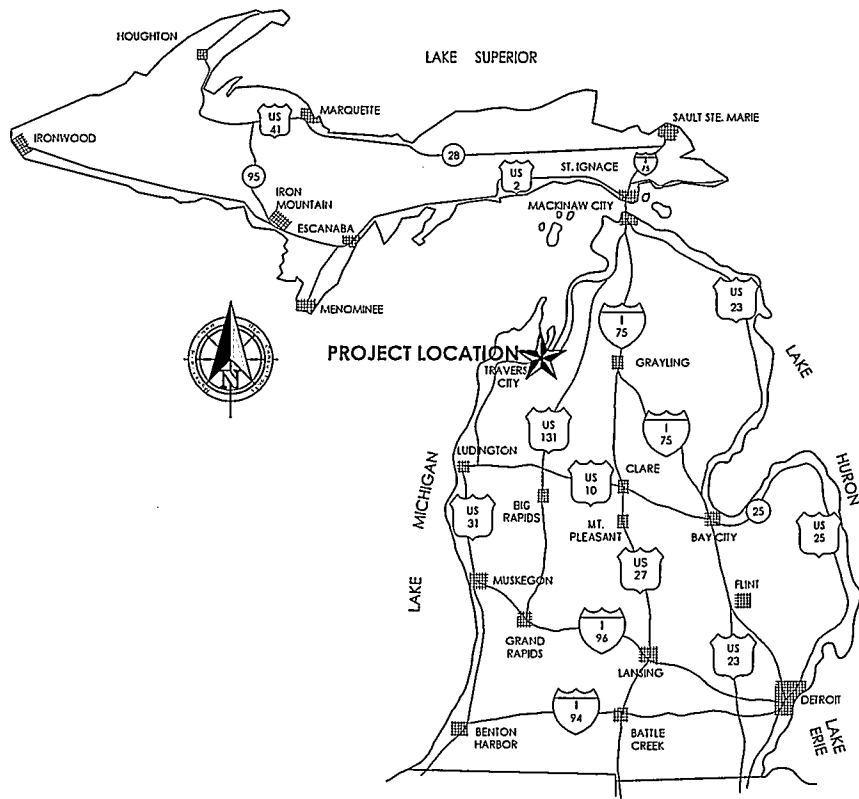
**NOTE:**  
SOME SNOW CALCULATION AREAS WERE NOT REVISED WHEN THE SITE PLAN CHANGED AS THE CHANGES WERE SO MINOR AS TO NOT AFFECT THE AMOUNT OF SNOW STORAGE REQUIRED. SUCH AS THE PARKING LOT FOR THE PROPOSED DAY CARE.



Civil Plan Set update to reflect:

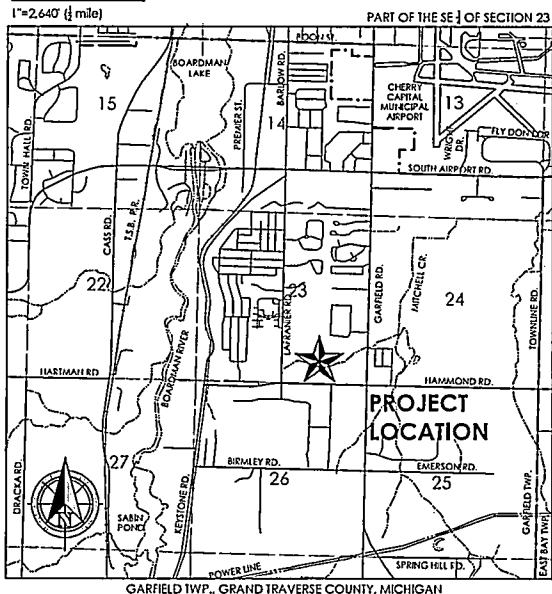
- 2) Residential unit density and mix
- 4) Child care center screening
- 6) Boardwalk Wetland crossing
- 7) Environmental mitigation
- 9) East end of project site
- 10) Open space amenities
- 11) Shared access along LaFranier
- 15) Parking surface
- 16) Bicycle parking
- 17) Non-motorized circulation
- 18) Fueling station
- 22) Dumpsters





MICHIGAN LOCATION MAP

VICINITY MAP



PUBLIC AGENCIES AND UTILITIES

GRAND TRAVERSE COUNTY DEPARTMENT OF PUBLIC WORKS (DPW)  
Manager: John Divozzo  
Address: 2650 Lafranier Rd., Traverse City, MI 49686  
Telephone: 231-995-6039

GRAND TRAVERSE COUNTY ROAD COMMISSION  
Manager: Brad Kluczynski  
Address: 1881 Lafranier Rd., Traverse City, MI 49686  
Telephone: 231-922-4848

GRAND TRAVERSE COUNTY SOIL EROSION AND SEDIMENTATION CONTROL  
Supervisor: Dan Thorell  
Address: 2650 Lafranier Rd., Traverse City, MI 49686  
Telephone: 231-995-6042

GARFIELD TOWNSHIP STORM WATER CONTROL ORDINANCE  
Planning Director: John Sych  
Address: 3848 Veterans Dr., Traverse City, MI 49684  
Telephone: 231-941-1620

CHERRYLAND ELECTRIC COOPERATIVE (ELEC.)  
Engineer: Frank Seipker  
Address: 5930 US-31 S., Traverse City, MI 49684  
Telephone: 231-486-9220

CONSUMERS ENERGY (ELEC.)  
Engineer: Chuck Walkons  
Address: 821 Hastings St., Traverse City, MI 49686  
Telephone: 231-929-6228

DTE ENERGY (GAS)  
Manager: Sandra O'Neil  
Address: 700 Hammond Rd., Ste. 2, Traverse City, MI 49686  
Telephone: 231-932-8229

CHARTER COMMUNICATIONS (T.V.)  
Manager: Rob Nawak  
Address: 701 S. Airport Rd., Traverse City, MI 49686  
Telephone: 231-941-3766

POLICE AGENCIES  
EMERGENCIES: 911  
Michigan State Police: 231-946-4646  
Grand Traverse County Sheriff: 231-995-5001  
Garfield Twp. Community

FIRE DEPARTMENTS  
EMERGENCIES: 911  
Grand Traverse Metro: 231-947-3000  
Grand Traverse Rural: 231-943-9721  
Garfield Township: 231-941-7682

DESCRIPTION AS FURNISHED:

PARCEL "C"  
Part of South 1/2 of the Southeast 1/4 of Section 23, Town 27 North, Range 11 West, Garfield Township, Grand Traverse County, Michigan, more fully described as: Beginning at the South 1/4 corner of said Section 23, thence North 00 degrees 57 minutes 30 seconds East, along the North and South 1/4 line of said Section, 450.00 feet; thence South 88 degrees 13 minutes 41 seconds East 250.00 feet; thence North 00 degrees 57 minutes 30 seconds East 150.00 feet; thence South 88 degrees 13 minutes 41 seconds East 350.00 feet; thence South 01 degree 02 minutes 05 seconds West 600.00 feet, to the South line of said Section; thence North 88 degrees 13 minutes 41 seconds West, along the South line of said Section, 600.00 feet, to the Point of Beginning, SUBJECT TO the right of way of Lafranier and Hammond Road over and across the Western and Southern portions thereof.

REMAINDER PARCEL  
Part of South 1/2 of the Southeast 1/4 of Section 23, Town 27 North, Range 11 West, Garfield Township, Grand Traverse County, Michigan, more fully described as: Commencing at the South 1/4 corner of said Section 23, thence North 00 degrees 57 minutes 30 seconds East, along the North and South 1/4 line of said Section and the centerline of Lafranier Road, 450.00 feet, to the Point of Beginning; thence continuing along said 1/4 line, North 00 degrees 57 minutes 30 seconds East 867.85 feet, to the South 1/8 line of said Section; thence South 88 degrees 18 minutes 28 seconds East, along said 1/8 line, 1318.74 feet, to the East 1/8 line of said Section; thence continuing along the South 1/8 line, South 88 degrees 17 minutes 12 seconds East, and boundary of Carriage Hill Plat, 1314.98 feet, to the East Section line of said Section and the centerline of Lafranier Road; thence South 01 degree 03 minutes 09 seconds West 1089.00 feet, along said East Section line; thence North 88 degrees 13 minutes 41 seconds West 495.00 feet; thence South 01 degree 03 minutes 09 seconds West 233.00 feet, to the South Section line and the centerline of Hammond Road; thence North 88 degrees 13 minutes 41 seconds West 1536.60 feet, along said South line; thence North 01 degree 02 minutes 05 seconds East 600.00 feet; thence North 88 degrees 13 minutes 41 seconds West 350.00 feet; thence South 00 degrees 57 minutes 30 seconds West 150.00 feet; thence North 88 degrees 13 minutes 41 seconds West 250.00 feet, to the Point of Beginning, SUBJECT TO the right of way of Lafranier Road, Hammond Road, and Garfield Road, over and across the Western, Southern, and Eastern portions thereof.

Parcel No.: 28-05-023-042-01 - New for 2020 and 28-05-023-042-30 - New for 2020

STANDARD PLAN LEGEND

DESCRIPTION	EXISTING	PROPOSED
GROUND CONTOUR	--- 605 ---	--- 613 ---
SPOT ELEVATION		○ 704.33
CONTOUR FROM USGS TOPOGRAPHIC MAP		○ 704.33 ○ 704.00
TOP OF CURB ELEVATION PAVEMENT (OR GUTTER FLOW LINE) ELEVATION	+ 613.5 613.0	○ 704.33 ○ 704.00
DIRECTION OF SURFACE FLOW		1.93%
DRAINAGE HIGH POINT		H.P.
DRAINAGE LOW POINT		L.P.
WATER MAIN	--- W ---	--- W ---
SANITARY FORCE MAIN	--- FM ---	--- FM ---
SANITARY SEWER	--- SAN ---	--- SAN ---
STORM SEWER	--- ST ---	--- ST ---
GAS MAIN	--- GAS ---	--- GAS ---
OVERHEAD ELECTRIC	--- OE ---	--- OE ---
PROPERTY LINE	---	---
TREE LINE	---	---
PINE LINE	---	---
EDGE OF WEILAND	---	---
EDGE OF WATER	---	---
C/L OR DRAINAGE DITCH OR WATER LINE	---	---
SILT FENCE	---	---
DETENTION BASIN BERM	---	---
MANHOLE (MH)	○	○
CATCH BASIN (CB)	○	○
CLEAN OUT (CO)	○	○
RISE	○	○
GATE VALVE	○	○
FIRE HYDRANT ASSEMBLY	○	○
CURB STOP & BOX	○	○
POLE, POWER OR ELECTRIC	○	○
LIGHT POLE	○	○
SIGN	○	○
BENCH MARK (BM)	○	○
U/G UTILITY SIGN	○	○
GUY ANCHOR	○	○
SOIL EROSION CONTROL MEASURE (MICHIGAN UNIFIED KEYING SYSTEM) P=PERMANENT T=TEMPORARY	○	○
IRON FOUND / IRON SET	○	○
CONCRETE MONUMENT	○	○
GOVERNMENT CORNER	○	○
NAIL FOUND / NAIL SET	○	○
RECORD / MEASURED	(R)	(M)
FENCE	---	---
WOOD STAKE	□	□

SITE DATA:

REMAINDER PARCEL  
Location: 2051 Garfield Ave.  
Tax ID: 28-05-023-042-01  
Owner: Louis & Marvel Lafranier (Trusts)  
15532 Bluff Road, Traverse City, MI 49686  
Parcel Area Gross: 69.70 Acres  
Parcel Area Net: 64.90 Acres (Est. R.O.W.)  
Road Frontage: (as measured at ROW line)  
868.01 l.f. Lafranier Road (Est. R.O.W.)  
1537.01 l.f. Hammond Road (Est. R.O.W.)  
1088.38 l.f. Garfield Avenue (Est. R.O.W.)  
Zoning District: Agricultural

PARCEL C  
Location: W. Hammond Rd.  
Tax ID: 28-05-023-042-30  
Owner: Louis & Marvel Lafranier (Trusts)  
Dixie Roethlisberger (Trustee)  
15532 Bluff Road, Traverse City, MI 49686  
Parcel Area Gross: 7.41 Acres  
Parcel Area Net: 6.09 Acres (Est. R.O.W.)  
Road Frontage: (as measured at ROW line)  
374.99 l.f. Lafranier Road (Est. R.O.W.)  
567.13 l.f. Hammond Road (Est. R.O.W.)  
Zoning District: Agricultural

SETBACKS:

Agricultural  
Front = 30' (Buildings)  
Side = 20' (Buildings)  
Rear = 35' (Buildings)  
Welland = 25' (Buildings and Parking)

P.U.D.  
Front = 50' (Buildings)  
Side = 30' (Buildings)

PROJECT TEAM

Applicant / Developer (Transit Phase):  
Bay Area Transportation Authority Kelly  
Dunham, Executive Director  
3233 Cass Road  
Traverse City, MI 49684  
Phone: (231) 933-5544  
Email: [kelly.dunham@bata.net](mailto:kelly.dunham@bata.net)

Developer / Residential Partner (Residential Phase):  
Traverse City Housing Commission  
Tony Lenlych, Executive Director  
150 Pine Street  
Traverse City, MI 49684  
Phone: (231) 922-4915 x 203  
Email: [tonylenlych@tcpha.net](mailto:tonylenlych@tcpha.net)

Owner's Representative:  
Cunningham-Limp  
Jason Lipa, Director of Pre-Construction Services  
28970 Cabot Dr. #100  
Novi, MI 48377  
Phone: (248) 891-3171  
Email: [jlipa@ciclbuilt.com](mailto:jlipa@ciclbuilt.com)

Engineering Consultant (Agent):  
Mansfield Land Use Consultants  
Douglas Mansfield, President  
830 Cottageview Drive, Suite 201  
Traverse City, MI 49685  
Phone: (231) 946-9310  
Email: [doug@mansfield.com](mailto:doug@mansfield.com)

Architecture (BATA Facility):  
Progressive AE  
Seth Harton, P.E., Senior Project Manager  
1811 4 Mile Rd. NE  
Grand Rapids, MI 49525  
Phone: (616) 365-8565  
Email: [hartons@progressiveae.com](mailto:hartons@progressiveae.com)

Planning Consultant (Residential phase):  
Gibbs Planning Group  
Robert Gibbs, FASLA, AICP, President  
240 Marlin Street, Suite 200  
Birmingham, MI 48009  
Phone: (248) 642-4800  
Email: [rgibbs@gibbsplanning.com](mailto:rgibbs@gibbsplanning.com)

Landowner:  
Lafranier Trust Properties  
Dixie Roethlisberger, Trustee  
15530 Bluff Road  
Traverse City, MI 49686  
Phone: (231) 223-7342  
Email: [dixie@charter.net](mailto:dixie@charter.net)

PLAN INDEX

- C1.0 COVER SHEET
- C1.1 NOTE SHEET
- C1.2 CIVIL DETAILS - SITE
- C1.3 CIVIL DETAILS - WATER
- C1.4 CIVIL DETAILS - SANITARY
- C1.5 CIVIL DETAILS - STORM
- C2.0 EXISTING CONDITIONS PLAN
- C2.2 DEMOLITION PLAN
- C3.0 SOIL EROSION & SEDIMENTATION CONTROL PLAN
- C4.0 OVERALL SITE PLAN
- C4.1 SITE & DIMENSION PLAN - NORTH
- C4.2 SITE & DIMENSION PLAN - SOUTH
- C5.0 OVERALL GRADING & STORM PLAN
- C5.1 GRADING & STORM PLAN - NORTH
- C5.2 GRADING & STORM PLAN - SOUTH
- C6.0 OVERALL UTILITY PLAN
- C6.1 UTILITY PLAN - NORTH
- C6.2 UTILITY PLAN - SOUTH
- L1.0 LANDSCAPE PLAN - NORTH
- L1.1 LANDSCAPE PLAN - SOUTH

PROJECT STANDARD SPECIFICATIONS - WATER MAIN  
Grand Traverse County Standard Technical  
Specifications and Construction Details 2017,  
Adopted on September 26, 2017 (as amended).

830 Cottageview Dr., Ste. 201  
P.O. Box 4015  
Traverse City, MI 49685  
Phone: 231-946-9310  
[www.mansfield.com](http://www.mansfield.com)  
[info@mansfield.com](mailto:info@mansfield.com)

**Mansfield**  
Land Use Consultants

REV	DATE	DESCRIPTION	BY	CHKD
01	05/01/20	Original design	dm	dm
02	05/01/20	Rev. PUD Submittal	dm	dm
03	05/01/20	Rev. Civil Details	dm	dm
04	05/01/20	Rev. Construction Details	dm	dm
05	05/01/20	Rev. Final Design	dm	dm

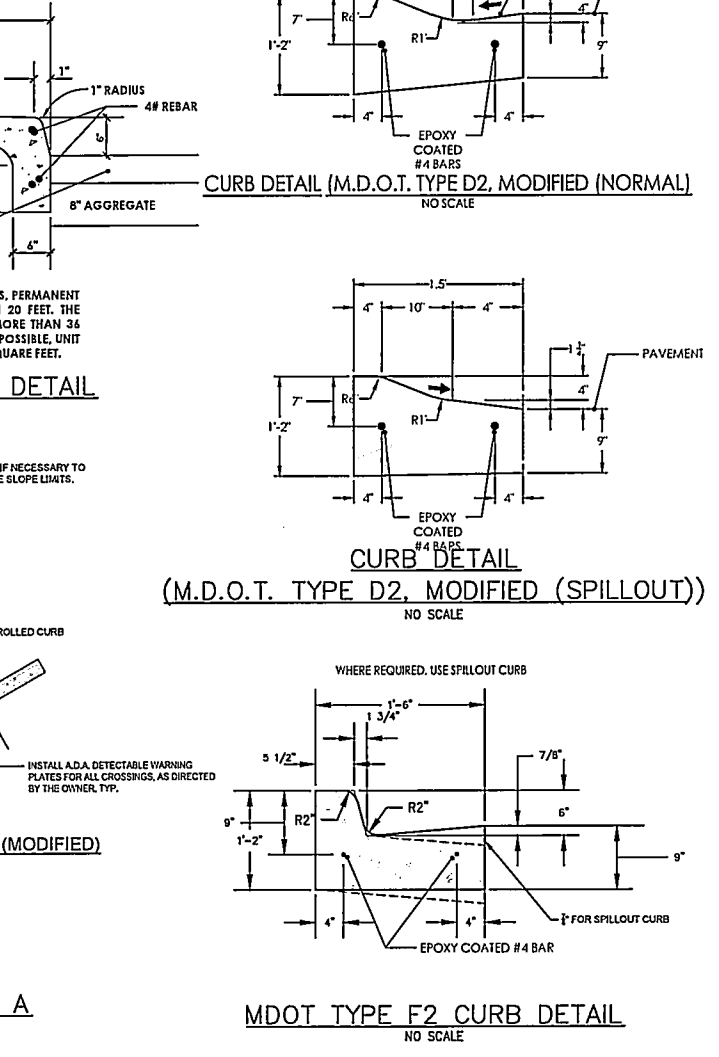
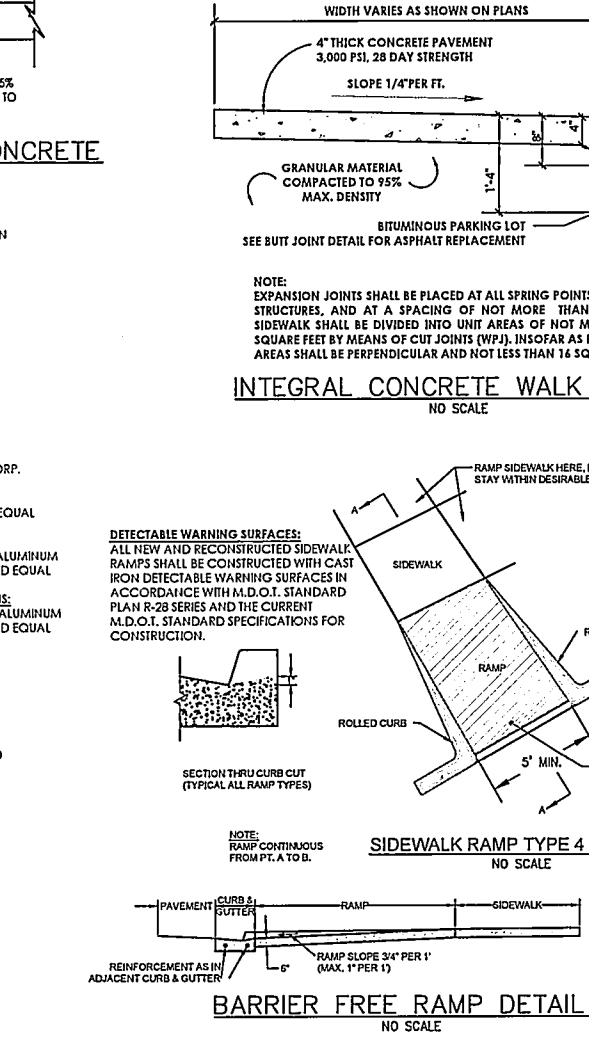
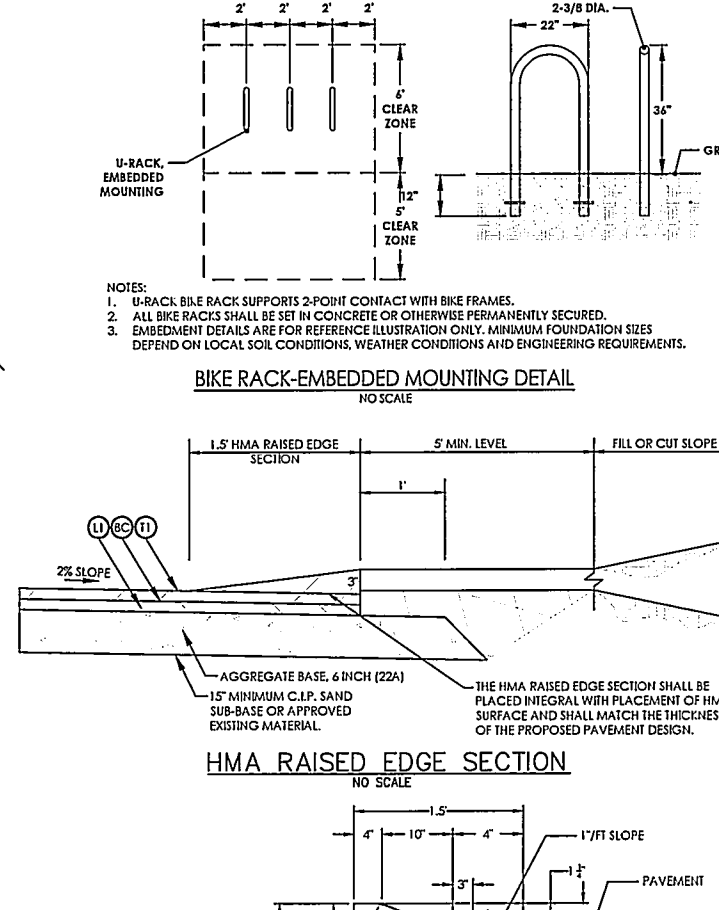
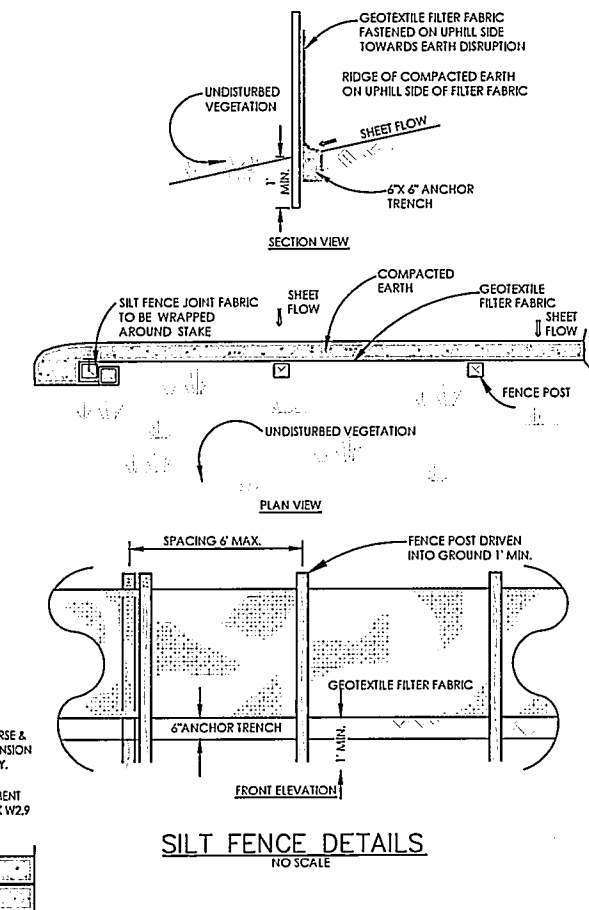
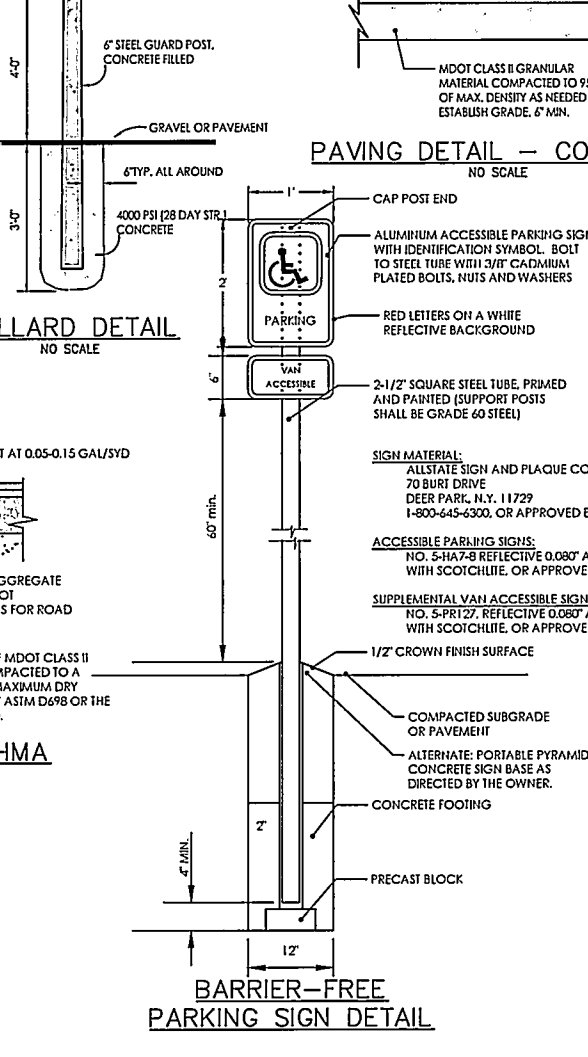
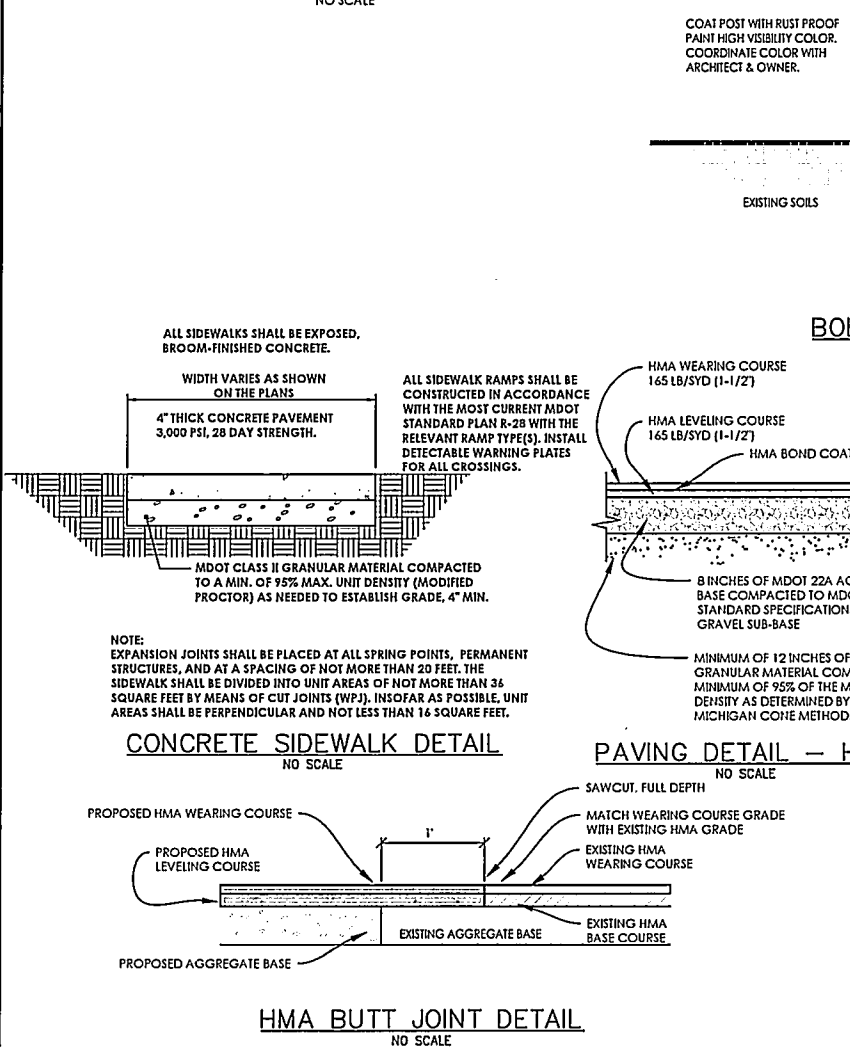
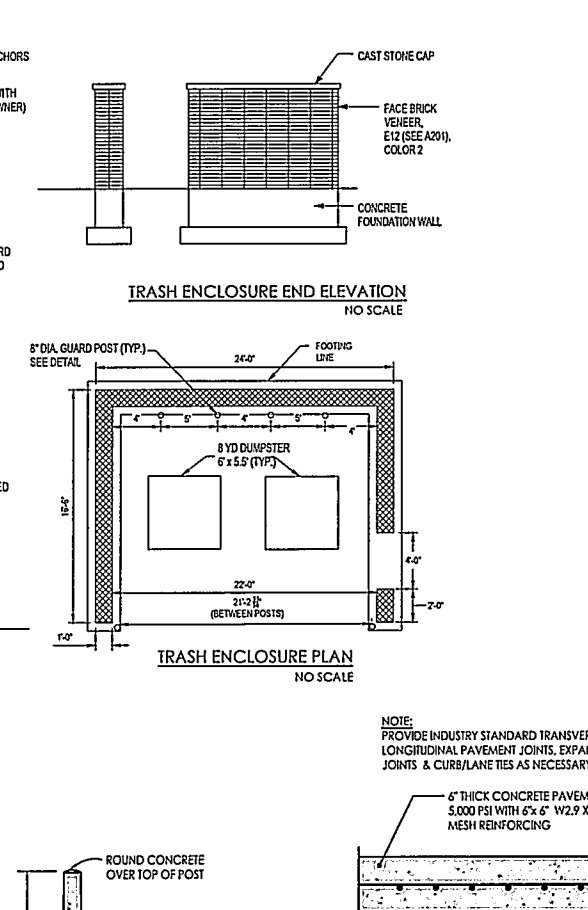
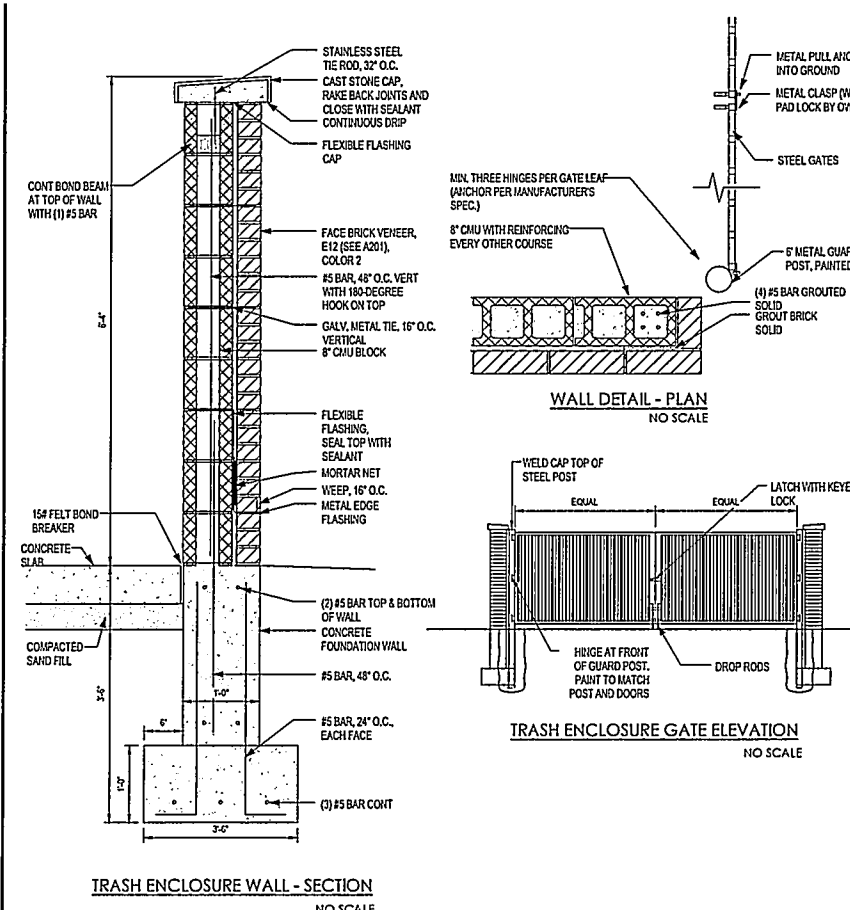
Bay Area Transportation Authority  
BATA HQ Transit-Oriented Development PUD  
COVER SHEET

Section 23, Town 27 North, Range 11 West  
Garfield Township, Grand Traverse County, Michigan

PUD SUBMITTAL
dm
07.13.20
20108
C1.0







830 Cottageview Dr., Ste. 201  
P.O. Box 4015  
Traverse City, MI 49685  
Phone 231-946-0310  
www.mansfield.com  
info@mansfield.com

# Mansfield

Land Use Consultants

Bay Area Transportation Authority  
BATA HQ Transit-Oriented Development PUD  
CIVIL DETAILS - SITE

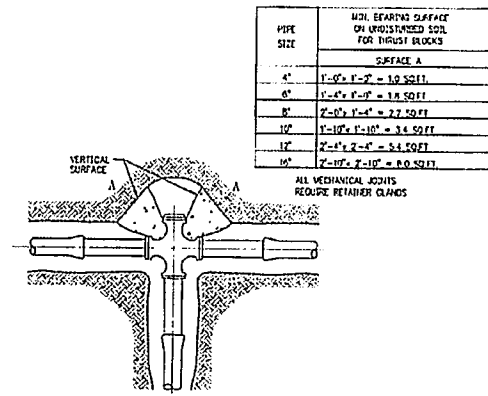
Section 23, Town 27 North, Range 11 West  
Garfield Township, Grand Traverse County, Michigan

PUD SUBMITTAL

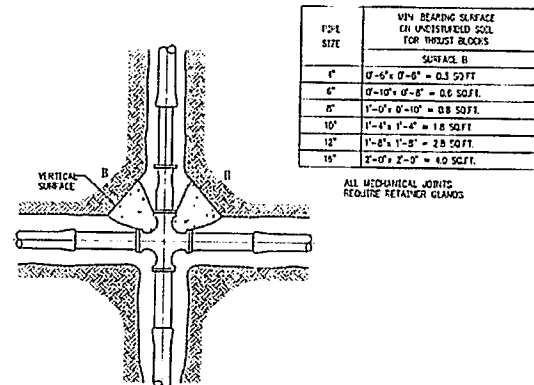
DATE: 07.13.20

20108

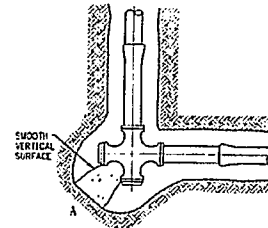
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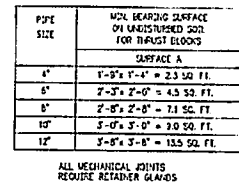
TYPICAL CROSS AND PLUG DETAIL  
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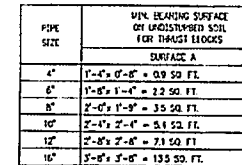
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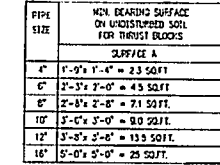
CROSS WITH 2 PLUGS DETAIL  
NO SCALE



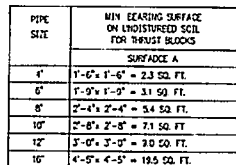
TYPICAL TEE AND PLUG DETAIL  
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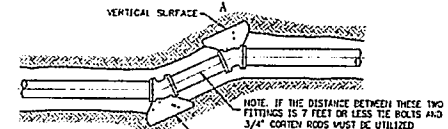
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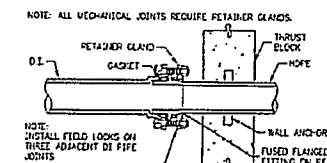
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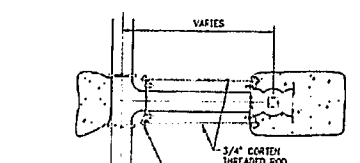
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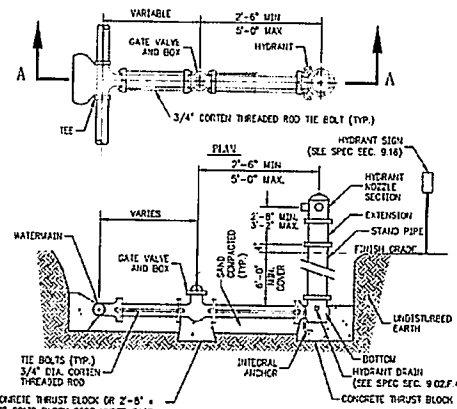
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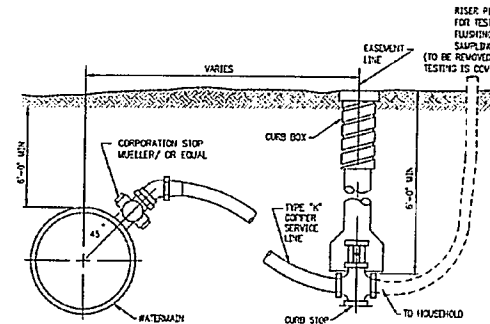
HDPE TO DI (MJ) ADAPTER DETAIL  
NO SCALE



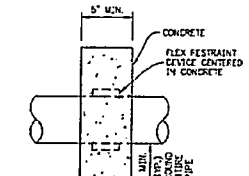
THRUST RESTRAINT DETAIL FOR ALL VALVES ON STUDDED LINES  
NO SCALE



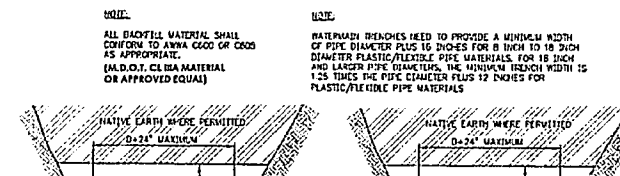
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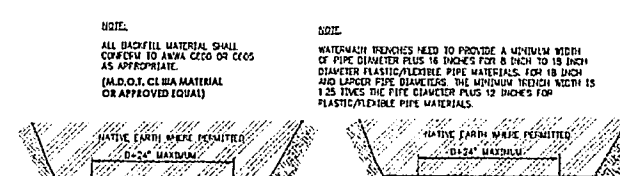
SERVICE CONNECTION DETAIL  
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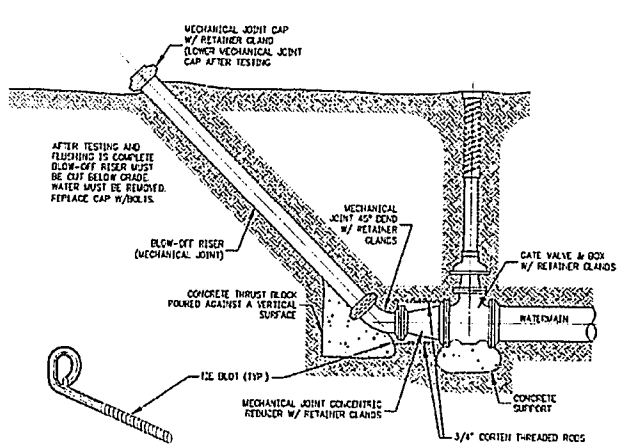
SERVICE LEAD THRUST RESTRAINT DETAIL  
(APPLICABLE FOR HDPE/PVC WATERMAIN ONLY)  
NO SCALE



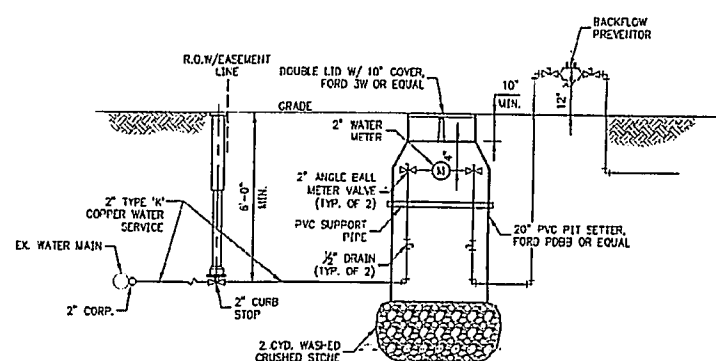
PIPE BEDDING DETAIL (CLASS A) NO SCALE



PIPE BEDDING DETAIL (CLASS B) NO SCALE



BLOW-OFF DETAIL  
NO SCALE

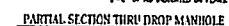
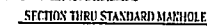
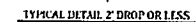
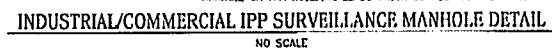


IRRIGATION METER PIT SERVICE DETAIL  
NO SCALE

1. REFER TO SPECIFICATIONS (SECTION 9) AND STANDARD WATER MAIN DETAILS FOR SERVICE CONNECTION TO MUNICIPAL WATER.
2. ALL MATERIALS ARE SUBJECT TO APPROVAL BY THE D.P.W.
3. IRRIGATION METER AND ASSOCIATED APPURTENANCES SHALL BE INSTALLED OUTSIDE THE RIGHT-OF-WAY ON THE PROPERTY OWNER'S SIDE OF THE WATER SERVICE.
4. BACKFLOW PREVENTOR SHALL BE PROVIDED AND SHALL BEAR ASSE. SEAL AND COMPLY WITH CURRENT MDEO CROSS CONNECTION MANUAL.
5. ALL MATERIALS SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.
6. DETAIL IS REPRESENTATIVE FOR A 2" IRRIGATION SYSTEM. SIZES TO BE ADJUSTED AS ALTERNATE SIZE IS NEEDED.

DATE	BY	CHK	APP	REV	DESCRIPTION
2010.03.11	dm	dm	dm	dm	Original design
2010.03.11	dm	dm	dm	dm	Rev. PUD Submittal
2010.03.11	dm	dm	dm	dm	Rev. PUD Submittal
2010.03.11	dm	dm	dm	dm	Rev. PUD Submittal
2010.03.11	dm	dm	dm	dm	Rev. PUD Submittal
2010.03.11	dm	dm	dm	dm	Rev. PUD Submittal
2010.03.11	dm	dm	dm	dm	Rev. PUD Submittal
2010.03.11	dm	dm	dm	dm	Rev. PUD Submittal
2010.03.11	dm	dm	dm	dm	Rev. PUD Submittal
2010.03.11	dm	dm	dm	dm	Rev. PUD Submittal





**DETAIL - STANDARD MANHOLE**  
**NO SCALE**

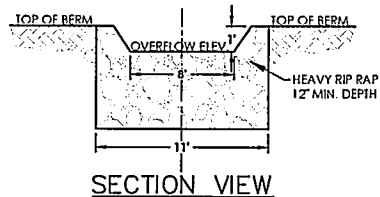
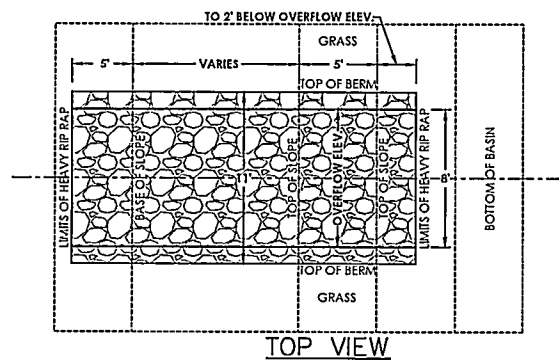
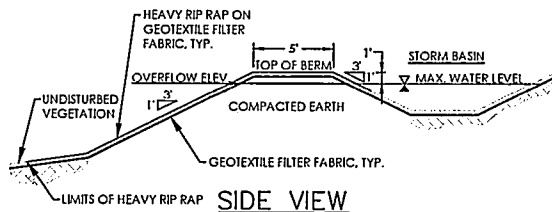
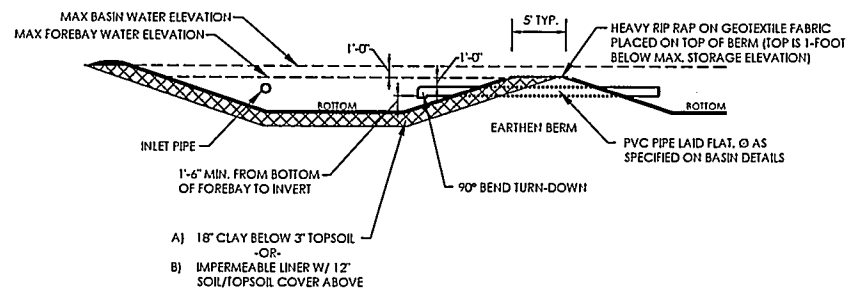
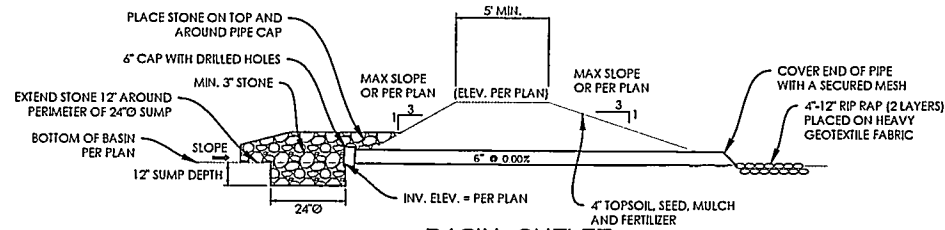
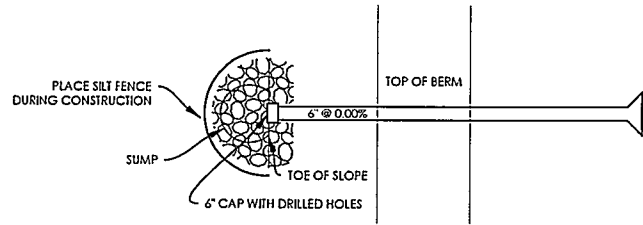
NO SCALE

**Mansfield**  
— <sup>CA</sup> —  
**Land Use Consultants**

REF	DATE	BY	EN	CH	DESC
01	20-07-13	den	invt	den	Original design
02	20-12-10	den	invt	den	Inv. PND Submittal
03	20-12-28	den	invt	den	Inv. Completed review Submittal
04	21-01-25	den	invt	den	prior to public hearing

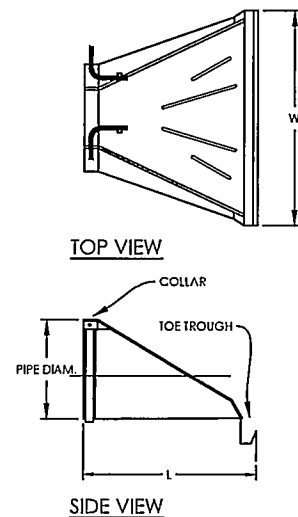
Bay Area Transportation Authority  
BATA HQ Transit-Oriented Development PUD  
**CIVIL DETAILS - SANITARY**  
Section 23, Town 27 North, Range 11 West  
Garfield Township, Grand Traverse County, Michigan

<b>PUD SUBMITTAL</b>		
P.A.M.		
DATE:	CDD:	CREATED:
mmmm	ddm	07.13.20
JOB NO:		
20108		
C1.4		

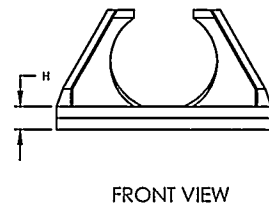


EMERGENCY OVERFLOW DETAIL

NO SCALE

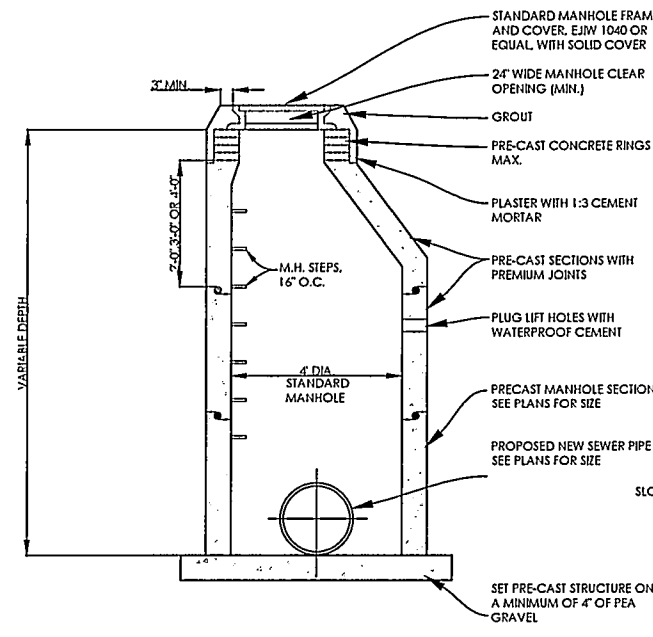
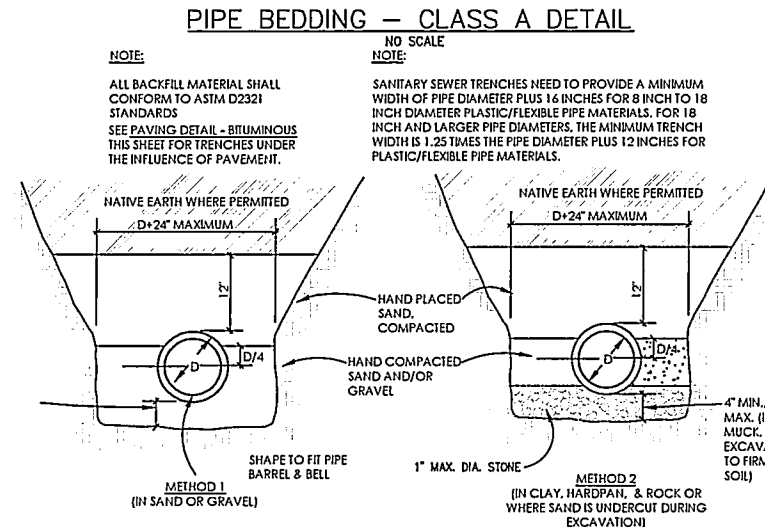
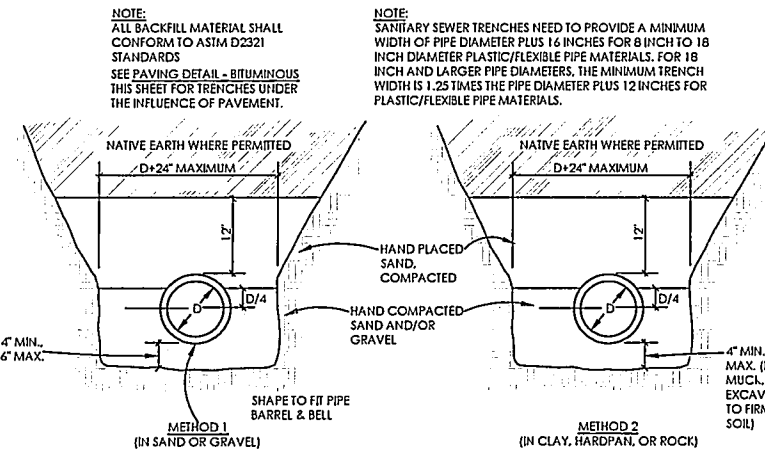


DIMENSIONS			
DIAM.	W	L	H
12"	24"	21"	6"
15"	30"	26"	6"
18"	36"	31"	6"
24"	48"	41"	6"
30"	60"	51"	8"

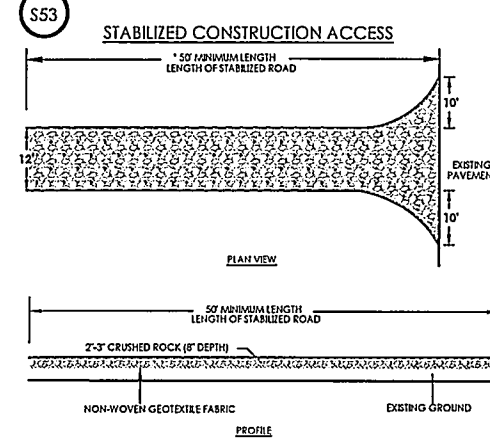


CMP FLARED END SECTION DETAIL

NO SCALE



## TEMPORARY ACCESS DETAIL

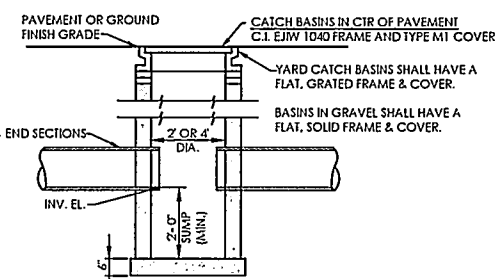


## STABILIZED CONSTRUCTION ACCESS SPECIFICATIONS

- WHEN**
- CONSTRUCTION TRAFFIC IS EXPECTED TO LEAVE A CONSTRUCTION SITE.
  - STABILIZATION OF INTERIOR CONSTRUCTION ROADS IS DESIRED.
- WHY**
- TO MINIMIZE TRACKING OF SEDIMENT ONTO PUBLIC ROADWAYS AND TO MINIMIZE DISTURBANCE OF VEGETATION.
- WHERE**
- STABILIZED CONSTRUCTION ENTRANCES SHALL BE LOCATED AT EVERY POINT WHERE CONSTRUCTION TRAFFIC ENTERS OR LEAVES A CONSTRUCTION SITE. VEHICLES LEAVING THE SITE MUST BE ROUTED OVER THE ROCK INGRESS/EGRESS CORRIDOR.
- HOW**
- STABILIZED CONSTRUCTION ACCESS ROAD SHOULD BE ESTABLISHED AT THE ONSET OF THE CONSTRUCTION ACTIVITIES AND MAINTAINED IN PLACE FOR THE DURATION OF THE CONSTRUCTION PROJECT.
  - INSTALLATION OF THIS PRACTICE SHOULD BE THE RESPONSIBILITY OF THE SITE CLEARING OR EXCAVATING CONTRACTOR.
  - ACCESS LOCATION SHOULD BE CLEARED OF WOODY VEGETATION.
  - NON-WOVEN GEOTEXTILE FABRIC SHALL BE PLACED OVER THE EXISTING GROUND PRIOR TO PLACING STONE.
  - ACCESS SIZE SHOULD BE A MINIMUM OF 50' (30' FOR SINGLE RESIDENCE LOT).
  - ACCESS WIDTH SHOULD BE 12' MINIMUM, FLARED AT THE EXISTING ROAD TO PROVIDE A TURNING RADIUS.
  - CRUSHED AGGREGATE (2" TO 3"), OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT, SHALL BE PLACED AT LEAST 8" DEEP OVER THE LENGTH AND WIDTH OF THE INGRESS/EGRESS CORRIDOR.
- MAINTENANCE**
- PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN EVENT.
  - STABILIZED ENTRANCES SHALL BE REPAIRED AND ROCK ADDED AS NECESSARY.
  - SEDIMENT DEPOSITED ON PUBLIC RIGHTS-OF-WAY SHALL BE REMOVED IMMEDIATELY AND RETURNED TO THE CONSTRUCTION SITE. REMOVE ACCUMULATED SEDIMENT IN THE SUMPS AND MAINTAIN SWEEPED ROADS.
  - IF SOILS ARE SUCH THAT WASHING OF TIRES IS REQUIRED, IT SHALL BE DONE IN A WASH RACK AREA. STABILIZED WITH STONE, IMMEDIATELY PRIOR TO THE CONSTRUCTION ACCESS STABILIZED CORRIDOR.
  - AT THE PROJECT COMPLETION, ROCK ACCESS ROAD SHOULD BE REMOVED AND DISPOSED OF UNLESS UTILIZED AS SUBGRADE FOR FINAL ROAD.
- LIMITATIONS**
- EFFECTIVENESS LIMITED, SEDIMENT MAY BE TRACKED ONTO ROADS REQUIRING ADDITIONAL ACTION.

2 OR 4 FT. DIA. CATCH BASIN DETAIL

NO SCALE



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**Mansfield**  
Land Use Consultants

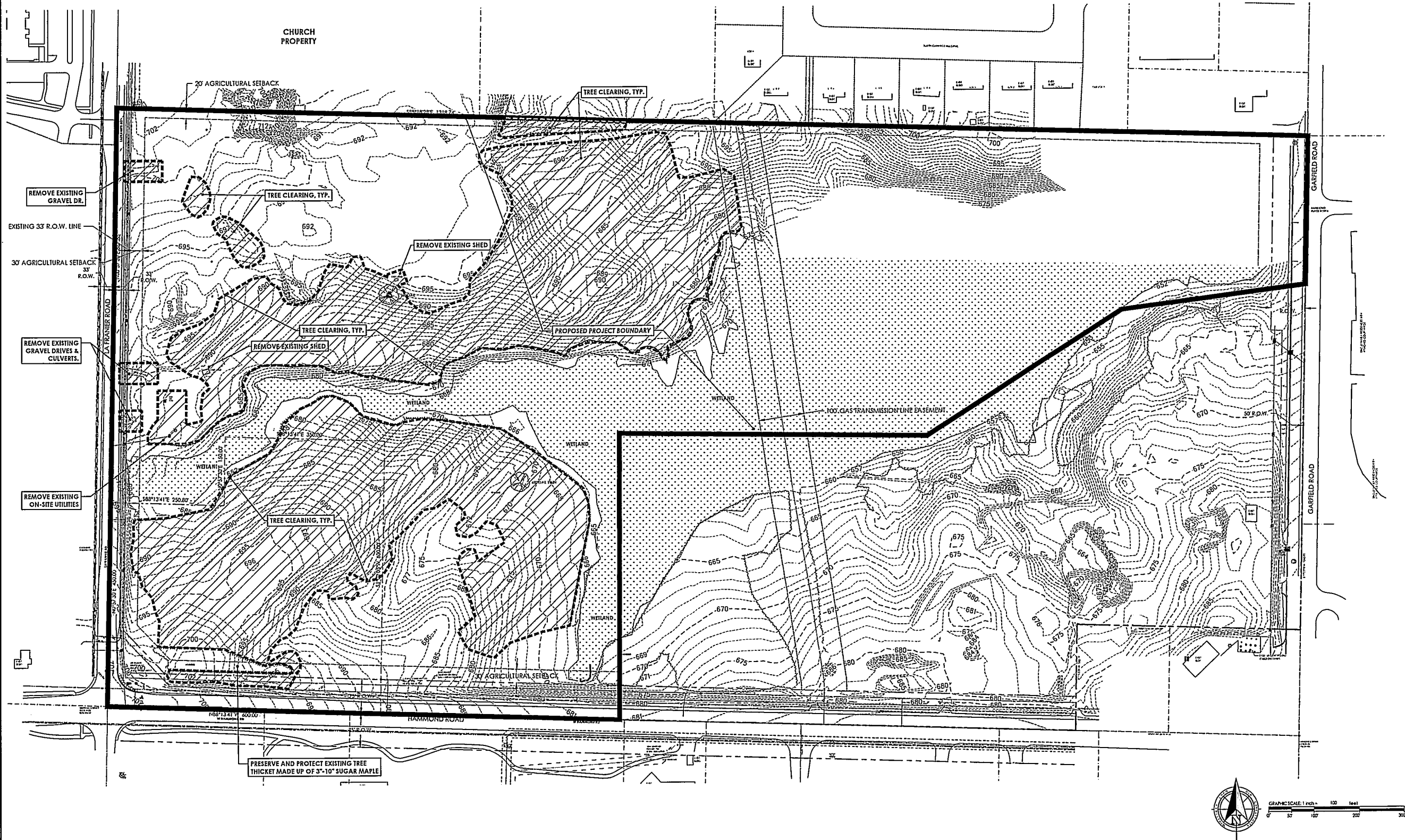
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04	2012/10	dm	dm	Rev. 10/12/12
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29	2012/10	dm	dm	Rev. 10/12/12
30	2012/10	dm	dm	Rev. 10/12/12

Bay Area Transportation Authority  
BATA HQ Transit-Oriented Development PUD  
CIVIL DETAILS - STORM  
Section 23, Town 27 North, Range 11 West  
Garfield Township, Grand Traverse County, Michigan

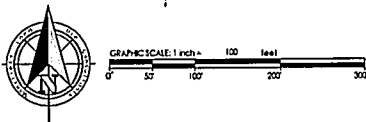
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04	2012/10	dm	dm	Rev. 10/12/12
05	2012/10	dm	dm	Rev. 10/12/12
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29	2012/10	dm	dm	Rev. 10/12/12
30	2012/10	dm	dm	Rev. 10/12/12







**ENVIRONMENTAL ASSESSMENT NOTE:**  
EXPOSURES TO THE IMPACTED SOILS WILL BE CONSIDERED IN THE ENVIRONMENTAL PLANNING FOR THE SITE. SOILS IMPACTED WITH RESIDUAL AGROCHEMICALS IN THE HISTORIC ORCHARD AREA WILL BE MANAGED IN THAT AREA THROUGH DEVELOPMENT OF THE PROJECT GRADING PLAN. THE PROJECT GRADING PLAN WILL BE DEVELOPED SUCH THAT SOILS IN THE ORCHARD AREA REMAIN IN THAT AREA. POTENTIAL UNACCEPTABLE EXPOSURES TO THE SOILS WILL BE MANAGED OR MITIGATED BY COVERING THE SOILS WITH UNIMPACTED TOPSOIL AND VEGETATION OR COVERING WITH HARD SURFACE PARKING, DRIVEWAY OR BUILDINGS. ANY EXCESS SOILS IN THIS AREA WILL BE CHARACTERIZED AND DISPOSED OF AT A LICENSED FACILITY. IT IS ALSO POSSIBLE THAT SITE SPECIFIC EXPOSURE CRITERIA FOR THE SPECIFIC FUTURE USE IN THIS AREA CAN BE DEVELOPED WHICH WILL DEMONSTRATE ACCEPTABLE EXPOSURE FOR FUTURE USES. - ROGER MAWBY OTWELL MAWBY, P.C. CONSULTING ENGINEERS, TRAVERSE CITY, MI



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**Mansfield**  
Land Use Consultants

REV	DATE	BY	CHK	DESCRIPTION
01	20.07.13	dm	mm	Original design
02	20.12.10	dm	mm	Two AFD Submitted
03	20.12.28	dm	mm	Two Comments Review Submitted
04	21.01.25	dm	mm	One prior to public hearing

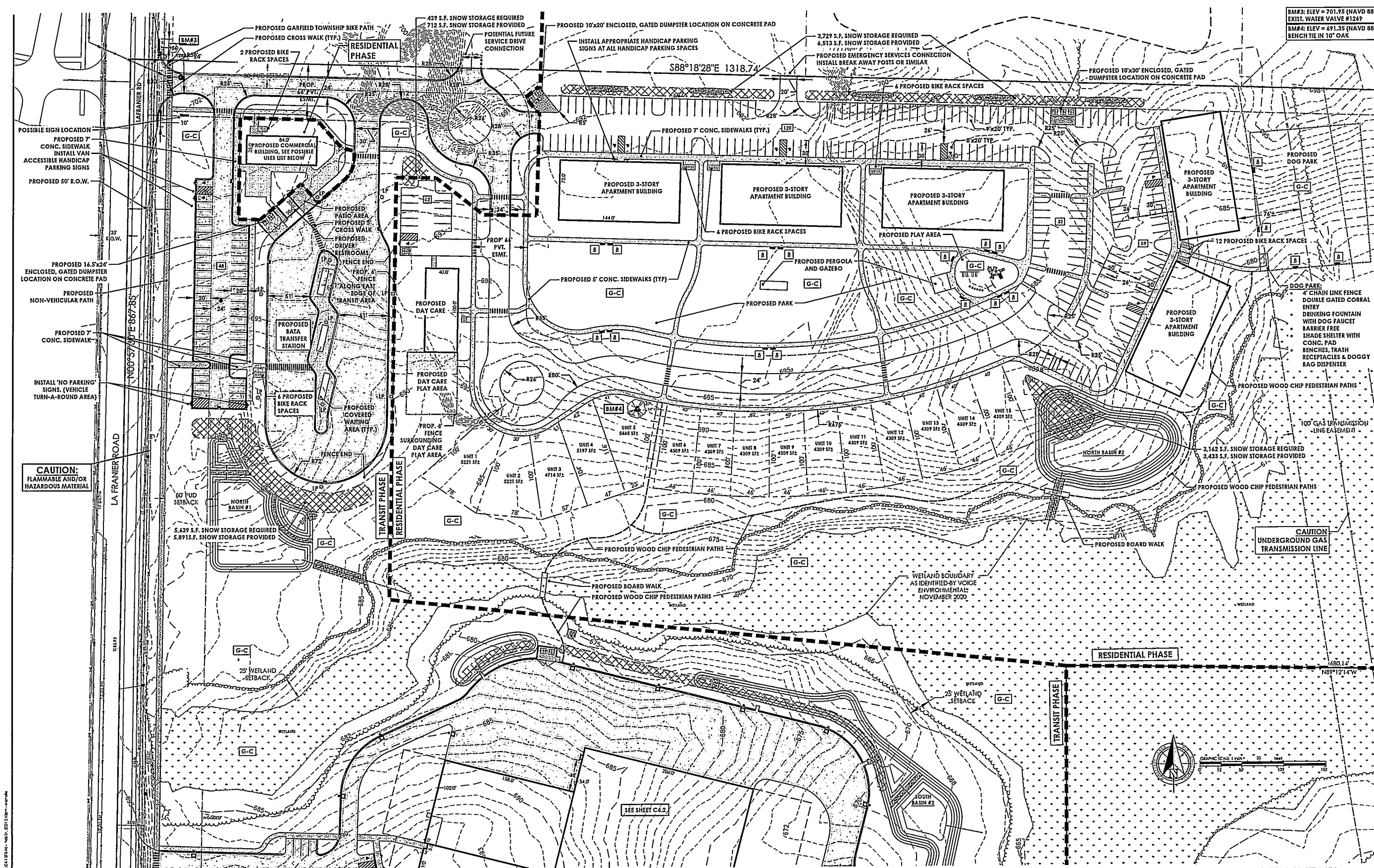
Bay Area Transportation Authority  
**BATA HQ Transit-Oriented Development PUD**  
**DEMOLITION PLAN**  
Section 23, Town 27 North, Range 11 West  
Garfield Township, Grand Traverse County, Michigan

**PUD SUBMITTAL**  
dm  
mm  
20108  
**C2.1**









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# Mansfield

Land Use Consultants

REV	DATE	BY	CHK	DESCRIPTION
01	20-07-13	dm	mm	Original design
02	20-12-10	dm	mm	Rev. PUD Submittal
03	20-12-28	dm	mm	Rev. PUD Submittal
04	21-01-25	dm	mm	Rev. PUD Submittal

Bay Area Transportation Authority  
BATA HQ Transit-Oriented Development PUD  
SITE & DIMENSION PLAN - NORTH  
Section 23, Town 27 North, Range 11 West  
Garfield Township, Grand Traverse County, Michigan

**POSSIBLE COMMERCIAL BUILDING USES:** (AS PROVIDED BY GARFIELD TOWNSHIP JANUARY, 2021)  
BATA/CHC MUD PUD - LIST OF POSSIBLE PERMITTED USES FOR CAFÉ BUILDING  
THE FOLLOWING USES ARE PERMITTED FOR THE CAFÉ BUILDING, DRIVE-THROUGH, PICK-UP WINDOW OR ANY AUTO-ORIENTED FEATURE ARE PROHIBITED FOR ANY USE OF THE BUILDING.  
• FINANCIAL INSTITUTION, WITHOUT DRIVE-THROUGH  
• MEDICAL OFFICE, CLINIC  
• OFFICE  
• RESTAURANT, WITHOUT DRIVE-THROUGH OR AN ESTABLISHMENT WHERE FOOD AND DRINKS ARE PREPARED, SERVED, AND CONSUMED, MOSTLY WITHIN THE PRINCIPAL BUILDING SUCH AS LUNCH COUNTERS, DAIRY BARS, BARS, TAVERNS, NIGHT CLUBS, COFFEE SHOPS, AND OTHER SIMILAR ESTABLISHMENTS.  
• RETAIL, LOW VOLUME OF THE SALE OR RENTAL OF GOODS OR MERCHANDISE, INCLUDING THE RENDERING OF SERVICES INCIDENTAL TO THE SALE OF SUCH GOODS, TAKING PLACE IN A BUILDING OF LESS THAN FIVE THOUSAND (5,000) SQUARE FEET. LOW VOLUME RETAIL PRIMARILY SERVES RESIDENTS OF THE SURROUNDING NEIGHBORHOOD.  
• SERVICE ESTABLISHMENT, PERSONAL OR ESTABLISHMENTS PRIMARILY ENGAGED IN PROVIDING SERVICES INVOLVING THE CARE OF A PERSON OR THEIR GOODS SUCH AS BEAUTY SHOPS, BARBER SHOPS, LAUNDRY FACILITY, JEWELRY REPAIR SHOPS, DRY CLEANING ESTABLISHMENT (PICKUP ONLY), AND SHOE REPAIR, EXCLUDING THE PROCESSING OF PHYSICAL MATERIALS.

**B.A.T.A. TRANSFER STATION:**  
B.A.T.A. INTENDS TO CONTINUE TO SERVE INDIAN TRAILS INTERCITY BUS RIDERS VIA ITS HALL STREET TRANSFER STATION. BUS SERVICE AT THE PROPOSED LAFRANIER TRANSFER STATION IS INTENDED FOR PRIMARILY B.A.T.A. BUS SERVICES, BUT THE APPLICANT DOES NOT WISH TO LIMIT ANY FUTURE ADDITIONAL REGIONAL TRANSPORTATION OPPORTUNITIES SUCH AS EMPLOYER SHUTTLE BUSES ETC.

- NOTES:**
1. ANY PROPOSED SIGNS SHALL BE SET BACK A MIN. OF 10' FROM ALL R.O.W. LINES. MEET ALL GARFIELD TOWNSHIP SIGN STANDARDS AND BE APPROVED THROUGH THE SIGN PERMITTING PROCESS.
  2. BICYCLE PARKING SPACES FOR APARTMENT BUILDINGS WAS CALCULATED BASED UPON REQUIRED PARKING SPACES PER BUILDING.
  3. BICYCLE PARKING SPACES FOR PROPOSED COMMERCIAL USE BUILDING IN RESIDENTIAL PHASE WAS CALCULATED USING OFFICE USE PARKING AT 1 SPACE PER 200 S.F.
  4. ALL BIKE RACKS TO MEET GARFIELD TOWNSHIP SPECIFICATIONS.
  5. UNLESS OTHERWISE NOTED, ALL SIDEWALKS ABUTTING PARKING SPACES ARE TO BE 7' IN WIDTH AND ALL OTHER SIDEWALKS ARE TO BE 5' IN WIDTH.
  6. ALL AREAS NOT OCCUPIED BY ROADS, PARKING LOTS, DRIVE LANES, RESIDENTIAL OR COMMERCIAL BUILDINGS, PRIVATE RESIDENTIAL LOTS, DUMPSTERS, FUEL TANKS OR SIMILAR, ARE TO BE CONSIDERED AS GENERAL COMMONS USE AREAS. AREAS LABELED ARE GENERAL COMMONS USE AREAS SHOWN TO REPRESENT TYPICAL GENERAL COMMONS USE AREAS AN MAY NOT INCLUDE ALL GENERAL COMMONS USE AREAS.

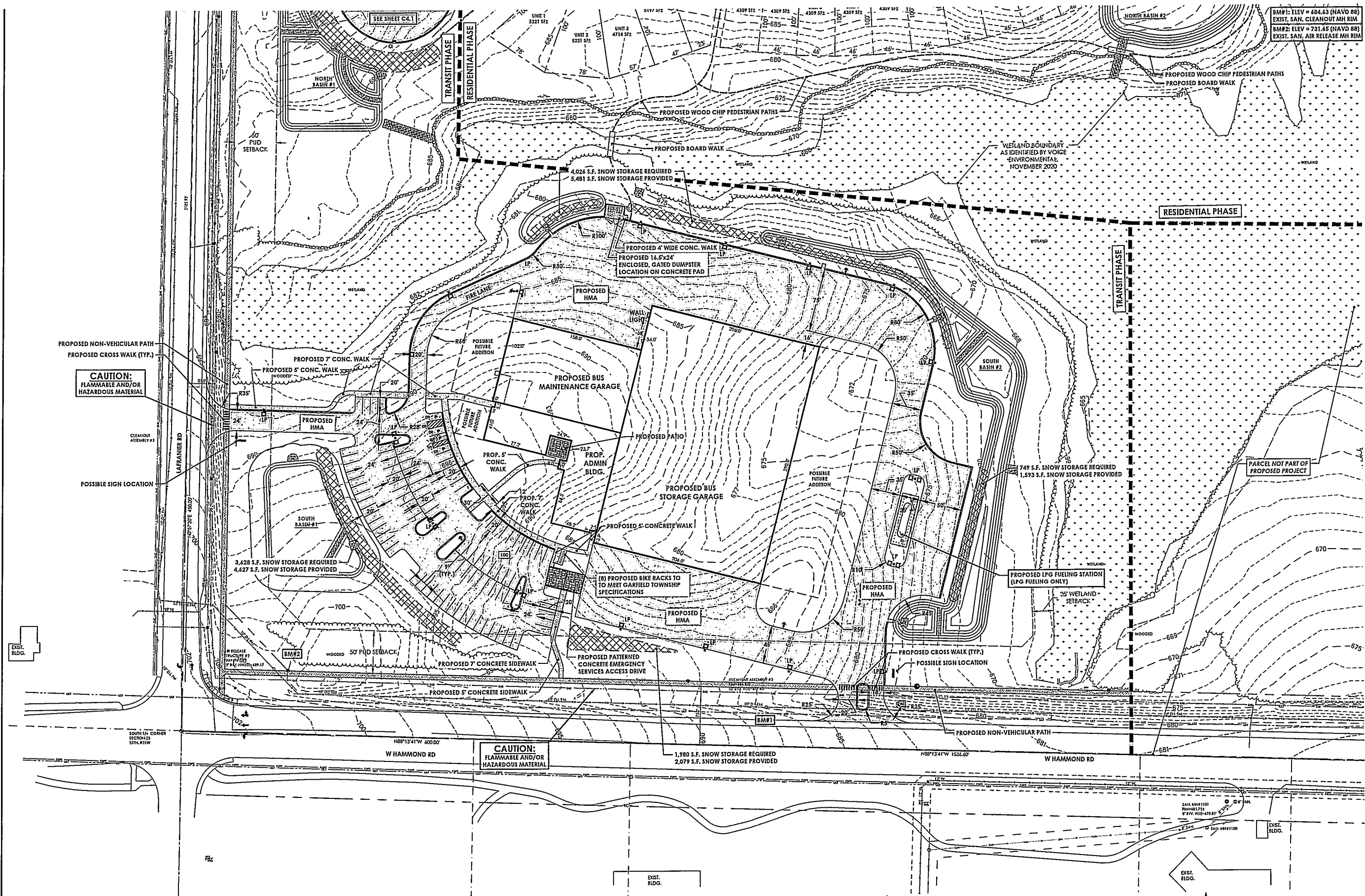
**MULTI-FAMILY RESIDENTIAL UNIT MIX (APPROXIMATE)**

48%	100	STUDIOS (400SF)
33%	70	ONE-BEDROOM (600SF)
19%	40	TWO-BEDROOM (800SF)
100%	210	TOTAL UNITS

- LEGEND**
- [B] PARK BENCH LOCATION
  - [G-C] GENERAL COMMONS USE AREA

PUD SUBMITTAL

DATE	20108
BY	C4.1



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[illegible]

PUD SUBMITTAL		
F.A.I.:		
clm		
DR.:	F.I.D.:	CLARID:
mmmm	clm	07.13.20
RIP NO.:		
20108		
C4.2		

- NOTES:**
1. ANY PROPOSED SIGNS SHALL BE SET BACK A MIN. OF 10' FROM ALL R.O.W. LINES, MEET ALL GARFIELD TOWNSHIP SIGN STANDARDS AND BE APPROVED THROUGH THE SIGN PERMITTING PROCESS.
  2. UNLESS OTHERWISE NOTED, ALL SIDEWALKS ABUTTING PARKING SPACES ARE TO BE 7' IN WIDTH AND ALL OTHER SIDEWALKS ARE TO BE 5' IN WIDTH.





**NOTE:**  
COORDINATE THE LOCATIONS AND CONNECTIONS OF ALL UTILITY METERS, BOXES, PADS, REMOTE READERS, ETC. WITH THE ARCHITECTURAL PLANS & UTILITY COMPANIES, TYP.

**PROPOSED SANITARY SERVICE, TYP.**RESIDENTIAL  
PHASE

**PROPOSED SANITARY SERVICE, TYP.**

PROPOSED SANITARY SEWER, TYP.

S88°18'28"E 1318.74'

**PROPOSED WATER SERVICE & VALVE, TYP.**

**PROPOSED SANITARY SERVICE, TYP.**

PROPOSED SANITARY SEWER, TYP.

S88°18'28"E 1318.74'

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**Mansfield**  
— & —  
**Land Use Consultants**

REV	DATE	BY	CHK	DESCRIPTION
01	2007/11	dm	mm	dm
02	2008/10	dm	mm	dm
03	2012/10	dm	mm	dm
04	21-01-25	dm	mm	dm

Bay Area Transportation Authority  
BATA HQ Transit-Oriented Development PUD  
**NORTH UTILITY PLAN**  
Section 23, Town 27 North, Range 11 West  
Garfield Township, Grand Traverse County, Michigan

<b>PUD SUBMITTAL</b>		
F.A.I.:		
dlm		
DATE:	CRD:	CRD DATE:
mmmm	dlm	07.13.20
JOB NO.:		
20108		
C6.1		

1. WATER SERVICES: ALL CONSTRUCTION AND MATERIALS SHALL CONFORM TO THE TOWNSHIP'S CURRENT STANDARDS, SPECIFICATIONS AND DETAILS.
2. SANITARY SERVICES: ALL CONSTRUCTION AND MATERIALS OF SANITARY SERVICES, CLEANOUTS, IPP MANHOLES AND CONNECTIONS TO THE SANITARY MAIN SHALL CONFORM TO THE TOWNSHIP'S STANDARDS, SPECIFICATIONS AND DETAILS. ALL WORK SHALL ALSO BE COMPLIANT WITH THE CONSTRUCTION CODE OFFICE AND THE COUNTY DPW.
3. SANITARY SERVICES: NO CONNECTION RECEIVING STORM WATER OR GROUNDWATER SHALL BE MADE TO THE SANITARY SERVICES. EACH PUBLIC UTILITY SHALL BE WITHIN ITS OWN 20' WIDE EASEMENT ENTERED ON THE UTILITY. MEASUREMENTS FOR SERVICES EXTEND 10' BEYOND THE IPP MANHOLE FOR THE SANITARY SERVICES AND TO 10' BEYOND THE P.L.V. AND CURB STOP/BOX FOR THE WATER SERVICES.
5. THE DOMESTIC WATER AND FIRE PROTECTION SERVICES SHALL BE SEPARATE CONNECTIONS TO THE BUILDING(S).
6. SEE ARCHITECTURAL PLANS FOR EXACT LOCATIONS AND DETAILS OF THE UTILITY CONNECTIONS AT THE BUILDING.
7. THE CONTRACTOR SHALL FOLLOW ALL STATE REGULATIONS FOR CONFIGURED PIPE ENTRY.
8. COORDINATE ALL UTILITY WORK WITH THE COUNTY DPW AND PROVIDE 48 HOURS NOTICE PRIOR TO BEGINNING CONSTRUCTION.
9. THE CONTRACTOR SHALL NOT DISRUPT THE WATER MAIN AND SEWER LINES SERVING TO THE SUBSEQUENT CUSTOMER. REQUIRED DITCHES IN CONCRETE SHALL BE COMMUNICATED AND COORDINATED WITH THE COUNTY DPW BY THE CONTRACTOR A MINIMUM OF 24 HOURS IN ADVANCE. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR PROVIDING BOTTLED WATER, DISINFECTING AND TESTING THE WATER MAIN BEFORE RECONNECTING.
10. ALL WATER MAIN SHALL MAINTAIN A MINIMUM OF 10' HORIZONTAL SEPARATION AND 1.5' VERTICAL SEPARATION FROM SANITARY SEWERS AND STORM SEWERS. MEASUREMENTS ARE BETWEEN THE CLOSEST POINTS OF EACH PIPE.
11. THE SITE CONTRACTOR IS RESPONSIBLE FOR INSTALLATION OF SITE UTILITIES UP TO WITHIN 5' OF THE PROPOSED BUILDING. THE BUILDING CONTRACTOR SHALL BE RESPONSIBLE FOR UTILITIES WITHIN 5' OF THE PROPOSED BUILDING AND INTERNALLY.
12. COORDINATE CONSTRUCTION.
13. SEE ARCHITECTURAL, LANDSCAPE AND ELECTRICAL PLANS FOR DETAILS ON SITE LIGHTING AND IRRIGATION, CONDUITS, BUILDING CONNECTIONS, ETC.
14. HYDRANT HOZZELS SHALL FACE THE BUILDINGS OR ROADWAYS.

1. WATER SERVICES: ALL CONSTRUCTION AND MATERIALS SHALL CONFORM TO THE TOWNSHIP'S CURRENT STANDARDS, SPECIFICATIONS AND DETAILS.
2. SANITARY SERVICES: ALL CONSTRUCTION AND MATERIALS OF SANITARY SERVICES, CLEANOUTS, IPP MANHOLES AND CONNECTIONS TO THE SANITARY MAIN SHALL CONFORM TO THE TOWNSHIP'S STANDARDS, SPECIFICATIONS AND DETAILS. ALL WORK SHALL ALSO BE COMPLIANT WITH THE CONSTRUCTION CODE OFFICE AND THE COUNTY DPM.
3. SANITARY SERVICES: IN CONNECTION WITH ANY WATER OR SEWER SERVICE, THE UTILITY EASEMENT SHALL BE DEED TO SANITARY SERVICES.
4. EACH UTILITY SHALL BE WITHIN ITS OWN 20'-WIDE EASEMENT CENTERED ON THE UTILITY. EASEMENTS FOR SERVICES EXTEND TO 10' BEYOND THE IPP MANHOLE FOR THE SANITARY SERVICES AND TO 10' BEYOND THE P.I.V. AND CURB STOP/BOX FOR THE WATER SERVICES.
5. THE DOMESTIC WATER AND FIRE PROTECTION SERVICES SHALL BE SEPARATE CONNECTIONS TO THE BUILDING(S).
6. SEE ARCHITECTURAL PLANS FOR EXACT LOCATIONS AND DETAILS OF THE UTILITY CONNECTIONS AT THE BUILDING.
7. THE CONTRACTOR SHALL FOLLOW ALL STATE REGULATIONS FOR CONFINED SPACE ENTRY.
8. COORDINATE ALL UTILITY WORK WITH THE COUNTY DPM AND PROVIDE 48 HOURS NOTICE PRIOR TO BEGINNING CONSTRUCTION.
9. THE CONTRACTOR SHALL NOT DISRUPT WATER MAIN AND SANITARY SEWER SERVICE TO THE SURROUNDING CUSTOMERS, ANY REQUIRED DISRUPTION IN SERVICE SHALL BE COMMUNICATED AND COORDINATED WITH THE COUNTY DPM BY THE CONTRACTOR A MINIMUM OF 24 HOURS IN ADVANCE. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR PROVIDING BOTTLED WATER, DISINFECTING AND TESTING THE WATER MAIN BEFORE RECONNECTING.
10. ALL WATER MAIN SHALL MAINTAIN A MINIMUM OF 10' HORIZONTAL SEPARATION AND 1.5' VERTICAL SEPARATION FROM SANITARY SEWERS AND STORM SEWERS. MEASUREMENTS ARE BETWEEN THE CLOSEST POINTS OF EACH PIPE.
11. THE SITE CONTRACTOR IS RESPONSIBLE FOR INSTALLATION OF SITE UTILITIES UP TO WITHIN 5' OF THE PROPOSED BUILDING. THE BUILDING CONTRACTOR SHALL BE RESPONSIBLE FOR UTILITIES WITHIN 5' OF THE PROPOSED BUILDING AND INTERNALLY. COORDINATE CONSTRUCTION.
12. SEE ARCHITECTURAL, LANDSCAPE AND ELECTRICAL PLANS FOR DETAILS ON SITE LIGHTING AND IRRIGATION, CONDURTS, BUILDING CONNECTIONS, ETC.
13. HYDRANT NOZZELS SHALL FACE THE BUILDINGS OR ROADWAYS.

**GAS (ACTUAL LOCATIONS T.B.D.)**  
COORDINATE WITH GAS UTILITY PROVIDER AND ARCHITECTURAL PLANS FOR THE BUILDING CONNECTION LOCATION, DEMAND & METER(S) LOCATION(S), TYP. CONNECT TO EXISTING GAS MAINS & PROVIDE NEW GAS SERVICE TO THE PROPOSED BUILDINGS.

**TWP. SANITARY SEWER OFF-SITE CONNECTION:**  
THE PROPOSED SANITARY SEWER CONNECTION POINT FOR THE SOUTH BATA SITE IS THE EXISTING SANITARY MANHOLE #1101 (GRAVITY) ON THE SOUTH SIDE OF HAMMOND RD IN THE HAMMOND COMMERCE PARK. THE SOUTH BATA SITE GRAVITY SANITARY SEWER SERVICE WILL BE PUMPED SOUTH ACROSS HAMMOND ROAD AND EAST TO A PROPOSED FORCE MAIN DISCHARGE MANHOLE ADJACENT TO EXISTING MH#1100 (APPROXIMATE PROPOSED LENGTH = 500 FT).

**TWP. WATER MAIN CONNECTION:**  
THE PROPOSED SOUTH BATA SITE WATER MAIN WILL CONNECT TO THE EXISTING 12" WATER MAIN ALONG THE SOUTH SIDE OF HAMMOND ROAD (ACROSS THE ROAD) IN THE HAMMOND COMMERCE PARK. THE PROPOSED WATER MAIN WILL BE BORED UNDER HAMMOND ROAD AND CONNECTED ON THE SOUTH SIDE OF THE CROSSING TO THE EXISTING 12" WATER MAIN AND CONNECTED ON THE NORTH SIDE TO THE ON-SITE SYSTEM AS SHOWN.

BM#1: ELEV = 684.63 (NAVD 88) EXIST. SAN. CLEANOUT MH RIM
BM#2: ELEV = 731.65 (NAVD 88) EXIST. SAN. AIR RELEASE MH RIM



GRAPHIC SCALE: 1 inch = 40 feet



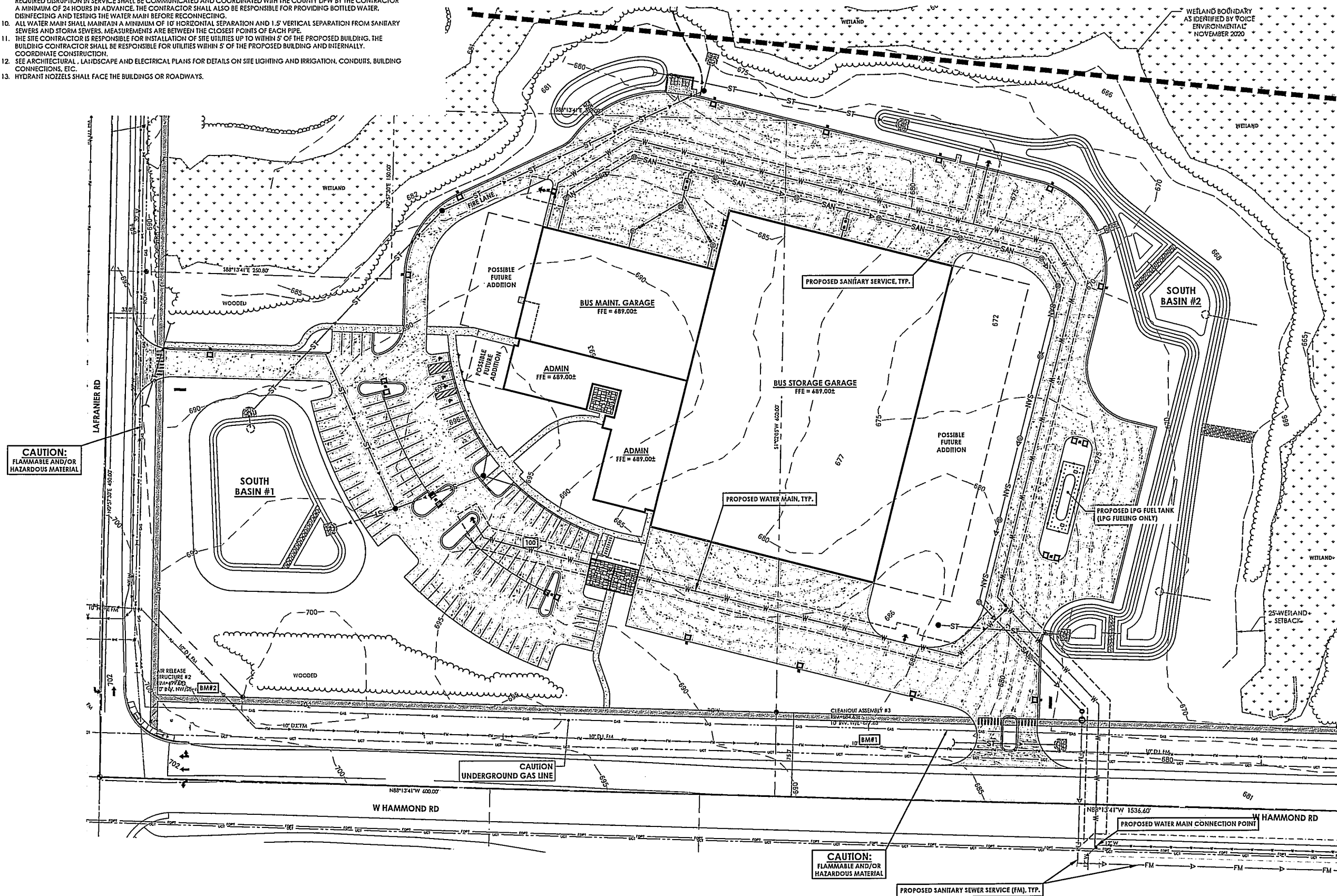
A horizontal scale bar with markings at 0, 20, 40, 60, 80, and 120 feet. The text "GRAPHIC SCALE: 1 inch = 40 feet" is positioned above the bar.

**NOTE:**  
COORDINATE THE LOCATIONS AND CONNECTIONS OF ALL  
UTILITY METERS, BOXES, PADS, REMOTE READERS, ETC. WITH  
THE ARCHITECTURAL PLANS & UTILITY COMPANIES, TYP.

**RESIDENTIAL PHASE**

**SEE SHEET C6.1**

**ON-SITE SANITARY SEWER:**  
THE PROPOSED ON-SITE SANITARY SEWER FOR THE SOUTH BATA SITE IS GRAVITY SANITARY SEWER TO THE PUMP STATION FOR OFF-SITE CONNECTION.



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**Mansfield**  
— **and** —  
**Land Use Consultants**

[illegible]

Bay Area Transportation Authority  
BATA HQ Transit-Oriented Development PUD  
SOUTH UTILITY PLAN  
Section 23, Town 27 North, Range 11 West  
Garfield Township, Grand Traverse County, Michigan

PUD SUBMITTAL		
P.A.#: dlm		
DATE: 11/11/17	CAD: dlm	CHARGE: 07.13.20
JOB NO.: 20108		
C6.2		



PLANT LEGEND

- Oak, Red (Quercus rubra)
- Maple, Red (Acer rubrum)
- Linden, Little Leaf (Tilia cordata)
- Spruce, Black Hills (Picea glauca 'Densata')
- Hawthorn, Thornless Cockspur (Crataegus crus-galli var. inermis)
- Serviceberry (Amelanchier x gordonii 'Autumn Brilliance')
- Dogwood, Red Osier (Cornus sericea 'Cardinal') 6-7' tall, 8" to 12" wide
- Sumac, Aromatic 'Grow-Low' (Rhus aromatica 'Grow-Low')

PROPOSED GARFIELD TOWNSHIP BIKE PATH

LAFRANIER RD

W HAMMOND RD

W HAMMOND RD

PLANT LIST - MAIN BUILDING

common name	botanical name	size	estimated quantity
Hawthorn, Thornless Cockspur	Crataegus crus-galli var. inermis	6' B&B	20
Maple, Red	Acer rubrum	2 1/2" B&B	32
Oak, Red	Quercus rubra	2 1/2" B&B	12
Spruce, Black Hills	Picea glauca 'Densata'	6'-8" B&B	15

LANDSCAPE BUFFER 'C': 250 L.F. - MIN. 10' WIDE			
REQUIRED: 8	LARGE TREES	PROVIDED: 4	MAPLE TREES & OAK TREES
8	MEDIUM OR SMALL TREES	8	HAWTHORN TREES
3	EVERGREEN TREES	3	SPRUCE TREES

LANDSCAPE BUFFER 'D': 300 L.F. - MIN. 20' WIDE			
REQUIRED: 12	LARGE TREES	PROVIDED: 12	MAPLE TREES
9	MEDIUM OR SMALL TREES	9	HAWTHORN TREES
9	EVERGREEN TREES	9	SPRUCE TREES

LANDSCAPE BUFFER 'D': 100 L.F. - MIN. 20' WIDE			
REQUIRED: 4	LARGE TREES	PROVIDED: 4	MAPLE TREES
3	MEDIUM OR SMALL TREES	3	HAWTHORN TREES
3	EVERGREEN TREES	3	SPRUCE TREES

CAUTION: FLAMMABLE AND/OR HAZARDOUS MATERIAL

CAUTION UNDERGROUND GAS LINE

TRANSIT PHASE LANDSCAPE BUFFER TO END AT WETLANDS

PRESERVE AND PROTECT EXISTING TREE THICKET MADE UP OF 3"-10" SUGAR MAPLE

PROPOSED TREE LINE (TYP.)

WALL LIGHT

PROPOSED BUS MAINTENANCE GARAGE

PROP. ADMIN BLDG.

PROPOSED BUS STORAGE GARAGE

TURF

TURF

TURF

TURF

TURF

TURF

TURF

TURF

TURF

TURF

TURF

TURF

TURF

TURF

TURF

TURF

RESIDENTIAL PHASE

TRANSIT PHASE

WETLAND

SOUTH BASIN #2

SOUTH BASIN #1

PROPOSED RED OAK (TYP.)

PROPOSED RED MAPLE (TYP.)

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Mansfield  
Land Use Consultants

Bay Area Transportation Authority  
BATA HQ Transit-Oriented Development PUD  
LANDSCAPE PLAN - SOUTH  
Section 23, Town 27 North, Range 11 West  
Garfield Township, Grand Traverse County, Michigan

PUD SUBMITTAL

dm

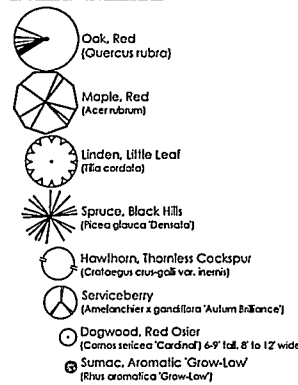
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PLANT LEGEND

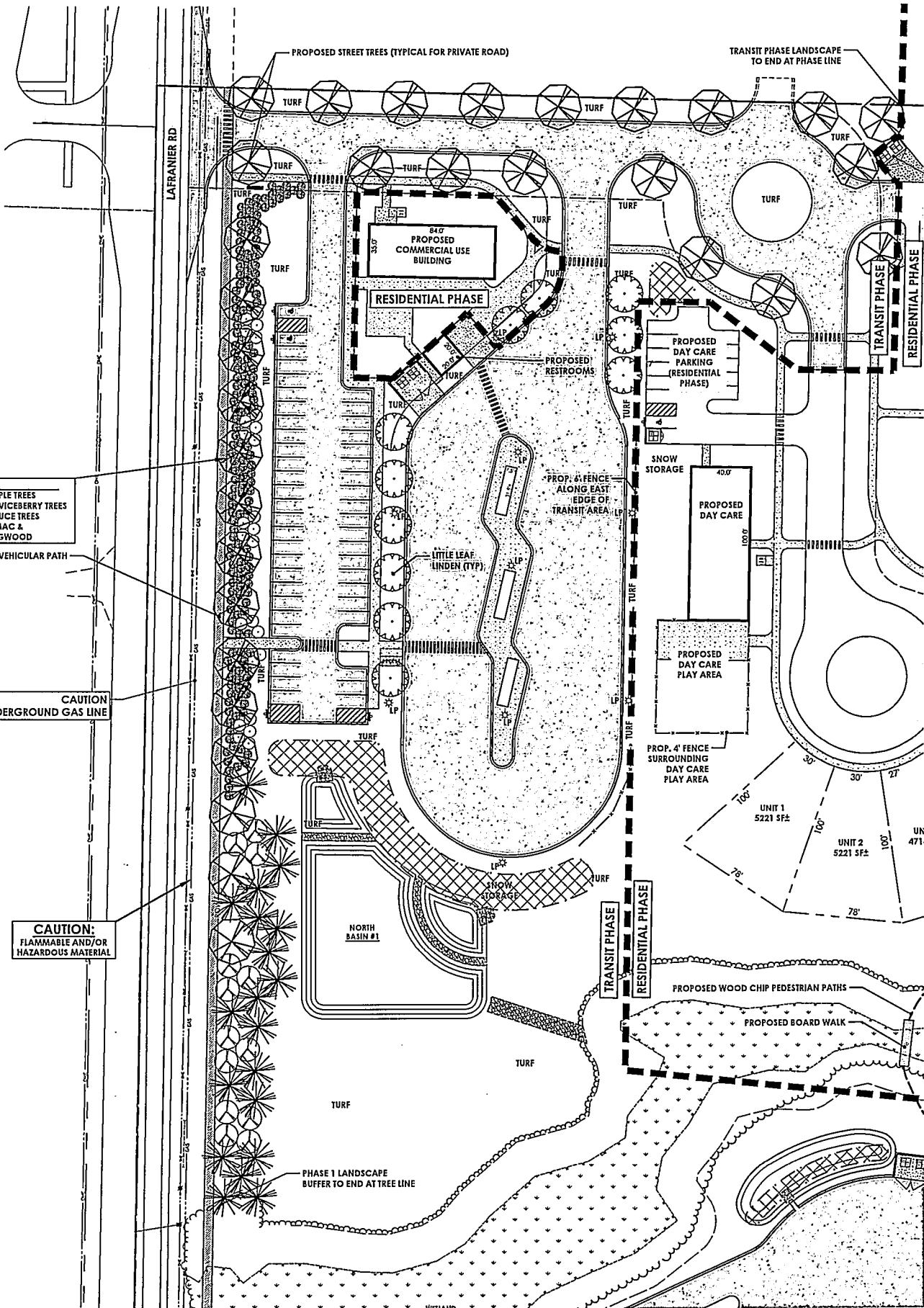


LANDSCAPE BUFFER "C" - 650 L.F. - MIN. 10' WIDE			
REQUIRED:	13	LARGE TREES	PROVIDED: 13
	13	MEDIUM OR SMALL TREES	13
	20	EVERGREEN TREES	20
	195	SHRUBS	170
			25
			DOGWOOD

PROPOSED NON-VEHICULAR PATH

CAUTION:  
UNDERGROUND GAS LINE

CAUTION:  
FLAMMABLE AND/OR  
HAZARDOUS MATERIAL



PLANTING NOTES:

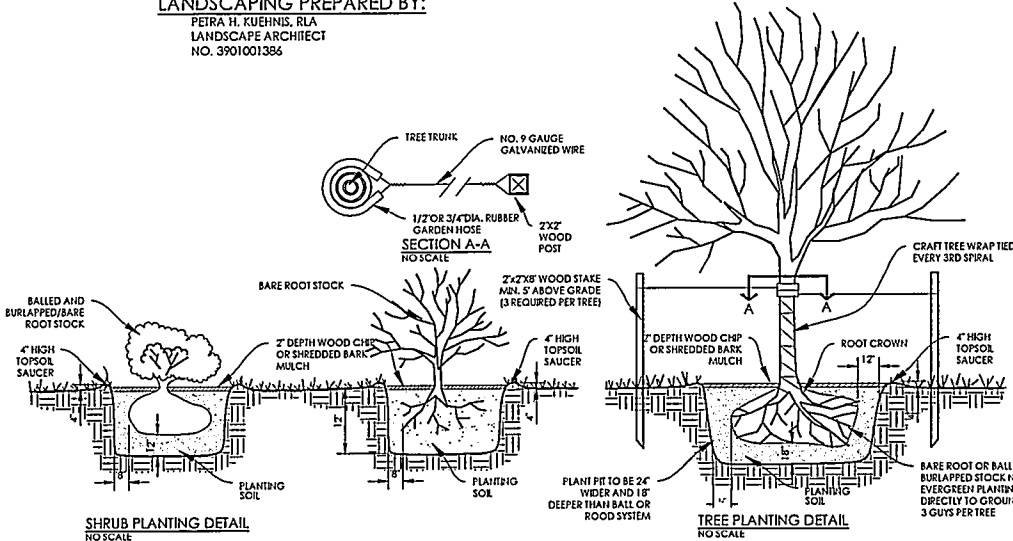
1. CLEAN UP AND REMOVE FROM THE PLANTING AREAS WEEDS AND GRASSES, INCLUDING ROOTS, AND ANY MINOR ACCUMULATED DEBRIS AND RUBBISH BEFORE COMMENCING WORK.
2. REMOVE AND DISPOSE OF ALL SOIL IN PLANTING AREAS THAT CONTAINS ANY DELETERIOUS SUBSTANCE SUCH AS OIL, PLASTER, CONCRETE, GASOLINE, PAINT, SOLVENTS, ETC., REMOVING THE SOIL TO A MINIMUM DEPTH OF SIX (6) INCHES OR TO THE LEVEL OF DRYNESS IN THE AFFECTED AREAS. THE AFFECTED SOIL SHALL BE REPLACED WITH NATIVE OR IMPORTED SOIL AS REQUIRED.
3. FINISH GRADING ALL PLANTING AREAS TO A SMOOTH AND EVEN CONDITION, MAKING CERTAIN THAT NO WATER POCKETS OR IRREGULARITIES REMAIN. REMOVE AND DISPOSE OF ALL FOREIGN MATERIALS, CLODS AND ROCKS OVER 1 INCH IN DIAMETER WITHIN 3 INCHES OF SURFACE.
4. ALL PLANT MATERIALS SHALL BE HEALTHY, WELL DEVELOPED REPRESENTATIVES OF THEIR SPECIES OR VARIETIES, FREE FROM DISFIGUREMENT WITH WELL-DEVELOPED BRANCH AND ROOT SYSTEMS, AND SHALL BE FREE FROM ALL PLANT DISEASES AND INSECT INFESTATION.
5. ALL PLANT SUBSTITUTIONS WILL BE SUBJECT TO THE OWNER'S APPROVAL.
6. EACH PLANT SHALL BE PLANTED WITH ITS PROPORTIONATE AMOUNT OF SOIL AMENDMENT AND FERTILIZER. HAND SMOOTH PLANTING AREA AFTER PLANTING TO PROVIDE AN EVEN, SMOOTH, FINAL FINISH GRADE. TO AVOID DRYING OUT, PLANTINGS SHALL BE IMMEDIATELY WATERED AFTER PLANTING UNTIL THE ENTIRE AREA IS SOAKED TO THE FULL DEPTH OF EACH HOLE UNLESS OTHERWISE NOTED ON THE DRAWING.
7. MULCH ALL PLANTING BEDS WITH 3 INCHES OF SHREDDED BARK MULCH.
8. REMOVE ALL TAGS, LABELS, NURSERY STAKES AND TIES FROM ALL PLANT MATERIAL ONLY AFTER THE APPROVAL OF THE OWNER.
9. ALL PLANTS SHALL BE GUARANTEED FOR A PERIOD OF ONE YEAR. THE GUARANTEE PERIOD COMMENCES FROM THE TIME OF FINAL ACCEPTANCE BY THE OWNER. REPLACE AS SOON AS WEATHER PERMITS, ALL DEAD PLANTS NOT IN VIGOROUS CONDITION AS NOTED DURING THE MAINTENANCE PERIOD. SAID PLANTS SHALL BE MAINTAINED FOR A PERIOD OF 90 CALENDAR DAYS FROM THE REPLACEMENT DATE. PLANTS USED FOR REPLACEMENTS SHALL BE SAME KIND AND SIZE AS ORIGINALLY PLANTED. THEY SHALL BE FURNISHED, PLANTED AND FERTILIZED AS SPECIFIED AND GUARANTEED.
10. ALL DISTURBED AREAS SHALL BE TOP SOILED TO A DEPTH OF 4". SEEDING, FERTILIZED AND MOLDED MULCH BLANKETS SHALL BE USED AS NEEDED IN AREAS OF POTENTIAL EROSION PRIOR TO ESTABLISHMENT OF LAWN AREAS.

IRRIGATION NOTES:

1. LANDSCAPING TO BE IRRIGATED. INSTALLATION TO BE PERFORMED BY A REPUTABLE IRRIGATION CONTRACTOR.

LANDSCAPING PREPARED BY:

PEIRA H. KUEHNIS, RLA  
LANDSCAPE ARCHITECT  
NO. 3901001386



PLANT LIST - TRANSFER STATION

TREES			
common name	botanical name	size	estimated quantity
Hawthorn, Thornless Cockspur	Crataegus crus-galli var. inermis	6' B&B	8
Linden, Little Leaf	Tilia cordata	2 1/2' B&B	11
Maple, Red	Acer rubrum	2 1/2' B&B	32
Serviceberry	Amelanchier x grandiflora 'Autumn Brilliance'	6' B&B	13
Spruce, Black Hills	Picea glauca 'Densata'	6'-8' B&B	20
SHRUBS			
common name	botanical name	size	estimated quantity
Dogwood, Red Osier	Cornus sericea 'Cardinal'	5 gallon	25
Sumac, Gro-Low Fragrant	Rhus aromatica 'Gro-Low'	5 gallon	170



GRAPHIC SCALE: 1 inch = 40 feet

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