

Planning Commission Regular Meeting December 17, 2024 7:00 p.m.

- 1. CALL MEETING TO ORDER
- 2. PLEDGE OF ALLEGIANCE
- 3. ROLL CALL
- 4. APPROVAL OF AGENDA
- 5. APPROVAL OF MINUTES

November 19, 2024- Regular Meeting

- 6. CORRESPONDENCE / BOARD REPORTS / PRESENTATIONS
 - A. Thering updates from Board of Trustees
 - B. McDonald updates from ZBA
 - C. Community and Economic Development Monthly Report
 - D. Other Reports
- 7. PUBLIC COMMENT: Restricted to (3) minutes regarding items not on this agenda
- 8. NEW BUSINESS
 - A. PFINALSPR24-03 Combined Preliminary and Final Site Plan Approval application for upgrades to the Township's Water Treatment Plant at 5228 S. Isabella Rd.(PID 14-035-20-001-02).
 - a. Introduction by staff
 - b. Updates from the applicant
 - c. Commission review of the site plan
 - d. Commission deliberation and action (approval, denial, approval with conditions, or postpone action)
- 9. EXTENDED PUBLIC COMMENT: Restricted to (5) minutes regarding any issue
- 10. FINAL BOARD COMMENT
- 11. ADJOURNMENT

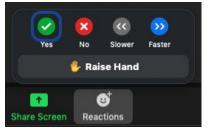
Hybrid Meeting Instructions for the Charter Township of Union Planning Commission

The public can view all Union Township meetings live by clicking on our <u>YouTube Channel</u>. For those who would like to participate, you can do so via Zoom.

<u>Click here</u> to participate in the Zoom Meeting via computer or smart phone. (Meeting ID Enter "839 8031 3172" Password enter "240465"). Access to the electronic meeting will open at 6:50 p.m. and meeting will begin at 7:00 p.m.

Telephone conference call, dial (312-626-6799). Enter "839 8031 3172" and the "#" sign at the "Meeting ID" prompt, and then enter "240465" at the "Password" prompt. Lastly, re-enter the "#" sign again at the "Participant ID" prompt to join the meeting.

- All public comments for items on the agenda will be taken at the Public Comment and any issue not on the agenda will be taken at the Extended Public Comment section of the Agenda.
- Computer/tablet/smartphone audience: To indicate you wish to make a public comment, please use the "Reactions" icon. Next, click on the "Raise Hand" icon near the bottom right corner of the screen.



- To raise your hand for telephone dial-in participants, press *9. You will be called on by
 the last three digits of your phone number for comments, at which time you will be
 unmuted by the meeting moderator.
- Please state your name and address for the minutes and keep public comments concise.

You will be called upon once all in-person comments have been made, at which time you will be unmuted by the meeting moderator.

Persons with disabilities needing assistance should call the Township office at (989) 772-4600. Persons requiring speech or hearing assistance can contact the Township through the Michigan Relay Center at 711. A minimum of one (1) business day of advance notice will be necessary for accommodation.

CHARTER TOWNSHIP OF UNION Planning Commission

Regular Meeting Minutes

A regular meeting of the Charter Township of Union Planning Commission was held on November 19, 2024, at 7:00 p.m. at the Union Township Hall.

Meeting was called to order at 7:00 p.m.

Roll Call

Present: Browne, Gross, Hayes, Lapp, McDonald Olver, Squattrito, and Thering

Excused: Shingles

Chairman Squattrito acknowledged the appointment of John Hayes and welcomed him to the Planning

Commission.

Others Present

Rodney Nanney, Community and Economic Development Director; Peter Gallinat, Zoning Administrator; Tera Green, Administrative Assistant

Approval of Agenda

Olver moved Gross supported to approve the agenda as presented. Vote: Ayes: 8. Nays: 0. Motion Carried

Approval of Minutes

Olver moved **Gross** supported to approve the October 15, 2024 regular meeting minutes as presented. **Vote: Ayes: 8. Nays: 0. Motion carried.**

Correspondence / Reports/ Presentations

- A. Board of Trustees updates by Thering Gave updates on the October 23rd and November 13th Board of Trustees Meetings.
- B. ZBA Update by McDonald No updates were given.
- C. Community and Economic Development Monthly Report
- D. Other Reports

Public Comment

Open: 7:12 p.m.

No comments were offered.

Closed: 7:12 p.m.

New Business

- A. PRESPR24-02 Preliminary site plan application for new Leo's Coney Island and Big Chicken
 Restaurants with drive-through windows plus two retail spaces on the south side of E. Bluegrass
 Rd. west of Encore Blvd. in the B-5 (Highway Business) Zone District
 - a. Introduction by staff
 - **b.** Updates from the applicant
 - **c.** Commission review of the site plan
 - **d.** Commission deliberation and action (approval, denial, approval with conditions, or postpone action)

Nanney introduced the PRESPR24-02 Preliminary Site Plan for the proposed Leo's Coney Island and Big Chicken Plaza, to be developed on a vacant lot located at 4813 Encore Blvd., in the SW ¼ of Section 26,

west of the Members First Credit Union and the approved Valvoline store. Nanney highlighted several housekeeping details that need to be addressed in the Final Site Plan. These include easement requirements that must be completed before the issuance of a building permit, such as obtaining a sidewalk easement, cross-access easement, stormwater easement, and a land combination boundary adjustment with the Township Assessor. These issues can be resolved in the Final Site Plan. Staff recommends approval, subject to the outlined conditions.

David McDade, representative of Roark Galt Architect, stated they have no issues complying with the required changes. McCade mentioned that the applicants will be reaching out to Walmart to inquire about the possibility of connecting to their stormwater system. There was a landscaping discussion of changing three (3) of the deciduous trees to ornamental trees. A question was raised about possibly changing the location of the bike racks with pedestrian safety in mind.

The architect and applicant were available for questions. The Commissioners deliberated.

Lapp moved **Olver** supported to approve the PRESPR24-04 preliminary site plan dated October 28, 2024 for a Leo's Coney Island restaurant with a drive-through lane, two retail areas, and a Big Chicken restaurant with a drive-through lane on the south side of E. Bluegrass Rd. west of Encore Bld. In the southwest quarter of Section 26 and in the B-5 (Highway Business) zoning district, finding that the site plan can comply with the applicable Zoning Ordinance requirements for preliminary site plan approval, including Section 14.2.P (Required Site Plan Information) and 14.2.S. (Standards for Site Plan Approval), subject to the following conditions:

- 1. A land combination/boundary adjustment application must be submitted to and approved by the Township Assessor prior to issuance of a building permit for the project.
- Copies of the final easement document for each cross-access ingress/egress easement and for the new sidewalk along E. Bluegrass Road as recorded at the Isabella County Register of Deeds Office must be submitted to and accepted by the Township Zoning Administrator prior to issuance of a building permit for the project.
- 3. The modification of landscape plan as proposed on the preliminary site plan is accepted per section 10.7 standards.

Roll Call Vote: Ayes: Browne, Gross, Hayes, Lapp, McDonald, Olver, Squattrito, and Thering. Nays: 0. Motion Carried.

B. Adoption of the Planning Commission's Annual Report to the Board of Trustees

- **a.** Introduction by staff
- **b.** Commission discussion
- **c.** Planning Commission action (adopt the report as presented or with changes or postpone action)

Nanney gave an overview of the various projects that came before the Planning Commission recorded in an Annual Report for 2024. A typographical error in item #11 on the document was noted for correction. Discussion by the Commissioners.

McDonald moved Hayes supported to adopt the annual report to the Board of Trustees as required by the Michigan Zoning Enabling Act and the Planning Commission Bylaws with the correction to item #11. Roll Call Vote: Ayes: Browne, Gross, Hayes, McDonald, Lapp, Olver, Squattrito, and Thering. Nays: 0. Motion Carried.

Extended Public Comments

Open: 7:59 p.m.

No comments were offered.

Closed: 8:00 p.m.

Final Board Comment

Commissioner Olver and others welcomed Commissioner Hayes to the Planning Commission.

<u>Adjournment</u> – Chair Squattrito adjourned the meeting at 8:03 p.m.

APPROVED BY:	
	Jessica Lapp – Secretary
	Tom Olver – Vice Secretary

(Recorded by Tera Green)



Board Expiration Dates

i idililiig collilliissi	on Board Members (9 Me	mbers) 3 year term	
#	F Name	L Name	Expiration Date
1-BOT Representative	James	Thering	11/20/2028
2-Chair	Phil	Squattrito	2/15/2026
3-Vice Chair	Stan	Shingles	2/15/2027
4-Secretary	Jessica	Lapp	2/15/2026
5 - Vice Secretary	Thomas	Olver	2/15/2027
6	John	Hayes	2/15/2025
7	Paul	Gross	2/15/2025
8	Nivia	McDonald	2/15/2026
9	Philip	Browne Jr.	2/15/2025
Zoning Boa	rd of Appeals Members (Members, 2 Alternates)	3 year term
#	F Name	L Name	Expiration Date
1-Chair	Liz	Presnell	12/31/2025
2 -Vice Chair	Richard	Barz	12/31/2025
3- PC Rep	Nivia	McDonald	2/15/2026
4 -	Lori	Rogers	12/31/2026
5 -	Eric	Loose	12/31/2024
Alt. #1	David	Coyne	12/31/2024
Alt #2	Brian	Clark	12/31/2026
	Board of Review (3 N	1embers) 2 year term	
#	F Name	L Name	Expiration Date
1	Jeanette	Corbin	12/31/2024
2	Sarvjit	Chowdhary	12/31/2024
3	Jacob	Trudell-Lozano	12/31/2024
Alt #1	Vac	cant	12/31/2024
Co	nstruction Board of Appe	als (3 Members) 2 year te	rm
#	F Name	L Name	Expiration Date
1	Joseph	Schafer	12/31/2025
2	Andy	Theisen	12/31/2025
3	William	Gallaher	12/31/2025
Hannah's Ba	rk Park Advisory Board (2	Members from Township) 2 year term
1	Mark	Stuhldreher	12/31/2026
2	John	Dinse	12/31/2025
	Chippewa River District L	ibrary Board 4 year term	
1	Ruth	Helwig	12/31/2027
2	Lynn	Laskowsky	12/31/2025



Board Expiration Dates

EDA Board Members (9 Members) 4 year term							
#	F Name	Expiration Date					
1-Chair	Thomas	Kequom	4/14/2027				
2-VC/BOT Rep	Bryan	Mielke	11/20/2028				
3	James	Zalud	4/14/2027				
4	Richard	Barz	2/13/2025				
5	Robert	Bacon	1/13/2027				
6	Marty	Figg	6/22/2026				
7	Sarvjit	Chowdhary	6/22/2027				
8	Jeff	Sweet	2/13/2025				
9	David	Coyne	3/26/2026				
Mid Michigan Area Cable Consortium (2 Members)							
#	F Name	L Name	Expiration Date				
1	Kim	Smith	12/31/2025				
2	Vac	Vacant					
Cultural and	Recreational Commissio	n (1 seat from Township)	3 year term				
#	F Name	L Name	Expiration Date				
1	Vac	ant	12/31/2025				
Mt. Pleasant Airport	Joint Operations and Mg	mt Board (1 seat from Tov	wnship) 3 year term				
#	F Name	L Name	Expiration Date				
1 - Union Township	Rodney	Nanney	12/31/2026				
Local Ele	ction Commission Commi	ttee (3 BOT Members) 4 y	/ear term				
#	F Name	L Name	Expiration Date				
1	Lisa	Cody	11/20/2028				
2	Vac	ant	11/20/2028				
3	Vac	ant	11/20/2028				



Department Monthly Report

Department: Community and Economic Development

Month/Year: December 2024

Global Ends

- 1.1 Community well-being and the common good
- 1.2 Prosperity through economic diversity, cultural diversity, and social diversity
- 1.3 Health and Safety
- 1.4 Natural environment
- 1.5 Commerce

Prior Month Activities

Economic Development Activities (1.1, 1.2, 1.3, 1.5):

- The Community and Economic Development Director participated in the Michigan Downtowns
 Association annual conference for professional development and as a member of the organization's
 Board of Directors.
- The Community and Economic Development Director participated with other Mt. Pleasant Airport Joint Operations and Management Board members in a meeting on 11/21/2024 with City and Tribal leaders and the Airport's consulting team to review and discuss the preliminary findings and conclusions of a feasibility study for potential airport improvements and expansion.
- The Community and Economic Development Director participated in remote meetings with a state Chamber of Commerce working group and with the Michigan Downtowns Association's Legislative Committee to discuss and refine responses to several economic development-related bills affecting brownfield redevelopment and tax increment financing for downtown development authorities, which were recently introduced in the state legislature's "lame duck" session.
- The Community and Economic Development Director and Township Engineer at Gourdie-Fraser
 Associates are continuing work on evaluation and prioritization of infrastructure improvements for
 potential new industrial/research/business park development along the US-127 corridor per the
 state Rural Readiness Grant awarded to the Township for our Master Plan update project.
- The Building Services Clerk supported the Community and Economic Development Director and EDA Board and served as contact person for East DDA District service contractors, and coordinated removal of the M-20 corridor banners, seasonal changes to the US-127 gateway banners, and installation of the M-20 corridor holiday lighting.

Economic Development Authority (EDA) Board Activities (1.1, 1.2, 1.3, 1.4, 1.5):

- During their regular November 19, 2024 meeting the EDA Board:
 - Approved a proposal from Graber & Associates for irrigation design, bid assistance, and construction administration services in the amount of \$17,500.00 to support reconstruction of the E. Pickard Rd. (M-20) irrigation system.
 - o Approved participation in the 2025 Art Reach Festival of Banners.

Building Services (1.1, 1.2, 1.3, 1.5):

- The Building Official provided the following services during the month:
 - 44 Building Inspections (1.3)
 - o 14 Permits issued (1.3)
 - o 5 Final and 1 Temporary Certificate of Occupancy Issued (1.3, 1.4, 1.5)
 - o 3 FOIA Requests (1.1, 1.4, 1.6)
 - Follow up phone calls
- The Building Official met with multiple residents/contractors to answer potential project questions.
- The Building Services Clerk provided the following services during the month:
 - Served as a second Township Hall contact person for the public and helped process payments at counter and through mail.
 - Assisted homeowners and contractors with building permit applications and coordinated with the Building Official, Zoning Administrator, Assessor, and Public Services Department as needed to facilitate timely reviews of permit applications.
 - o Administrative support for Rental Inspector
 - o Prepared monthly Census and HBA reports for building permits
 - o Assisted the Clerk with election help as needed.
 - o Provided on-boarding training and orientation for our new Rental Inspector.
 - Coordinated the Banners coming down and Holiday Lighting going up. (1.1, 1.5)
- Building Services Clerk & Building Official working on expired permit lists from 2024. (1.1, 1.5)

Rental Inspection Services (1.1, 1.2, 1.3, 1.5):

- Site visits with inspections, re-inspections, issue investigation, etc. for apartment complexes, hotels, as well as duplex and single-family units (732 units inspected-612 apartments, 32 single-family units and 14 duplex units).
- Expired and re-inspection certificate scheduling.
- Hands on training with the Building Official.
- Reading the MTA Red Book to become familiar with Township governance and responsibilities.
- Continuing to distribute copies of a flyer designed to answer questions about common issues that
 can become rental violations, which has been well-received and appreciated by managers of the
 various apartment complexes.
- Rental Inspector and Building Services Clerk are catching up on expired rental certificates that fell behind during the transition period between inspectors. (1.1, 1.3)

Zoning Administration Activities (1.1, 1.2, 1.3, 1.4, 1.5):

- The Zoning Administrator provided the following services:
 - o (2) Zoning approvals related to building permits.
 - o (1) Miss Dig notifications for various projects. Owners contacted for permits on projects.
- The Community and Economic Development Director and Zoning Administrator met with:
 - the owners of Heirloom Grove to discuss site plan enforcement and to answer questions about amending an approved special use permit. issues of concern
 - the project engineer/surveyor about options for revisions to the lot arrangement for various parcels near S. Lincoln Road.
 - the project engineer for a pre-application meeting for the proposed event center development at Mid Michigan College.

Ordinance Enforcement Activities (1.1, 1.3):

 5401 S. Lincoln Rd. – An 1,800 square-foot detached accessory building constructed without a building permit and in violation of applicable maximum height and maximum 1,500 square-foot floor area requirements. The owner applied for and was granted a height variance in May 2023 contingent upon completion of alterations to reduce the building floor area by 300 square-feet. The owner's contractor subsequently secured a building permit for the work, which expired on 1/17/2024 with no activity. Despite months to complete corrective actions, the owner has failed to do so. There has also been no activity on a potential purchase of additional land from the neighbor, which if done correctly to increase the total lot area to at least 2.5 acres would resolve the remaining violations. This matter will be forwarded to the Twp. Attorney for further legal action.

- 1651 Airway Dr. Complaint about chickens at a legal non-conforming residence on a small lot in an Industrial zoning district. The owner had previously indicated they were moving and the chickens would be removed, but a new inspection by staff found chickens still on-site. A final notice of violation has been issued, which will be followed by a civil infraction ticket if necessary.
- 943 S. Isabella Rd. Complaint about chickens and other fowl at a legal non-conforming residence
 on a small lot in an Industrial zoning district. A notice of violation was sent to the owner.
 Enforcement action for this lot is on hold pending final outcome of a Planning Commission-initiated
 proposal to rezone the lot to the R-1 District consistent with the Master Plan's designation of this
 land as part of the "Rural Buffer" area. If rezoned, keeping of chickens would be a lawful land use.
- 975 S. Isabella Rd. Complaint about chickens and other farm animals at a legal non-conforming residence on a small lot in an Industrial zoning district. A notice of violation was sent to the owner. At the owner's request, the Planning Commission discussed initiating a rezoning of this lot. The consensus of the commissioners was to take no action, since the subject lot is designated for future industrial/employment land uses. Staff has directed the owner to submit a timeline for completing removal of the remaining farm animals. A recent site visit confirmed that the owner is continuing to take steps to reduce the number of farm animals on the premises.
- Indian Hills Shopping Center Owner and contractor were notified of a possible violation related to the approved minor site plan for sidewalk, pedestrian access, and parking lot improvements to the Indian Hills Shopping Center property. The applicant's agreed-upon timeline for completion of site improvements per the approved site plan has concluded with several key elements left incomplete. Failure to conform to an approved site plan is an ordinance violation. After multiple notices, a civil infraction ticket was issued, for which the owners have confirmed receipt. At the owners' request, additional details of the site plan violations were forwarded by the Zoning Administrator.
- 386 Bluegrass Road. Junk in the yard. Owner has continued to have junk removed when able to
 due to age. Township staff conduct site visits to discuss remaining items with the owner and
 continue to assist the owner in finding companies and organizations that can help. Owner to report
 back to Zoning Administrator with any progress made.
- 4941 E Valley Rd. Dilapidated and potentially unsafe dwelling. The owner confirmed that he
 wants the roof completed but does not have the funds. The Building Official and a contractor are
 continuing to look into options to help the owner resolve the violations.
- Northeast corner of S. Lincoln Rd. and E. Broomfield Rd. unlawful contractor's storage yard and unlawful grading/fill activities without a grading permit. The owner claimed a "grandfathered" status as a legal nonconforming use. This matter remains under review by the Township Attorney with additional follow-up anticipated.

Planning Commission Activities (1.1, 1.2, 1.3, 1.4, 1.5):

- During their regular November 19, 2024 meeting the Planning Commission:
 - Approved the PRESPR24-02 preliminary site plan application for new Leo's Coney Island and Big Chicken restaurants with drive-through windows plus two retail spaces on the south side of E. Bluegrass Rd. west of Encore Blvd. in the B-5 (Highway Business) zoning district.
 - Adopted their 2024 Annual Report to the Board of Trustees.

Zoning Board of Appeals Activities (1.1):

No meeting scheduled in November.

Sidewalks, Pathways, and Parks & Recreation Plan/Program Activities (1.1, 1.2, 1.3, 1.4):

• The Community and Economic Development Director is working with the Township's engineering consultants to resolve final issues related to securing a county Road Commission permit for the sidewalk construction project along the east side of Bud St. from E. Pickard Rd. (M-20) north to Jameson Park. (1.1, 1.3, 1.4)

Other Activities:

- The Community and Economic Development Director continued to work with the team developing the new Township website to answer questions and provide direction on details. (1.1, 1.2, 1.5)
- The Director meets weekly with the Community and Economic Development Department staff as a group and regularly on an individual basis to provide guidance, coordinate provision of services, ensure good intra- and inter-departmental communication, and identify and resolve issues. (1.1)

Current Month Anticipated Activities

Economic Development Activities (1.1, 1.5):

- The Community and Economic Development Director will expand information on the Township's website related to development approval processes and pre-application meeting options to further assist the development community. (1.2, 1.5)
- The Community and Economic Development Director will prepare an updated summary document for the website outlining economic development programs and incentives available from the State of Michigan and our DDA Districts for various types of projects. (1.2, 1.5)
- The Community and Economic Development Director will complete and distribute a request for qualifications from sign contractors with the capability to design and install a new gateway sign for the East DDA District to be located at the corner of M-20 and S. Summerton Rd. in cooperation with Mid-Michigan College and Consumers Energy, and to design and install new Enterprise Industrial Park signage at the corner of M-20 and Enterprise Dr.
- The Community and Economic Development Director will continue business retention contacts.
- The Building Services Clerk coordinated removal of the Art Reach streetlight banners and installation of holiday lighting along the E. Pickard Rd. (M-20) corridor.

Economic Development Authority (EDA) Board Activities (1.1, 1.2, 1.3, 1.4, 1.5):

• The EDA Board will meet on December 17, 2024.

Building Services (1.1, 1.3, 1.5):

- Continued progress on Isabella County Jail (1.1, 1.3)
- Continued progress on Krist Mini Mart Project (1.1, 1.3)
- Completion of the Walmart Project (1.1, 1.3)
- Start of Valvoline (1.1, 1.3)
- Completion of the My Michigan Health MRI Room (1.1, 1.3)
- Building Services Clerk to continue to provide support to the Clerk's office for upcoming elections.
 (1.1, 1.2)
- Follow up phone calls.
- Continue to do site visits, inspections, issue permits, plan reviews.
- Continued work on expired permit list.

Rental Inspection Services (1.1, 1.2, 1.3):

- The Rental Inspector will:
 - o Investigate and follow up on any rental complaints as needed.
 - o Continue to collaborate with the Fire Department on hotel rental inspections.
 - o Schedule complexes, hotels, as well as duplex and single-family units for inspections.
 - Conduct follow-up inspections to verify correction of violations.
 - Work on expired certificate scheduling as needed.
 - Arrange for site visits as needed for compliance or informational.

Zoning Administration Activities (1.1, 1.2, 1.3, 1.4, 1.5):

- The Community and Economic Development Director and Zoning Administrator review of site plan, special use, and other development applications and preparation of staff reports for the Planning Commission regarding Zoning Ordinance compliance.
- Community and Economic Development Director and Zoning Administrator review of site plan, special use, and other development applications and preparation of staff reports for the Planning Commission regarding Zoning Ordinance compliance.
- Zoning Administrator review of site plan applications eligible for administrative approval.
- Zoning Administrator review of building permits for zoning compliance.
- Zoning compliance letters
- Sign permits
- Continued use of MissDig notifications for activity in the Township needing zoning approval.
- Enforcement follow ups
- The Community and Economic Development Director and Zoning Administrator regularly hold informal pre-application development meetings with developers and business/property owners.

Ordinance Enforcement Activities (1.1, 1.3):

• Ordinance enforcement follow up on current matters and investigation of any new complaints.

Planning Commission Activities (1.1, 1.2, 1.3, 1.4, 1.5):

- The regular December 17, 2024 Planning Commission meeting is anticipated to include:
 - PPR24-03 Combined Preliminary and Final Site Plan application for approval of the expanded Township Water Treatment Plant facility at 5228 S. Isabella Rd.

Zoning Board of Appeals Activities (1.1):

• The regular December meeting was cancelled due to a lack of agenda items.

Sidewalks, Pathways, and Parks & Recreation Plan/Program Activities (1.1, 1.2, 1 .3, 1.4):

- The Community and Economic Development Director is working on preparation of updated draft Parks & Recreation Plan elements for Planning Commission review. (1.1, 1.4)
- The Community and Economic Development Director and the Township's engineering consultant at Gourdie-Fraser are proceeding with attempting to secure easements needed for new sidewalk projects along the north side of Pickard Rd. east from S. Lincoln Rd. to the existing sidewalk near Ashland Dr.; the east side of S. Isabella Rd. from E. Kay St. south to E. Broadway Rd.; and the west side of Bradley St. from E. Remus Rd. (M-20) north to connect to the Mt. Pleasant Middle School at the City-Township boundary.
- The Township's engineering consultant at Gourdie-Fraser has completed proposed construction plans for a new sidewalk along the south side of E. Bluegrass Rd. from S. Mission Rd. east across the frontage of the Red Lobster parcel to complete a connection to the Indian Pines Shopping Center, and has forwarded the plans to the state and county road agencies for review and comment.

Other Activities:

- The Community and Economic Development Director and Mt. Pleasant City Planner periodically meet to discuss coordination of City/Township projects of mutual interest.
- Under the Community and Economic Development Director's direction, the Building Services Clerk will continue to coordinate with the file scanning contractor Graphic Sciences to transfer historical documents and files from the basement for scanning. (1.1)

Future Board of Trustee Meeting Agenda Items

Consideration of a request for local government approval needed to allow for enrollment of two (2) vacant parcels of land in agricultural production near S. Summerton Rd. and E. Deerfield Rd. into the State of Michigan's PA116 Farmland Preservation program.

<u>Significant Items of Interest Longer Term</u>

- Other Activities The Community and Economic Development Director will begin work to prepare a
 proposed scope of work and request for proposals from qualified consulting firms to prepare a
 detailed evaluation of housing needs and priorities in accordance with the approved MSHDA
 Housing Readiness Incentive Grant to expand the Township's Master Plan update project.
- Zoning Administration The Community and Economic Development Director and Zoning Administrator will review the current Zoning Board of Appeals bylaws to coordinate with recent updates to relevant sections of Zoning Ordinance 20-06. (1.1)
- Other Activities The Community and Economic Development Director and the Township Assessor
 will be working on developing policy proposals for Board of Trustees consideration to establish
 updated guidelines for consideration of requests for new or amended Industrial Development
 Districts and Industrial Facility Tax Exemption (IFTE) applications under Michigan Public Act 198 of
 1973, as amended. (1.5)
- Other Activities Consideration of a new 2025 2029 Parks and Recreation Master Plan for adoption, following a recommendation from the Planning Commission and a public hearing. (1.1, 1.2, 1.3, 1.4)
- Economic Development Possible future airport-related Zoning Ordinance changes to create a separate zoning district for the Mt. Pleasant Airport to expand options for airport-related business activities beyond the scope allowed under the current the AG (Agricultural) district. (1.1, 1.5)
- Building Services The Building Official continues to work in close coordination with the County's plumbing, mechanical, and electrical inspectors on building projects to minimize delays and to ensure that construction meets the applicable health and safety standards. (1.1, 1.3, 1.5)
- Building Services The Community and Economic Development Director will resume working with the county Community Development Dept. Director to develop a draft reciprocal intergovernmental agreement proposal for Isabella County to provide for residential and commercial building inspection services during vacations. (1.3, 1.5)
- PILOT Housing Projects The Community and Economic Development Director will continue to oversee the administration of the Tax Exemption Ordinance and adopted PILOT resolutions in coordination with the Finance Director and Twp. Assessor to verify continuing compliance by the sponsors of the eligible housing projects. (1.1, 1.2)
- Other Activities Consideration of new International Fire Code Ordinance for adoption, which would replace Ordinance No. 2014-05 and would reference the updated fire code to be enforced by the Mt. Pleasant Fire Department in both the City and the Township. (1.1, 1.3)
- Other Activities The Community and Economic Development Director will work with the Township Attorney to prepare an updated Noxious Weeds Ordinance for Board of Trustees consideration that improves consistency in applicable regulations of tall grass and weeds. (1.1, 1.3, 1.4)

- Other Activities The Community and Economic Development Director will work with the Township Attorney and Township Assessor to prepare an updated Land Division Ordinance for Board of Trustees consideration that clarifies application requirements and the division, combination, and boundary adjustment approval process. (1.1, 1.5)
- Other Activities The Community and Economic Development Director will work with the Township Attorney and Public Services Director to prepare updates to the Township's ordinance establishing rules for our parks. (1.1, 1.3)
- Other Activities Consider updates to the Township's ordinance on open burning. (1.1, 1.3)
- Other Activities Consider updates to the Subdivision of Land Ordinance No. 1994-6 for consistency with updates to the state's subdivision plat approval requirements. (1.1, 1.3, 1.5)
- Other Activities When the county's office situation stabilizes, the Community and Economic Development Director, the County's Community Development Director, and the City Planner will resume work on creating a unified "regional planning/zoning" theme on the County's FetchGIS website where County, City, and Township zoning district and future land use maps could be displayed together with other relevant data.

Charter Township of Union

APPLICATION FOR SITE PLAN REVIEW

	Minor Site Plan	Preliminary Sit		Final Site	
Name of Proposed De	velopment/Project 2	024 Water System Up	grades - Division	C Water Treat	ment Plant Ungrades
Common Description					
,	, , .,		- countrious cita	rtoda, ivit. i ice	3411 111 40000
					
Applicant's Name(s)	Charter Towns	ship of Union, Attention	n Kim Smith - De	partment of Pu	blic Services
Phone/Fax numbers	989-772-	4600, Ext 224	Email	ksmith@unior	townshipmi.com
Address	5228 South Is	abella Road	C:t	Mt. Pleas	sant - 48858
71001000			City:_		sant Zip: 48858
Legal Description:	Attached / Inc	aludad au Cira Dia	-		44.005.000.04.00
		cluded on Site Plan			14-035-200-01-02
Existing Zoning: AG	Land Acreage:	15.73 Existing U	se(s): Pu	ıblic Services I	nfrastructure
ATTACHED: Letter of	describing the project a	nd how it conforms to S	ection 14.2.S. (Sta	ndards for Site	Plan Approval)
Firm(s) or	1. Name:	Gourdie Fraser	Phone:231	I-313-4861 Fma	il jennifer@gfa.tc
Individuals(s) who	2. Address:		123 West Front S	Street	. <u>. </u>
prepared site plan(s)	City:	Traverse City		State:	MI Zip: 49684
	Contact Person:	Jennifer	Graham, PE		Phone
Legal Owner(s) of	1. Name:	Charter Township	of Union	Phone:	989-772-4600
Property.	Address:	5228	South Isabella R	oad	
All persons having	City:	Mt. Pleasant		State: N	1lZip:48858
legal interest in the	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \				
property must sign	Signature: 95 yrm 2	mith, Public See	vices DirectaInte	rest in Propert	y:owner
this application.	2. Name: Kim S	mith, PublNAS	ervices Directo	Phone:	989-772-4600 22
Attach a separate	Address: 5228 5	. Isabella RoAD			
sheet if more space	City: M+ Pleasas	n1		State: N	11 Zip: <u>48858</u>
is needed.	ء . يو	- 4000	. 7		owner
	Signature:	Smith, Public Sear	inter <u>Dive</u>	rest in Propert	y: Representative
I do hereby affirm that true and accurate to the all the owners of the p any permits issued pur- constitute the right to v	ne best of my knowled roperty. False or inacc suant to site plan appr	lge and that I am auth curate information plac roval and/or removal o	orized to file this eed upon this plar of work installed.	application an may be cause Approval of thi	d act on behalf of for revocation of s plan shall not
-2 -		_			
Dim Smit	h, Public Seri	vices Director		9-	26.2034
Tim Smith	nature of Applicant			Da	<u>aに、2034</u> te
		Office Use Onl	у		
Amuliantian Desetes LD					
Application Received By	<i>f</i> :			Fee Paid: \$	
Date Received:		-	Escrow Dep	osit Paid: \$	

Revised: 9/14/2020



November 12, 2024

Mr. Rodney Nanney Community and Economic Development Director 2010 South Lincoln Road Mt. Pleasant MI 48858

RE: Charter Township of Union Isabella Water Treatment Plant (5228 South Isabella Road) – Final Site Plan Review

Dear Mr. Nanney,

On behalf of our Client, Charter Township of Union, please find the attached Application for Final Site Plan Review for Isabella Water Treatment Plant Upgrades located at 5228 South Isabella Road.

This project is part of a capital water system improvement project that is funded with assistance with EGLE Drinking Water State Revolving Funds to improve overall drinking water quality, quantity and reliability of the existing municipal system. The project includes 4,000 SFT expansion of the existing treatment facility including filtration room, pump room, chemical feed room and maintenance garage, 1,200 SFT pole barn, onsite access drive improvements, stormwater management upgrades, site grading and restoration. The upgrades are intended to provide additional treatment (iron removal) of the raw water supply and pumping capacity upgrades to deliver treated water to meet the existing and growth demands for the Township. Specific elements include:

- Onsite access drive and parking improvements
- Onsite water main infrastructure including valving and hydrants
- Exterior lighting improvements
- Stormwater management
- Site grading and restoration

The following responses address the Standards of Final Site Plan Review Application (Section 14.2.S):

- 1. The applicant is legally authorized to apply for site plan approval and all required information has been submitted.
- 2. The proposed development conforms to the applicable standards and conditions imposed by this and other Township ordinances.
- 3. The final site plan is consistent with the policies of the Master Plan and other adopted Township planning documents, and with the approved preliminary site plan.



- 4. The proposed development will be harmonious with and not harmful, injurious, or objectionable to the environment or land uses in surrounding area.
- 5. The proposed development respects natural topography, floodways, and floodplains; and minimizes the amount and extent of cutting and filling. All work being performed is compliant with EGLE requirements and permits either existing or recently acquired.
- 6. Organic, wet, or other soils that are not suitable for development will remain undisturbed or modified in such fashion as to make development feasible.
- 7. The movement of the vehicular and pedestrian traffic within the site and in relation to access streets and sidewalks will be safe and convenient.
- 8. The proposed development is adequately coordinated with improvements serving the area, and with other existing or planned development in the vicinity. The project is an expansion of the existing facility with usage consistent with existing usage and zoning requirements.
- 9. Satisfactory and harmonious relationships will exist between the proposed development and the existing and planned development of contiguous lands and the surrounding area, including provisions for proper extensions of public roads and sidewalks through the development in accordance with the Township ordinances. The project is an expansion of the existing facility with usage consistent with existing usage and zoning requirements. A proposed sidewalk is illustrated on the plans and a request for temporary relief is requested per the 8/28/24 Sidewalk and Pathway Construction Policy Resolution.
- 10. Development phases are in logical sequence so that any phase will not depend upon a subsequent phase for access, utilities, drainage or erosion control.
- 11. The plan, including all engineering drawings, meets Township standards for fire and police protection, water supply, sewage disposal or treatment, storm drainage, and other public facilities and services. Site plan review and corresponding approval letters were obtained from the Department of Public Service and Fire Department and found the project to be consistent and compliant with the Township standards. These letters are attached for your reference.
- 12. The drainage plan conforms to applicable drainage and stormwater management standards, and any proposed improvements are adequate to handle anticipated stormwater runoff and accommodate upstream drainage without causing undue runoff on to neighboring property or overloading of area watercourses. Mr. Mark Maguire from Gourdie Fraser completed an independent review of the project for compliance with the Charter Township of Union Stormwater Ordinance and found the project to be acceptable and consistent with the ordinance. This letter is included for reference.
- 13. Proposed screening, buffering, and landscaping improvements are adequate for the location and intended purpose and conform to the standards of this Ordinance. The project does not propose any additional landscape, screening and/or buffering. This project is requested to be regulated under Section 12.5 Nonconformance sites as it



- address improvements to provide benefit to public health, safety and welfare as noted on Sheet C2.2 of the plans.
- 14. Exterior lighting conforms to Ordinance requirements and standards and will not adversely affect adjacent or neighboring properties or traffic on adjacent roads.
- 15. The parking layout and vehicular circulation patterns and access points to the site are adequate to serve the proposed uses and will not adversely affect the flow of traffic on adjacent roads or create pedestrian-vehicle conflicts
- 16. Grading or filling will not destroy or adversely affect the character of the property, adjacent properties or the surrounding area
- 17. Erosion will be controlled during and after construction and will not adversely affect adjacent or neighboring property or public facilities or services. A Soil Erosion and Control Permit was obtained for this project and included with this submittal for reference.
- 18. The plan meets applicable standards of governmental agencies with jurisdiction, and necessary outside agency approvals have been obtained or are assured.

Please review the attached information and feel free to contact me should you have any questions and/or require additional information.

Thank you,

Jennifer Graham, PE Project Manager

Attachments:

- (2) 24" x 36" Plan Set Forthcoming in the Mail
- (11) 11"x17" Construction Plan Set Sent via Email / PDF
- (1) Site Plan application signed / sent via Email
- (1) Copy of SESC Permit
- (1) Agency Review Letters

November 5, 2025

Mr. Rodney C. Nanney, AICP Charter Township of Union 2010 South Lincoln Road Mount Pleasant, MI 48858

RE: Charter Township of Union Isabella Water Treatment Plant Upgrades

5228 South Isabella Road, Mt. Pleasant, MI

Storm Water Review

Parcel #: 14-035-200-01-02

Dear Mr. Nanney,

GFA reviewed the Plans dated 10-01-24 titled Water Treatment Plant Upgrades, located at 5228 South Isabella Road, Mt. Pleasant, MI. We have reviewed the plans for their compliance with Union Township's Stormwater Management Ordinance Number SPR24-03. A summary of our review is as follows.

- 1. The subject parcel is the current water treatment site of 13.5 ac. The existing water treatment facilities and pavements are present in the easterly part of the site.
- 2. Storm water is currently managed within the detention basin along South Isabells Road at the NW quadrant of the drive entrance with piped slow-flow outlet to the existing 30" storm sewer along the road.
- Additionally, an existing backwash basin is present midway along the north property line with 10" overflow pipe directing overflows to the Potter Broadie County drain. This basin currently does not receive surface runoff.
- 4. Proposed improvements include a 4,000 SF building expansion, surrounding pavement expansions, and construction of a 20x30 sf storage building.
- 5. Proposed storm water runoff is conveyed by sheet flow to raised curbing along the edge of pavement, then directed to rip-rap lined spillways to vegetated swales.
- 6. The runoff is then managed on-site within either the existing easterly detention basin with no proposed changes or the expansion of the northerly backwash basin.
- 7. The plans depict the existing detention basin having excess storage volume compared to the 25-year volume control.
- 8. The plans depict the expanded backwash basin having excess storage volume below the elevation of the outlet pipe compared to the 25-year control volume.
- 9. Treatment and sedimentation volumes are provided within the existing detention area and expanded backwash basin below the outlet pipe works.
- 10. The existing detention basin and expansion of the backwash basin have 1:3 maximum side slopes and a design depth of less than 5'. No additional safety measures are needed.
- 11. Erosion control measures are indicated on the plans and appear adequate to serve the site.
- 12. The Township is responsible to record and maintain a management plan for the upkeep of the existing detention basin and expanded backwash basin.



RECOMMENDATION

We find that the proposed plans meet the requirements of the storm water ordinance and recommend Township approval subject to receiving plans (signed and sealed) necessary permits, and recorded maintenance plan.

We appreciate the opportunity to assist the Township during the approval of this project. If you have any questions, please don't hesitate to contact me at (231) 946-5874.

Sincerely,

GFA

Mark Maguire, P.E.- Project Engineer

cc: GFA: Jennifer Graham, PE -Project Manager, Ryan Sievers – Design Engineer

PLANS PREPARED FOR:

CHARTER TOWNSHIP OF UNION 2024 WATER SYSTEM UPGRADES DIVISION C - WATER TREATMENT PLANT UPGRADES

CITY OF MOUNT PLEASANT

\well #12

BLUE GRASS ROAD

CLIENT / AGENCY

CHARTER TOWNSHIP OF UNION - TOWNSHIP HALL 2010 SOUTH LINCOLN ROAD MT. PLEASANT, MI 48853 989.772.4600

> PUBLIC SERVICES DEPARTMENT 5228 SOUTH ISABELLA ROAD MT. PLEASANT, MI 48853 989.772.4600 EXT. 224



ENGINEER

ENGINEERING SURVEYING **TESTING & OPERATIONS**

CHARTER TOWNSHIP OF UNION

Telephone: 989.772.4600

UNION TOWNSHIP D.P.W.

Telephone: 989.772.4600

ISABELLA COUNTY ROAD COMMISSION

Telephone: 989.773.7131

Telephone: 989.772.0911

123 West Front Street Traverse City, MI 49684



http://gfa.tc **②** 231.946.5874 (p) **231.946.3703 (f)**

EGLE DRINKING WATER STATE REVOLVING FUND (DWSRF) DW-7705A

PUBLIC AGENCIES AND UTILITIES

LOCATION MAP

UNION TOWNSHIP, ISABELLA COUNTY, MICHIGAN

SCALE: NOT TO SCALE

PUBLIC AGENCIES MICHIGAN DEPARTMENT OF TRANSPORTATION (M.D.O.T.)

MICHIGAN DEPARTMENT OF ENVIRONMENT GREAT LAKES & ENERGY (E.G.L.E.) Telephone: 989.894.6200

Telephone: 989.754.7443

MICHIGAN DEPARTMENT OF TRANSPORTATION (M.D.O.T.) Office of Railroad

Telephone: 517.335.1902 ISABELLA COUNTY DRAIN COMMISSION

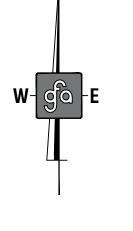
> ISABELLA COUNTY COMMUNITY DEVELOPMENT DEPARTMENT (S.E.S.C.) Telephone: 989.317.4061

UTILITY AGENCIES

PROJECT

LOCATION

SPECTRUM **CONSUMERS ENERGY** Telephone: 989.775.6846 Telephone: 989.791.5903 DTE ENERGY **VERIZON** Telephone: 231.592.3244 Telephone: 989.463.0459 CMS INTERNET, LLC GLC RAILROAD Telephone: 989.429.3111 Telephone: 800.828.3745





EMERGENCY CALLS

EMERGENCY AMBULANCE SERVICE 911

POLICE AGENCIES EMERGENCY SERVICE: 911 Isabella County Sheriff: Telephone: 989.772.5911 Michigan State Police: Telephone: 989.773.5951

FIRE DEPARTMENTS EMERGENCY SERVICE: 911

City of Mt. Pleasant: Telephone: 989.941.2340 Union Township: Telephone: 989.941.2238

> MISS DIG Telephone: 1.800.482.7171



23349

GENERAL NOTES

- 1. ALL ELEVATIONS ARE BASED ON UNION TOWNSHIP LOCAL 6. EXISTING PROPERTY CORNERS ARE IDENTIFIED ON THE
- 2. SPECIAL CARE SHALL BE TAKEN IN EXCAVATING IN THE PROXIMITY OF ALL UNDERGROUND UTILITIES. THE CONTRACTOR SHALL SECURE ASSISTANCE FROM THE APPROPRIATE UTILITY COMPANY IN LOCATING ITS LINES. THE CONTRACTOR SHALL ALSO: PROVIDE SUPPORT FOR ANY UTILITY WITHIN THE EXCAVATION, PROVIDE PROPER COMPACTION UNDER ANY UNDERMINED UTILITY STRUCTURE AND, IF NECESSARY, INSTALL TEMPORARY SHEETING OR USE A TRENCH BOX TO MINIMIZE THE EXCAVATION. THE CONTRACTOR SHALL PROTECT AND SAVE HARMLESS FROM DAMAGE ALL UTILITIES, WHETHER PRIVATELY OR PUBLICLY OWNED, ABOVE OR BELOW GROUND SURFACE, WHICH MAY BE ENCOUNTERED DURING CONSTRUCTION, AT NO ADDITIONAL COST TO THE OWNER.
- 3. THE LOCATION OF EXISTING PUBLIC UTILITIES AND UNDERGROUND STRUCTURES SUCH AS PIPE LINES. ELECTRIC CONDUITS, SEWERS AND WATER LINES, OF RECORD ARE SHOWN ON THE PLANS. THE INFORMATION SHOWN IS BELIEVED TO BE REASONABLY CORRECT AND COMPLETE. HOWEVER, NEITHER THE CORRECTNESS NOR THE COMPLETENESS OF SUCH INFORMATION IS GUARANTEED. PRIOR TO THE START OF ANY OPERATIONS IN THE VICINITY OF ANY UTILITIES, THE CONTRACTOR SHALL NOTIFY THE UTILITY COMPANIES AND MISS DIG AND REQUEST THAT THEY STAKE OUT THE LOCATIONS OF THE UTILITIES IN QUESTION. THE CONTRACTOR SHALL COORDINATE THE RELOCATION OF ANY UTILITIES WITH THE UTILITY PROVIDOR. COST OF REPAIR FOR ANY DAMAGED UTILITY LINES THAT IS PROPERLY STAKED SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- 4. THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE LAWS AND REGULATIONS GOVERNING THE FURNISHING AND USE OF SAFEGUARDS, SAFETY DEVICES AND PROTECTION EQUIPMENT. THE CONTRACTOR SHALL TAKE ANY NECESSARY PRECAUTIONS TO PROTECT THE LIFE AND HEALTH OF EMPLOYEES AND THE PUBLIC IN THE PERFORMANCE OF THE WORK.
- 5. FOR PROTECTION OF UNDERGROUND UTILITIES AND IN CONFORMANCE WITH PUBLIC ACT 53, 1974, THE CONTRACTOR SHALL DIAL 1-800-482-7171 A MINIMUM OF THREE FULL WORKING DAYS, EXCLUDING SATURDAYS SUNDAYS, AND HOLIDAYS PRIOR TO BEGINNING EACH EXCAVATION IN AREAS WHERE PUBLIC UTILITIES HAVE NOT BEEN PREVIOUSLY LOCATED. MEMBERS WILL THUS BE ROUTINELY NOTIFIED. THIS DOES NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY OF NOTIFYING UTILITY OWNERS WHO MAY NOT BE PART OF THE "MISS DIG" ALERT SYSTEM.

1. ALL CONSTRUCTION MATERIALS AND PROCEDURES MUST

2. THE CONTRACTOR SHALL NOTIFY THE ENGINEER 48 HOURS

THE ENGINEER PRIOR TO THE START OF WATER MAIN

DR18 PVC, MEETING CURRENT AWWA STANDARDS, AS

WATERMAIN SHALL BE DUCTILE IRON CLASS 53 CEMENT

OF COVER BELOW EXISTING OR PROPOSED GRADE, UNLESS

4. WATER MAIN SHALL HAVE A MINIMUM OF SIX (6) FEET

PROVIDED FOR REFERENCE ONLY. CONTRACTOR MAY

FITTINGS, ETC. ARE INCLUDED IN THE COST OF THE

6. LENGTH OF WATER MAIN SHALL BE DETERMINED ON A

CASE BY CASE BASIS IN ORDER TO CONSTRUCT

MEGALUGS AND WRAPPED COMPLIANT WITH THE

8. BURLAP, PLASTIC OR POLY (20 MILLS) OR APPROVED

EQUAL SHALL BE PLACED BETWEEN THE CONCRETE

THE REMOVAL OF THE THRUST BLOCK FOR FUTURE

9. A PHYSICAL GAP SHALL BE MAINTAINED BETWEEN THE

AND APPROVED BY THE ENGINEER AND THE DPW.

10. THE CONTRACTOR SHALL COORDINATE THE CONNECTION

HOURS NOTICE PRIOR TO ANY CONNECTIONS.

11. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO

EXTENSION AND MAINTENANCE.

THRUST BLOCK AND DEAD-END MAINS OR DEAD-END

PLUGS, TEES, HYDRANTS AND CROSSES TO FACILITATE

PROPOSED WATER MAIN AND THE EXISTING WATER MAIN

UNTIL ALL WATER MAIN TESTING HAS BEEN COMPLETED

TO THE EXISTING WATER MAIN WITH THE DPW AND THE

OBTAIN WATER FOR FLUSHING AND TESTING PURPOSES.

WATER IS OBTAINED FROM THE TOWNSHIP WATER SYSTEM

THE DPW SHALL BE GIVEN 24 HOURS NOTICE PRIOR TO

USING ANY WATER FROM THE TOWNSHIP WATER SYSTEM.

CONTRACTOR SHALL COORDINATE WITH THE DPW, IF

12. TO FACILITATE WATER SAMPLING, THE CONTRACTOR MAY

INSTALL TWO (2) INCH CORPORATION STOPS AND HDPE

TO APPROXIMATELY FOUR (4) FEET ABOVE THE FINISH GRADE IN LOCATIONS APPROVED BY THE FIELD ENGINEER

SATISFACTORY BACTERIOLOGICAL ANALYSIS TESTS HAVE PASSED, THE TUBE SHALL BE REMOVED AND THE TWO (2) INCH CORPORATION WILL BE CLOSED. CONTRACTOR WILL

AFTER THE WATER MAIN HAS BEEN FLUSHED AND

INFORM THE FIELD REPRESENTATIVE/CONSTRUCTION

OFF BELOW GRADE AFTER TESTING IS COMPLETE. THE

STANDING WATER WITHIN THE BLOW-OFFSHALL BE

REPRESENTATIVE TO ALLOW HIM TO WITNESS THE REMOVING OF THE TUBING AND THE CLOSING OF THE

DR9 COPPER TUBE FROM THE TWO (2) INCH CORPORATION

ENGINEER. THE DPW SHALL BE GIVEN A MINIMUM OF 24

DEVIATE/DEFLECT AS NECESSARY TO AVOID CONFLICTS

FOR EASIER CONSTRUCTION. COST FOR ADDITIONAL PIPE,

ACCORDING TO THE PLANS AND SPECIFICATIONS. COSTS

FOR THE MAIN ARE INCLUDED IN THE COSTS OF THE

7. ALL CONNECTIONS SHALL UTILIZE SLEEVE AND MEGALUGS.

BELL JOINTS ARE NOT ALOUD. ALL VALVES & FITTINGS

INCLUDING CONNECTION TO EXISTING SHALL BE WITH

5. THE ALIGNMENT OF THE PROPOSED WATER MAIN IS

PRIOR TO THE START OF CONSTRUCTION OF THE WATER

MAIN. CONTRACTOR SHALL ISSUE A WORK SCHEDULE TO

CONFORM WITH CURRENT DPW STANDARDS,

WATERMAIN NOTES

CONSTRUCTION.

PROJECT.

SPECIFICATIONS.

SPECIFICATIONS AND DETAILS.

NOTED OTHERWISE ON THE PLANS.

- PLANS. IF A PROPERTY CORNER IS DISTURBED DURING CONSTRUCTION IT SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE BY A PROFESSIONAL LAND
- 7. CONTRACTOR SHALL PROVIDE TEMPORARY SUPPORT TO ANY MAILBOXES DISTURBED DURING CONSTRUCTION AND SHALL NOT INTERFERE WITH MAIL SERVICE. ALL DISTURBED MAILBOXES SHALL BE PLACED IN ORIGINAL LOCATION AND AT AN ELEVATION DETERMINED BY THE POSTAL SERVICE.
- 8. LOCAL TRAFFIC SHALL BE MAINTAINED AT ALL TIMES WITH SIGNAGE TO COMPLY TO MMUTCD.
- 9. CONTRACTOR SHALL RESTORE ALL LAWNS, LANDSCAPE, FENCES, PLANTINGS, SIDEWALKS, COMMERCIAL SIGNS, ETC., AS REQUIRED AT NO ADDITIONAL COST TO THE
- 10. CONTRACTOR SHALL PROVIDE ADEQUATE SUPPORT FOR UTILITY POLES AS NECESSARY. CONTRACTOR SHALL CONSULT WITH THE UTILITY COMPANY PRIOR TO ANY DISTURBANCE OF UTILITY POLE OR ANCHORING SYSTEM.
- 11. ALL CLEARING AND GRUBBING TO ACCOMMODATE INSTALLATION OF WATER MAIN TO BE PERFORMED AT NO ADDITIONAL COST TO THE PROJECT, INCLUDING OFFSITE DISPOSAL.

PUMPED OUT OF THE RISER CAPPED, BOLTED AND

WATER USED IN TESTING OPERATIONS.

CONSTRUCTION.

3. ALL ONSITE UNDERGROUND WATER MAIN SHALL BE C900 17. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADJUSTING

16. ACTUAL WATER MAIN, HYDRANT AND GATE VALVE

LOCATIONS SHALL BE FIELD STAKED PRIOR TO

18. THE CONTRACTOR MUST OBTAIN APPROVAL BEFORE

15. CONTRACTOR SHALL PROPERLY DISPOSE OF CHLORINATED

THE FIRE HYDRANTS AND VALVE BOXES TO THE FINISHED

DIRECTING ANY FLUSHING AND TESTING WATERS TO ANY

STORM WATER DRAINAGE DITCH SYSTEM. CONTRACTOR

SHALL PROTECT THE DITCH FROM EROSION WHICH MAY

REQUIRE THE USE AN ENERGY DISSIPATER ON THE

SHALL NOT IMPACT THE ROADWAY OR ADJACENT

MUST BE DETERMINED AND APPROVED. ALL COSTS

19. CONTRACTOR MUST MAINTAIN A MINIMUM HORIZONTAL

MAIN, AS MEASURED FROM OUTSIDE TO OUTSIDE.

20. CONTRACTOR MUST MAINTAIN A MINIMUM VERTICAL

SEPARATION OF TEN (10) FEET FROM ALL SANITARY

SEWER AND STORM SEWER WHEN INSTALLING THE WATER

SEPARATION OF EIGHTEEN (18) INCHES AT ALL SANITARY

SEWER AND STORM SEWER CROSSINGS WHEN INSTALLING

THE WATER MAIN, AS MEASURED FROM OUTSIDE TO

21. IT WILL BE REQUIRED THAT THE CONTRACTOR INSTALL

ALL NEW WATER MAIN BELOW EXISTING WATER MAIN

MINIMUM SIX (6) INCH SEPARATION FROM EXISTING

WHEN A CROSSING IS ENCOUNTERED. MAINTAIN A

WATER MAIN WITH PROPER BACKFILL/COMPACTION.

22. FIRE HYDRANT ASSEMBLY SHALL CONSIST OF:

23. CONTRACTOR TO KEEP WATER PLANT ONLINE AND

24. CONTRACTOR TO PROTECT EXISTING WATER MAIN

TO BE PERFORMED BY THE DPW STAFF ONLY.

MAINTAIN WATER SERVICE TO CUSTOMERS AT ALL TIMES.

SANITARY SEWER MAIN. AND SERVICES DURING THE

25. ALL OPERATIONS OF EXISTING EQUIPMENT, VALVES, ETC.

EXISTING UTILITIES ARE DAMAGED, CONTRACTOR IS TO

REPAIR TO MAINTAIN SERVICE TO RESIDENCE. ALL COST

FOR THIS ARE INCLUDED IN THE COST OF THE PROJECT.

INSTALLATION OF THE PROPOSED WATER MAIN. IF

1-12"X6" TEE

1-6" GATE VALVE

1-FIRE HYDRANT

ARE INCLUDED IN THE COST OF THE PROJECT.

DISCHARGE OF THE FLUSHING VALVE. ALL FLUSHING

WATERS SHALL BE CONTAINED WITHIN THE DITCH AND

LANDOWNERS. IF NOT APPROVED, AN ALTERNATE METHOD

ASSOCIATED WITH FLUSHING, TESTING, AND DISCHARGING

SOIL EROSION AND STORM WATER CONTROL NOTES

- 1. THE CONTRACTOR SHALL PROVIDE TEMPORARY SOIL EROSION CONTROL MEASURES PER P.A. 451 AS AMENDED. WITH THE USE OF SILT FENCE AND OTHER TEMPORARY MEASURES THE CONTRACTOR SHALL PROTECT THE ADJACENT AREA FROM ACCELERATED EROSION AND SEDIMENTATION FLOWS RESULTING FROM CONSTRUCTION. THE CONTRACTOR SHALL INSTALL ADDITIONAL TEMPORARY AND PERMANENT SOIL EROSION CONTROL MEASURES, IF DIRECTED BY THE ENGINEER OR SOIL EROSION CONTROL OFFICER, AT NO ADDITIONAL COST TO THE PROJECT.
- 2. INSTALLATION AND MAINTENANCE OF TEMPORARY SOIL EROSION CONTROL MEASURES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- 3. SHOULD ADDITIONAL SOIL EROSION CONTROL MEASURES BE DETERMINED TO BE NECESSARY BY EITHER THE SOIL EROSION CONTROL OFFICER OR THE OWNER'S ENGINEER THEY SHALL BE IN PLACE NO LATER THAN 24 HOURS FROM THE TIME OF NOTIFICATION TO THE GENERAL CONTRACTOR FOR THE PROJECT. IF NOT PLACED IN 24 HOURS OR LESS ALL ON SITE CONSTRUCTION WILL BE HALTED UNTIL SUCH MEASURES ARE INSTALLED AND APPROVED BY EITHER THE SOIL EROSION CONTROL OFFICER OR THE OWNER'S ENGINEER.
- 4. ALL DISTURBED NON-HARD SURFACE AREAS TO BE STABILIZED WITH TOPSOIL, SEEDED, FERTILIZED AND MULCHED. DISTURBED AREAS SHALL BE TOPSOILED TO A DEPTH NOT LESS THAN FOUR (4) INCHES. SLOPES BETWEEN 1 ON 3 AND 1 ON 2 SHALL BE SODDED AND STAKED OR RECEIVE SEED WITH MULCH BLANKET.
- 5. IF REQUESTED BY THE ENGINEER OR SOIL EROSION CONTROL OFFICER, A WATER TRUCK SHALL BE KEPT ON STAND-BY ON SITE DURING THE CONSTRUCTION PHASE OF THE PROJECT. THE WATER TRUCK SHALL BE USED AS DIRECTED BY THE ENGINEER OR SOIL EROSION CONTROL OFFICER TO CONTROL WIND EROSION AND DUST CONTROL
- 6. EXISTING STORM DRAINAGE DITCHES SHALL BE REBUILT IF FILLED IN OR REMOVED DURING CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE TO REPAIR OR REPLACE, AS REQUIRED, ALL DRAINAGE CULVERTS DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED/REPLACED. ALL COSTS ASSOCIATED WITH REPAIRING/REPLACING SHALL BE INCLUDED IN THE COST OF THE PROJECT.
- THE CONTRACTOR SHALL REMOVE OR CAUSE TO BE REMOVED ALL SEDIMENT OR SOILS THAT HAVE BEEN DROPPED, WASHED ONTO OR TRACKED OUT ONTO PUBLIC RIGHT-OF-WAY OR PRIVATE ROADS AT THE END OF EACH WORKING DAY OR AFTER EACH RAIN EVENT ON NON-WORK DAYS.

- 8. THE CONTRACTOR SHALL REPAIR ALL WASHOUTS AND EROSION DURING THE GUARANTEE PERIOD OF ONE (1) YEAR AT NO ADDITIONAL COST TO THE OWNER.
- ALL STORM DRAINAGE PIPE SHALL BE GALVANIZED STEEL, HDPE OR EQUAL AND HAVE A MINIMUM OF TWO (2) FEET BURY AND INCLUDE END SECTIONS, AS APPLICABLE.
- EXISTING STORM DRAINAGE DITCHES SHALL BE REBUILT IF FILLED IN OR REMOVED DURING CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE TO REPAIR OR REPLACE, AS REQUIRED, ALL DRAINAGE CULVERTS DAMAGED DURING CONSTRUCTION AND SHALL BE CONSIDERED INCIDENTAL TO THE PROJECT.
- 11. IF CULVERTS ARE ENCOUNTERED DURING EXCAVATION THEY SHALL BE REUSED IF NOT DAMAGED. IF DAMAGED, THE CULVERT SHALL BE REPLACED WITH NEW. ALL CULVERTS IDENTIFIED HAVE BEEN PLACED ON THE DRAWINGS. SOME CULVERTS MIGHT BE ENCOUNTERED THAT ARE NOT DISCLOSED ON THE PLANS. ALL COSTS ASSOCIATED WITH LOCATING AND REPAIRING/REPLACING ARE INCLUDED IN THE COST OF THE PROJECT.
- 12. THE CONTRACTOR SHALL REMOVE ALL SEDIMENT OR SOILS THAT HAVE BEEN DROPPED, WASHED ONTO OR TRACKED OUT ONTO PUBLIC RIGHT-OF-WAY OR PRIVATE ROADS AT THE END OF EACH WORKING DAY OR AFTER EACH RAIN EVENT ON NON-WORK DAYS.
- 13. THE CONTRACTOR SHALL REPAIR ALL WASHOUTS AND EROSION DURING THE GUARANTEE PERIOD OF ONE (1) YEAR AT NO ADDITIONAL COST TO THE OWNER.
- 14. ALL RESTORATION SHALL OCCUR WITHIN FIVE (5) DAYS OF FINAL GRADE.

CONSTRUCTION/SCHEDULE NOTES

- 1. THE PROJECT REQUIRES CONSTRUCTION OF UPGRADES TO 5. WATER TREATMENT FACILITY INCLUDING NEW INFLUENT RAW WATER SUPPLY LINE, IRON REMOVAL FILTER INCLUDING BUILDING EXPANSION, HIGH SERVICE PUMP INCLUDING BUILDING EXPANSION AND EFFLUENT DISCHARGE LINE. THE EXISTING INFRASTRUCTURE SERVICES THE TOWNSHIP CUSTOMERS AND THEREFORE IT IS IMPERATIVE ALL WORK SHALL BE STAGED TO MAINTAIN THIS SERVICE/WATER QUALITY WITH NO DISRUPTION. CONTRACTOR TO BE RESPONSIBLE TO PROVIDE:
- A. PROVISIONS FOR TEMPORARY PIPING, POWER, ETC TO ENSURE EXISTING EQUIPMENT REMAINS IN OPERATION WHILE INSTALLING NEW EQUIPMENT
- B. DURING DEMOLITION/CONNECTION OF NEW PIPING LIMITED DISRUPTION OF SERVICE IS EXPECTED AND CONTRACTOR SHALL COORDINATE WITH TOWNSHIP TO ENSURE SYSTEM TANKS ARE FULL DURING THIS TIME. THE TOWNSHIP HAS AVAILABLE TWO (2) ELEVATED WATER TANKS AND ONE (1) ONSITE GROUND TANK IN THE SYSTEM THAT PROVIDES WATER VOLUME/PRESSURE TO CUSTOMERS. THE TANKS WILL ALLOW THE PLANT TO BE OFFLINE FOR 4 HOURS MAXIMUM. ALL CONNECTIONS SHALL BE COORDINATED WITH TOWNSHIP AND OPERATIONS PERFORMED BY TOWNSHIP DPW. CRITICAL INFRASTRUCTURE INCLUDING EXISTING CHEMICAL FEED IRON REMOVAL FILTERS AND HIGH SERVICE PUMPS ARE TO REMAIN ONLINE. NEW INFRASTRUCTURE SHALL BE INSTALLED. TESTED AND APPROVED FOR USE PRIOR TO BE PLACED INTO SYSTEM. ONCE PLACED INTO SYSTEM, EXISTING PIPING AND UPGRADES / ABANDONMENT TO EXISTING INFRASTRUCTURE MAY BE PERFORMED.
- C. CONTRACTOR SHALL SWAB ALL PIPES PRIOR TO INSTALLATION WITH 12.5% CHLORINE PRIOR TO INSTALL AND VISUALLY INSPECT FOR LEAKS DURING TESTING AND FLUSHING.
- D. REFER TO RESPECTIVE SITE PIPING DEMOLITION / PROPOSED AND MECHANICAL SHEETS FOR CONNECTION AND ABANDONMENT LOCATIONS.
- 2. CONTRACTOR TO PERFORM ALL WORK WITHIN THE CONFINES OF THE TOWNSHIP PROPERTY. CONTRACTOR TO COORDINATE WITH THE TOWNSHIP FOR ALL STAGING AND MOBILIZATION AREAS. ALL COSTS ASSOCIATED WITH CLEAR CUTTING, DEBRIS/LANDSCAPING REMOVAL AND REPLACEMENT, HAULING, AND DISPOSAL OFFSITE TO BE INCLUDED IN THE COST OF THE PROJECT.
- 3. THE EXISTING FACILITY WILL REMAIN IN OPERATION DURING PROJECT CONSTRUCTION. THE CONTRACTOR SHALL MINIMIZE DISRUPTION TO SERVICE AND COORDINATE WITH UNION TOWNSHIP DPW. EXISTING FACILITY IS NOT OPEN TO CONTRACTOR USE. ALL ACCESS SHALL BE COORDINATED W/ DPW AND CONTRACTOR SHALL BE RESPONSIBLE TO SERVICE SITE DAILY AND KEEP WORK AREAS CLEAN AND
- 4. ANY NEW PIPING, EQUIPMENT, ETC. INSTALLED WILL NOT BE ALLOWED TO BE PLACED INTO SERVICE UNTIL TESTING, DISINFECTION HAS BEEN COMPLETED AND APPROVED BY TOWNSHIP AND ENGINEER.

- CONTRACTOR TO USE CARE TO INSTALL WATER MAIN AND PROTECT EXISTING ROADWAYS AND NOT DAMAGE ASPHALT. CONTRACTOR TO UTILIZE TRENCH BOX AS NECESSARY. ANY DAMAGE OUTSIDE THE LIMITS DEFINED ON PLANS FOR REMOVAL/REPLACEMENT TO BE REPAIRED AND REPLACED AT NO ADDITIONAL COST OF THE PROJECT.
- 6. CONTRACTOR TO SUBMIT A CONSTRUCTION SCHEDULE AND SEQUENCE FOR APPROVAL PRIOR TO PERFORMING ANY
- 7. CONTRACTOR MAY ENCOUNTER HIGH WATER TABLE IN CERTAIN AREAS DURING INSTALLATION. DEWATERING AND INSTALLATION OF SESC MEASURES TO BE UTILIZED. COSTS TO BE INCLUDED IN THE COST OF THE PROJECT.
- 8. AVAILABLE SOIL BORING INFORMATION IS PROVIDED BASED UPON HISTORICAL DATA COLLECTED AND PROVIDED IN THE TECHNICAL SPECIFICATIONS. CONTRACTOR IS RESPONSIBLE TO FIELD VERIFY.

DRIVE CONSTRUCTION NOTES

- 1. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE 2020 M.D.O.T. STANDARD SPECIFICATIONS AND M.D.O.T. STANDARDS AND SPECIFICATIONS UNLESS OTHERWISE INDICATED ON THE PLANS AND CONTRACT DOCUMENTS. THE CONTRACTOR IS REQUIRED TO FAMILIARIZE HIMSELF /HERSELF WITH THESE SPECIFICATIONS. ALL CONSTRUCTION MATERIALS SHALL CONFORM TO M.D.O.T. SPECIFICATIONS AND DETAILS.
- 2. THE ENGINEER SHALL BE NOTIFIED AT LEAST 24 HOURS PRIOR TO BITUMINOUS PAVING.
- 3. THE PREPARED SUBBASE MUST BE TESTED AND APPROVED PRIOR TO PLACEMENT OF BASE.
- 4. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE THAT THE GRAVEL TO BE USED ON THIS PROJECT IS APPROVED PRIOR TO PLACEMENT.
- 5. THE PREPARED GRAVEL WIDTH, DEPTH, AND COMPACTION MUST BE REVIEWED AND APPROVED BY THE OWNERS ENGINEER PRIOR TO BITUMINOUS PAVING.
- 6. ALL PAVEMENT CUTS ARE TO BE MADE WITH SAW, IMMEDIATELY PRIOR TO PAVING.
- 7. DAMAGE TO THE EXISTING DRIVE OUTSIDE THE LIMITS IDENTIFIED FOR REMOVAL/REPLACEMENT DURING THE INSTALLATION OF THE NEW WATER MAIN AND BUILDING EXPANSION MUST BE REPAIRED/REPLACED AT NO ADDITIONAL COST TO THE PROJECT. ALL REPAIRS MUST BE COMPLETED MEETING M.D.O.T. REQUIREMENTS.

STORM SEWER ______ SANITARY FORCE MAIN PROPERTY LINE RIGHT OF WAY _____ SECTION LINE EASEMENT ___ ___ ___ ___ CONTOURS GAS MAIN UNDERGROUND ELECTRIC OVERHEAD ELECTRIC ----- OHE -----FIBER OPTIC _____ FOPT _____ CABLE TELEVISION _____ CATV _____ OVERHEAD TELEPHONE _____ OHT ____ UNDERGROUND TELEPHONE _____ _ _ _ UGT _____ **FENCE** ___x___x___x___x___x WETLANDS TREE LINE EDGE OF WATER _____.__.__. SILT FENCE SANITARY MANHOLE (MH) STORM MANHOLE (MH) CATCH BASIN (CB) RISER GATE VALVE FIRE HYDRANT ASSEMBLY POLE, POWER OR ELECTRIC SIGN BENCH MARK (BM) U/G UTILITY SIGN PROPERTY CORNER CURB STOP & BOX WATER SERVICE LEAD SANITARY SERVICE LEAD FIRE HYDRANT NUMBER (800) 1060 VALVE NUMBER [1260]

PLAN LEGEND

PROPOSED

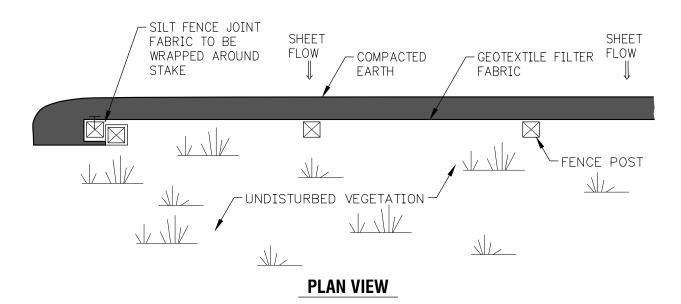
EXISTING

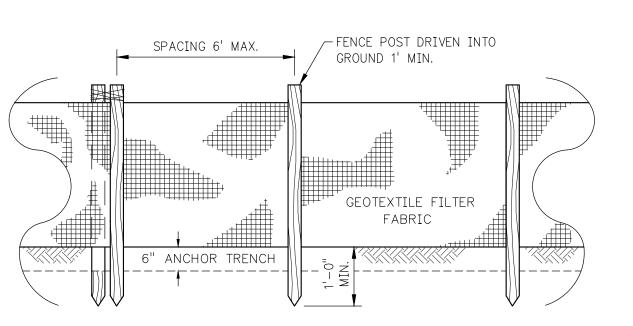
DESCRIPTION

SANITARY SEWER

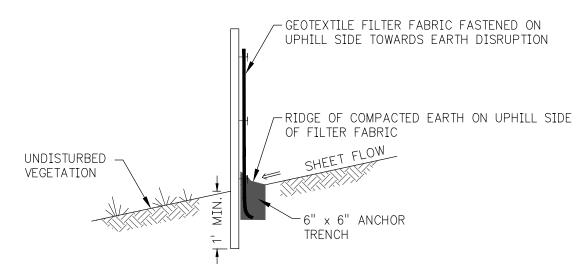
WATER MAIN

SOIL BORING





FRONT ELEVATION



SECTION VIEW

SILT FENCE DETAIL NO SCALE

13. PRIOR TO PIGGING AND FLUSHING ALL LINES SHALL BE CHARGED WITH WATER. 14. ALL PERMANENT BLOW-OFF ASSEMBLIES SHALL BE CUT

CORPORATION.

INIFER GRAHAM P.F. . BALLANCE A. BELANGE 23349

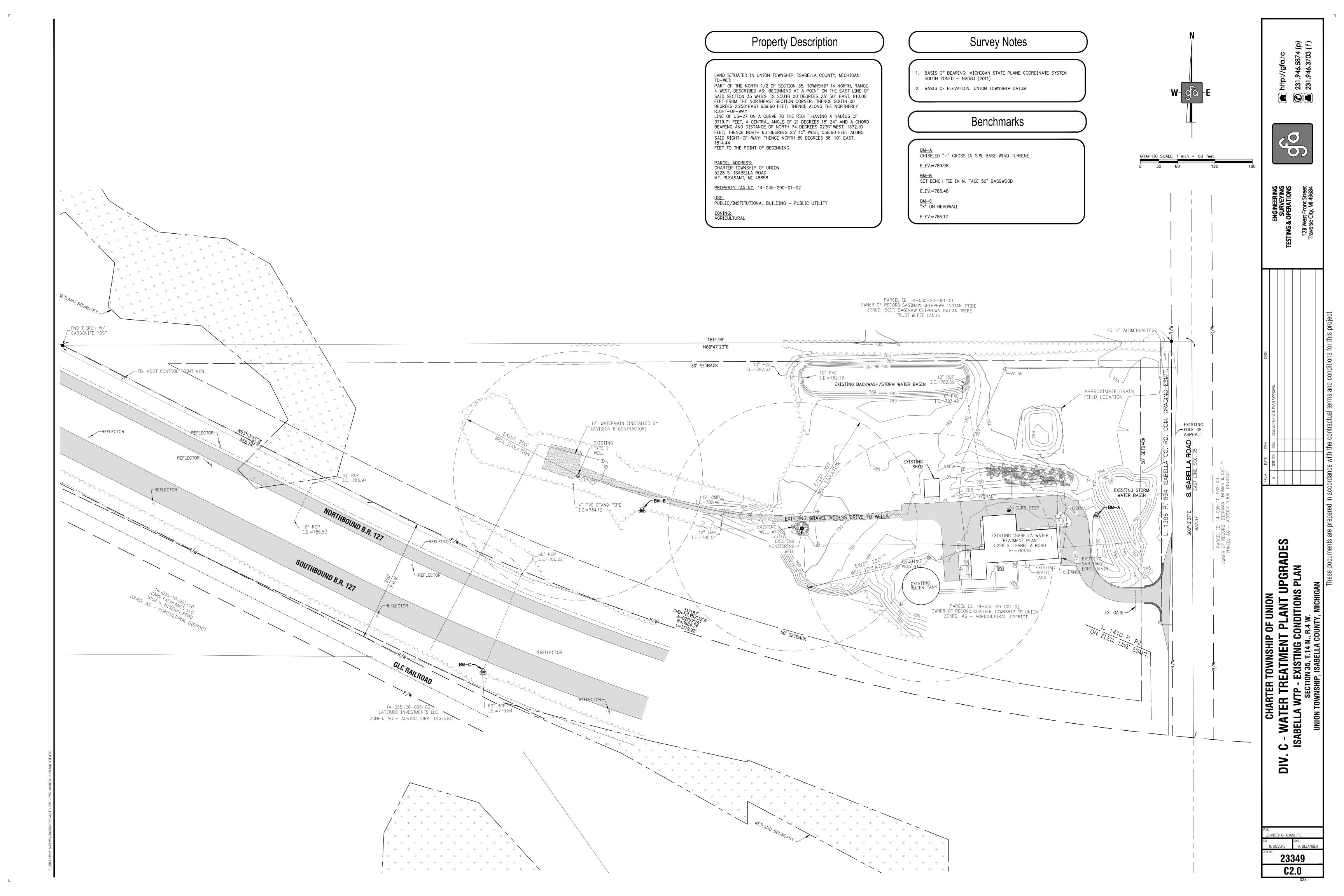
UPGRADI

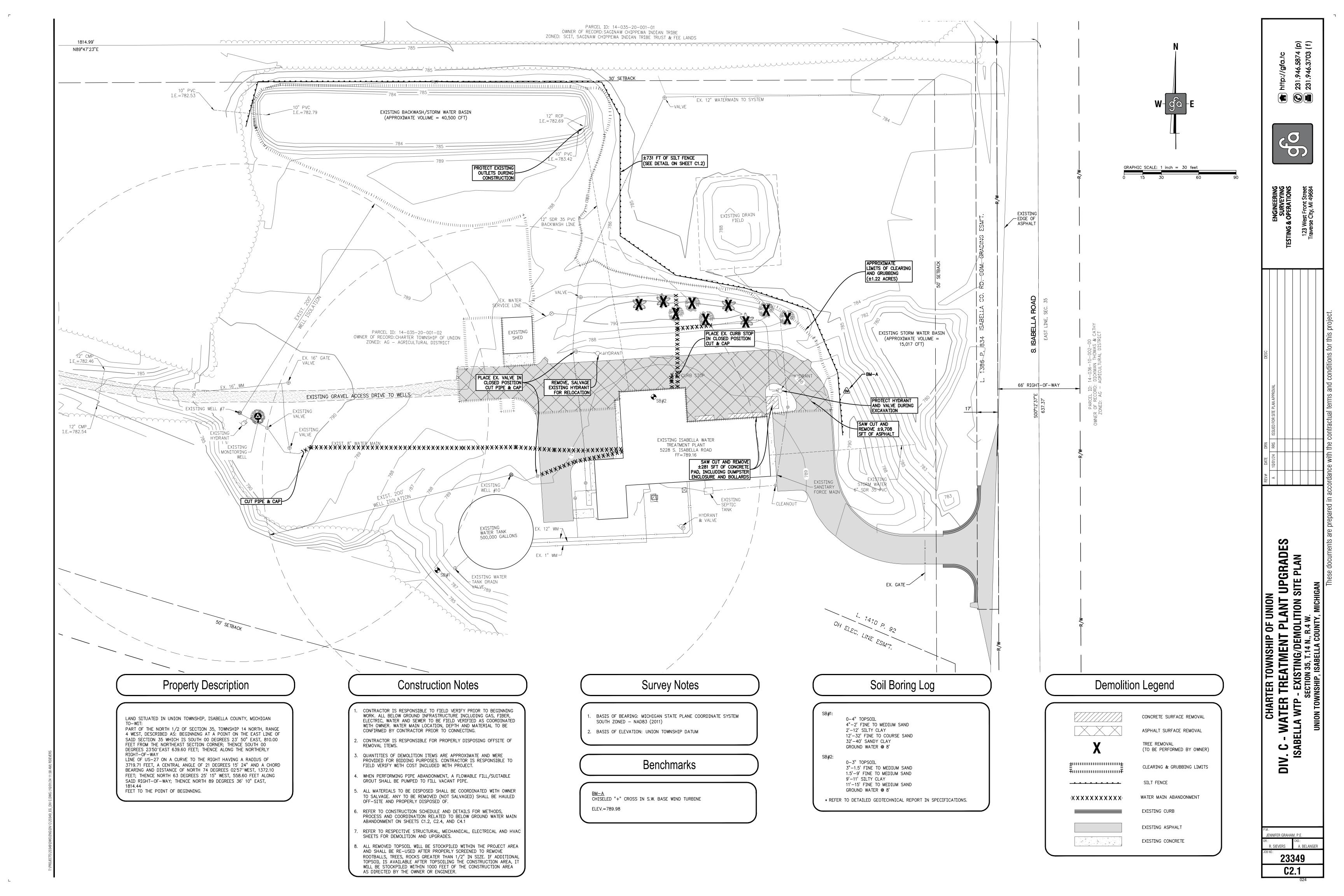
IENT PLANT
L NOTES
TIA N., R.4 W
LLA COUNT

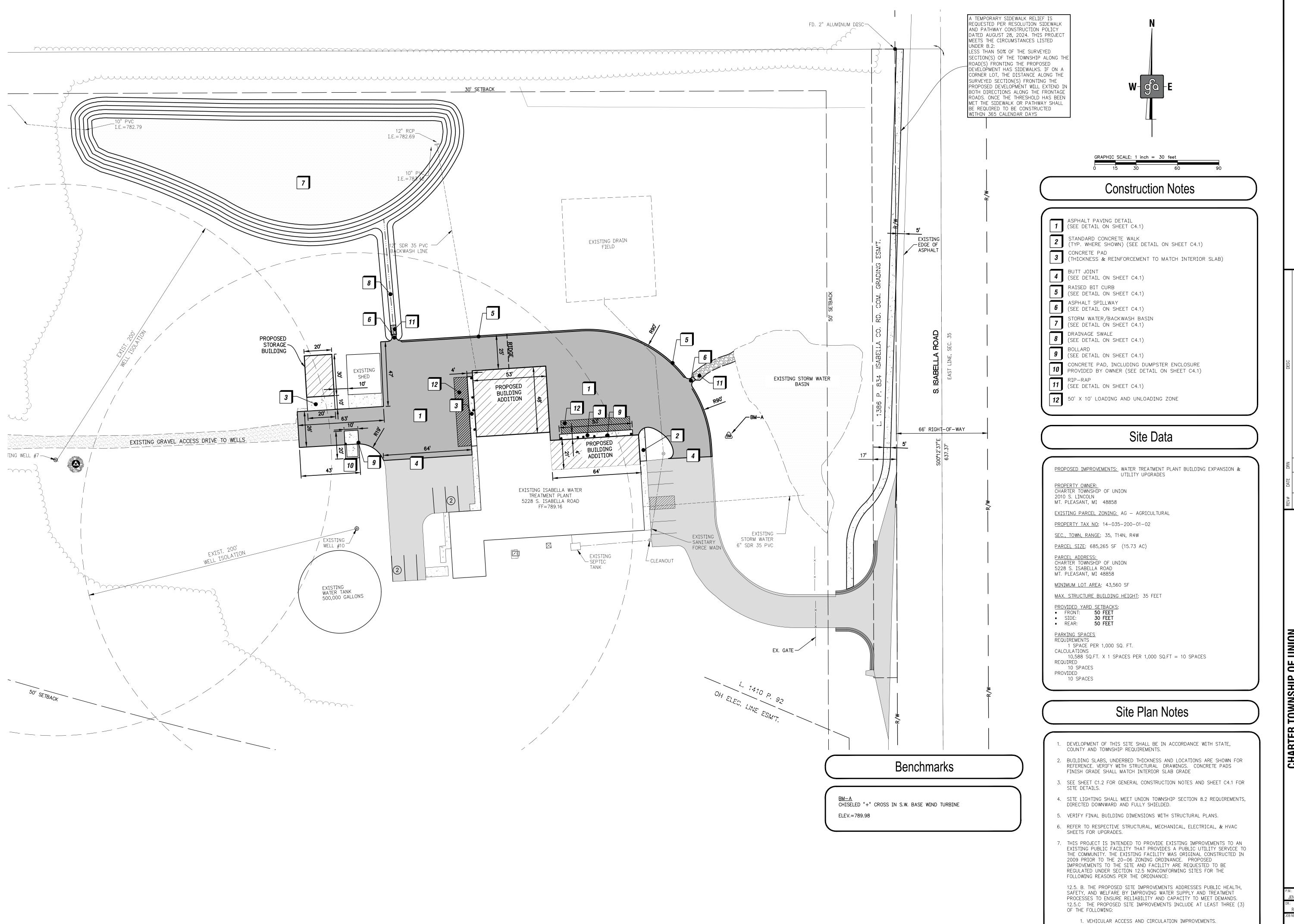
TER TOWNS
TREATME
GENERAL
STION 26 & 35, 1

CHARI ATER

0







CHARTER TOWNSHIP OF UNION

- WATER TREATMENT PLANT UPGRADES
ISABELLA WTP - PROPOSED SITE PLAN
SECTION 35, T.14 N., R.4 W.
UNION TOWNSHIP, ISABELLA COUNTY, MICHIGAN

C

NNIFFR GRAHAM P F

R. SIEVERS A. BELANGER 23349

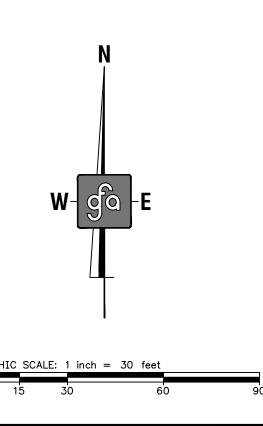
2. OFF-STREET PARKING AND LOADING IMPROVEMENTS.

4. DRAINAGE AND STORM WATER MANAGEMENT IMPROVEMENTS.

3. EXTERIOR LIGHTING IMPROVEMENTS.

MINOR CONTOUR

____100____



Soil Erosion & Storm Water Control

- TOPSOIL TO BE STRIPPED AND STOCKPILED IN A LOCATION DESIGNATED BY THE OWNER'S REPRESENTATIVE.
- THE CONTRACTOR SHALL PROVIDE TEMPORARY SOIL EROSION CONTROL MEASURES PER P.A. 451 AS AMENDED. WITH THE USE OF SILT FENCE AND OTHER TEMPORARY MEASURES THE CONTRACTOR SHALL PROTECT THE ADJACENT AREA FROM ACCELERATED EROSION AND SEDIMENTATION FLOWS RESULTING FROM CONSTRUCTION. THE CONTRACTOR SHALL INSTALL ADDITIONAL TEMPORARY AND PERMANENT SOIL EROSION CONTROL MEASURES, IF DIRECTED BY THE ENGINEER OR SOIL EROSION CONTROL OFFICER, AT NO ADDITIONAL COST TO THE PROJECT.
- INSTALLATION AND MAINTENANCE OF TEMPORARY SOIL EROSION CONTROL MEASURES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AT NO ADDITIONAL COST TO PROJECT.
- SHOULD ADDITIONAL SOIL EROSION CONTROL MEASURES BE DETERMINED TO BE NECESSARY BY EITHER THE SOIL EROSION CONTROL OFFICER OR THE OWNER'S ENGINEER THEY SHALL BE IN PLACE NO LATER THAN 24 HOURS FROM THE TIME OF NOTIFICATION TO THE GENERAL CONTRACTOR FOR THE PROJECT AT NO ADDITIONAL COST TO PROJECT. IF NOT PLACED IN 24 HOURS OR LESS ALL ON SITE CONSTRUCTION WILL BE HALTED UNTIL SUCH MEASURES ARE INSTALLED AND APPROVED BY EITHER THE SOIL EROSION CONTROL OFFICER OR THE OWNER'S
- ALL DISTURBED NON-HARD SURFACE AREAS TO BE STABILIZED WITH TOPSOIL, SEEDED, FERTILIZED AND MULCH BLANKET. DISTURBED AREAS SHALL BE TOPSOILED TO A DEPTH NOT LESS THAN FOUR (4) INCHES.
- . IF REQUESTED BY THE ENGINEER OR SOIL EROSION CONTROL OFFICER, A WATER TRUCK SHALL BE KEPT ON STAND-BY ON SITE DURING THE CONSTRUCTION PHASE OF THE PROJECT. THE WATER TRUCK SHALL BE USED AS DIRECTED BY THE ENGINEER OR SOIL EROSION CONTROL OFFICER TO CONTROL WIND EROSION AT NO ADDITIONAL COST TO
- ALL STORM DRAINAGE PIPE SHALL BE CORRUGATED GALVANIZED STEEL PIPE, HDPE OR APPROVED EQUAL.
- . A MINIMUM OF TWO (2) FEET OF COVER FROM FINISHED ELEVATIONS SHALL BE MAINTAINED OVER ALL STORM DRAIN PIPES.
-). ALL DRAINAGE PIPES THAT OUTLET AT GROUND SURFACE SHALL INCLUDE END SECTIONS.
- 10. EXISTING STORM DRAINAGE DITCHES SHALL BE REBUILT IF FILLED IN OR REMOVED DURING CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE TO REPAIR OR REPLACE, AS REQUIRED, ALL DRAINAGE CULVERTS DAMAGED DURING CONSTRUCTION AND SHALL BE CONSIDERED INCIDENTAL TO THE PROJECT.
- 1. THE CONTRACTOR SHALL REMOVE OR CAUSE TO BE REMOVED ALL SEDIMENT OR SOILS THAT HAVE BEEN DROPPED, WASHED ONTO OR TRACKED OUT ONTO PUBLIC RIGHT-OF-WAY OR PRIVATE ROADS AT THE END OF EACH WORKING DAY OR AFTER EACH RAIN EVENT ON
- 12. ALL REMOVED TOPSOIL WILL BE STOCKPILED WITHIN THE PROJECT AREA AND SHALL BE RE-USED AFTER PROPERLY SCREENED TO REMOVE ROOTBALLS, TREES, ROCKS GREATER THAN 1/2" IN SIZE. IF ADDITIONAL TOPSOIL IS AVAILABLE AFTER TOPSOILING THE CONSTRUCTION AREA, IT WILL BE STOCKPILED WITHIN 1000 FEET OF THE CONSTRUCTION AREA AS DIRECTED BY THE OWNER OR ENGINEER.
- 13. THE CONTRACTOR SHALL REPAIR ALL WASHOUTS AND EROSION DURING THE GUARANTEE PERIOD OF ONE (1) YEAR AT NO ADDITIONAL COST TO
- 14. THE CONTRACTOR SHALL REMOVE ALL SEDIMENT FROM EXISTING CATCH BASINS AND CULVERTS PRIOR TO COMMENCEMENT OF SITE ACTIVITY AND SHALL ENSURE THEY ARE CLEAN UPON PROJECT COMPLETION.

Stormwater Calculations

PROPOSED STORM WATER BASINS AND STORM SEWER WERE EVALUATED USING HYDROCAD AND THE SCS TR-20 METHOD WITH THE FOLLOWINGS PARAMETERS:

- TYPE II, 24-HOUR STORM EVENTS
- 10-YEAR STORM EVENT = 3.34" 25-YEAR STORM EVENT = 4.15" 100-YEAR STORM EVENT = 5.62"
- SNOW STORAGE SHALL BE IN BASINS. ANY EXCESS TO BE TRUCKED OFFSITE.
- RETENTION BASINS WERE SHOWN TO STORE IN EXCESS OF A 100-YEAR STORM EVENT OVER ITS CONTRIBUTING AREA WHILE APPLYING AN INFILTRATION RATE OF 1.0"/HR OVER THE BASINS SURFACE AREA.
- A SUMMARY OF THE STORM WATER CALCULATIONS CAN BE PROVIDED UPON
- ALL DISTURBED AREAS TO BE TOPSOIL, SEEDED, AND MULCHED.
- EXISTING STORM WATER BASIN: TYPE: RETENTION BASIN TOP OF BASIN ELEV.: 783.00 BOTTOM OF BASIN ELEV.: 780.00

SIDE SLOPES: 1:4 100-YEAR ELEV.: 781.73 TIME TO DRAIN: 25 HOURS OVERFLOW ROUTE: EXISTING SLOW RELEASE ON THE SOUTH OF BASIN TO EXISTING STORM SYSTEM

OVERFLOW ROUTE: OVERLAND WESTERLY TO WETLAND

• EXPANDED EXISTING BACKWASH/STORM WATER BASIN: TYPE: BACKWASH/RETENTION BASIN TOP OF BASIN ELEV.: 787.00 BOTTOM OF BASIN ELEV.: 782.00 SIDE SLOPES: 1:3

100-YEAR ELEV.: 782.16

TIME TO DRAIN: 25 HOURS

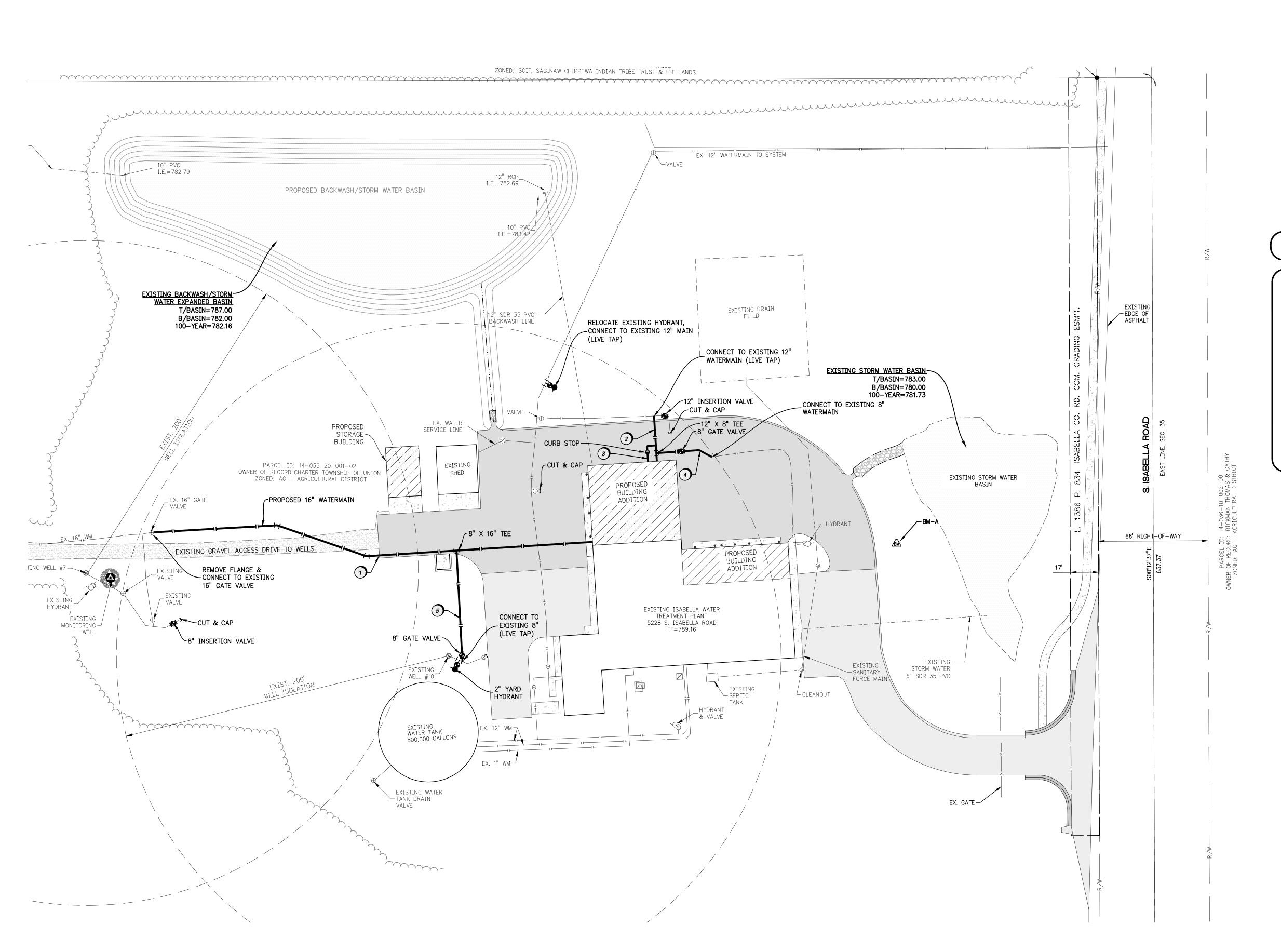
R. SIEVERS A. BELANGE 23349

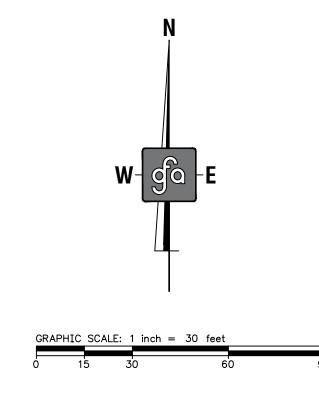
C2.3

DIV. C

CHARTER TOWNSHIP OF UNION

- WATER TREATMENT PLANT UPGRADES
WTP - PROPOSED GRADING & STORM WATER PLAN
SECTION 35, T.14 N., R.4 W.
UNION TOWNSHIP, ISABELLA COUNTY, MICHIGAN





Construction Notes

- 1. CONTRACTOR RESPONSIBLE FOR ALL FIELD VERIFICATION OF PIPE (DEPTH, SIZE) PRIOR TO MAKING CONNECTIONS.
- 2. ALL WATERMAIN INSTALLATIONS SHALL BE PERFORMED TO MAINTAIN 10' HORIZONTAL AND 18" VERTICAL SEPARATION FROM ALL STORM AND SANITARY SEWER MAINS AND LEADS.
- 3. SEE C4.2 FOR WATERMAIN DETAILS & SHEET C1.2 FOR NOTES
- 4. SITE CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE WORK WITH MECHANICAL CONTRACTOR TO MAKE CONNECTIONS/TERMINATIONS OF PIPING WITHIN BUILDING AND FOR ABANDONMENT PROCESS TO MAINTAIN
- 5. ALL PROPOSED AND EXISTING VALVE BOXES TO BE ADJUSTED TO BE FLUSH WITH FINAL ASPHALT/SITE GRADE.
- 6. INSERTION VALVE BOX AND STEM TO BE REMOVED AND PLACED IN CLOSE POSITION ONCE HIGH SERVICE PUMP, 12" EFFLUENT LINE, AND 16"/12" INFLUENT LINES ARE TESTED AND APPROVED FOR USE.
- 7. WATERMAIN SHALL BE CUT AND CAPPED WHERE SHOWN REFER TO DETAIL ON SHEET C4.1.
- 8. REFER TO CONSTRUCTION SCHEDULE AND DETAILS FOR METHODS, PROCESS AND COORDINATION RELATED TO BELOW GROUND WATER MAIN ABANDONMENT ON SHEETS C1.2, AND C4.1

DESC				
	RRS ISSUED FOR SITE PLAN APPROVAL			
DRN	RRS			
JATE	/01/24			

CHARTER TOWNSHIP OF UNION

- WATER TREATMENT PLANT UPGRADE

ISABELLA WTP - PROPOSED UTILITY PLAN

SECTION 35, T.14 N., R.4 W.

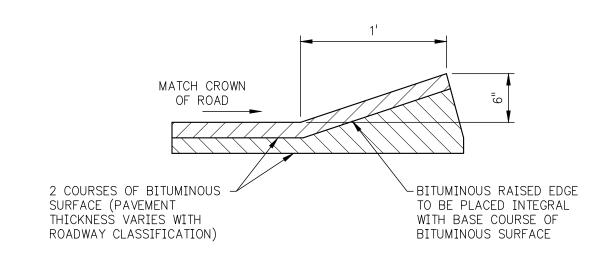
UNION TOWNSHIP, ISABELLA COUNTY, MICHIGAN C DIV.

23349

YARD PIPE SCHEDULE Material & Description Depth Size Length C900 - INFLUENT RAW WATER SUPPLY 16" 270 LF C900 - EFFLUENT TREATMENT TO SYSTEM FOR HIGH 6' MIN. 28 LF SERVICE PUMPS HDPE DR-9 - WATER SAMPLE LINE (POST) 13 LF 6' MIN. C900 - HYDRANT LINE 6" MIN. 35 LF 8" 67 LF C900 - INFLUENT WELL 10 RAW WATER SUPPLY 8"

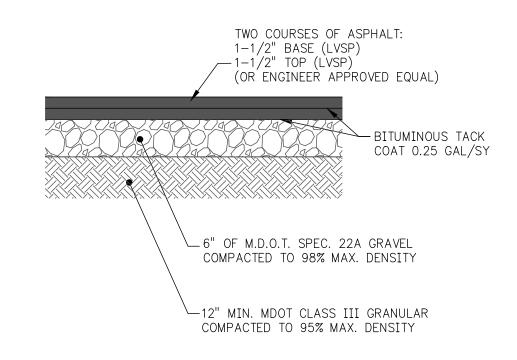
TYPICAL X-SECTION RETENTION BASIN

NO SCALE



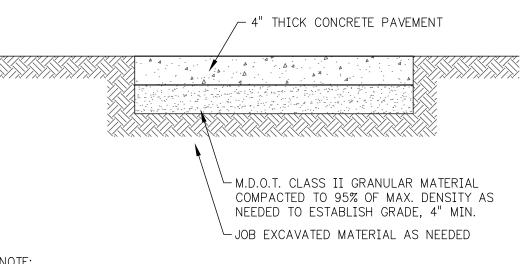
BITUMINOUS RAISED EDGE DETAIL

NO SCALE



ASPHALT PAVING DETAIL

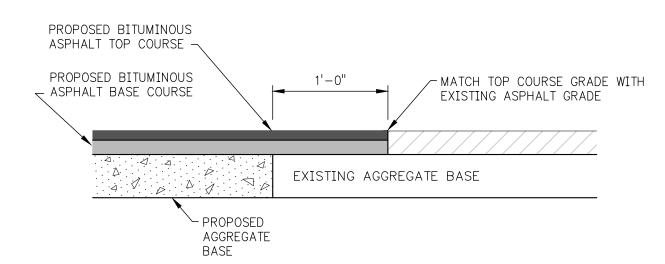
NO SCALE



SAWCUT OR TOOL WALK IN SQUARE PATTERN. PROVIDE EXPANSION JOINTS AT ALL SPRING POINTS AND PERMANENT STRUCTURES WITH MAX. SPACING OF FOUR TIMES WALK WIDTH.

STANDARD CONCRETE WALK DETAIL

NO SCALE



CONTRACTOR TO PLACE MULCH BLANKET ON

MATCH PVMT. GRADE-

SOD SLOPE & -

SWALE BOTTOM

DRAINAGE SWALE DETAIL

NO SCALE

RECOMMENDED

CAP PIPE.

REMOVAL NOTES:

1. PLACE VALVE IN THE CLOSED POSITION PRIOR TO BURYING.

APPLICABLE) IN ACCORDANCE WITH THE SPECIFICATIONS.

CONTRACTOR TO COORDINATE VALVE CLOSURE WITH THE OWNER. 2. INSTALL CAP AT EXPOSED PIPE END. ALL CAPS SHALL INCLUDE

CONCRETE THRUST BLOCK USING WET MIX CONCRETE & 3/4" CORTEN

THREADED RODS BACK TO PIPE JOINT (BELL) TO ENSURE RESTRAINT.

4. SERVICE DISRUPTION WILL NOT BE PERMITTED AND/OR NECESSARY. ALL

CHLORINE SWAB AND VISUAL LEAK INSPECTION SHALL BE CONSIDERED

NEW COMPONENTS SHALL BE PROPERLY TESTING AND DISINFECTED

PRIOR TO MAKING CONNECTIONS TO EXISTING SYSTEM. 12.5%

HYDRANT REMOVAL DETAIL

NO SCALE

REMOVE VALVE

AND RETURN TO

THE DPW/TOWNSHIP.

BOX. SALVAGE

EXISTING

GATE VALVE

3. BURY USING CLASS II COMPACTED FILL (GRAVEL AND ASPHALT WHERE

- LOCATION FOR CUT &

- SEED, MULCH &

HERE & GRADE OFF

REMOVE FIRE

LIMITS OF REMOVAL

EXISTING WATERMAIN

TO BE ABANDONED.

HYDRANT

FERTILIZE BACK-SLOPE

DITCH SIDE SLOPES.

REMOVE VALVE BOX. SALVAGE AND

EXISTING WATERMAIN —

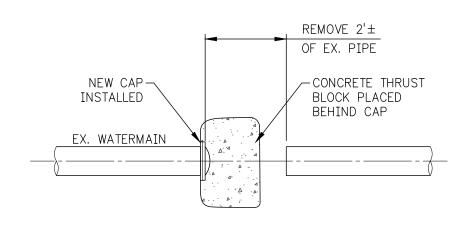
RETURN TO THE DPW/TOWNSHIP

EXISTING __

GATE VALVE

BUTT JOINT DETAIL

NOT TO SCALE

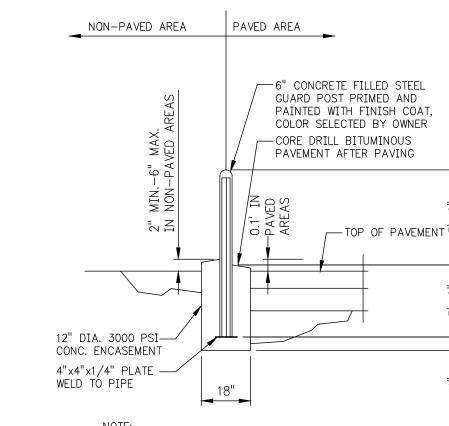


REMOVAL NOTES:

1. INSTALL CAP AT EXPOSED PIPE END. ALL CAPS SHALL INCLUDE CONCRETE THRUST BLOCK USING WET MIX CONCRETE.

PLUG INSTALLATION DETAIL

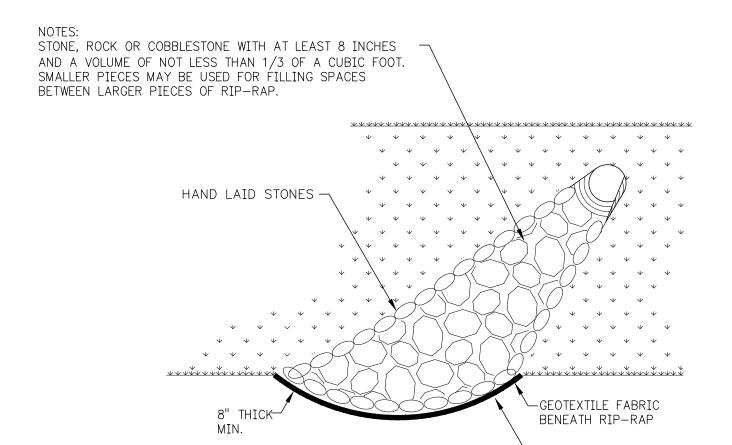
NO SCALE



REFER TO STRUCTURAL PLAN FOR ADDITIONAL BOLLARDS AND LOCATIONS

GUARDPOST DETAIL

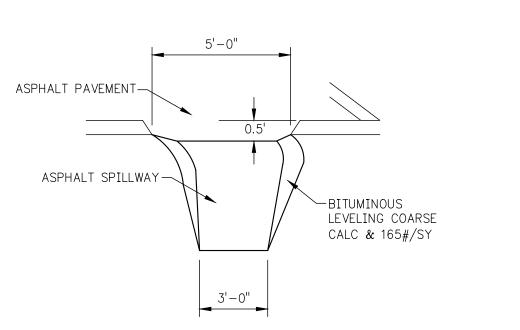
NO SCALE



RIP-RAP

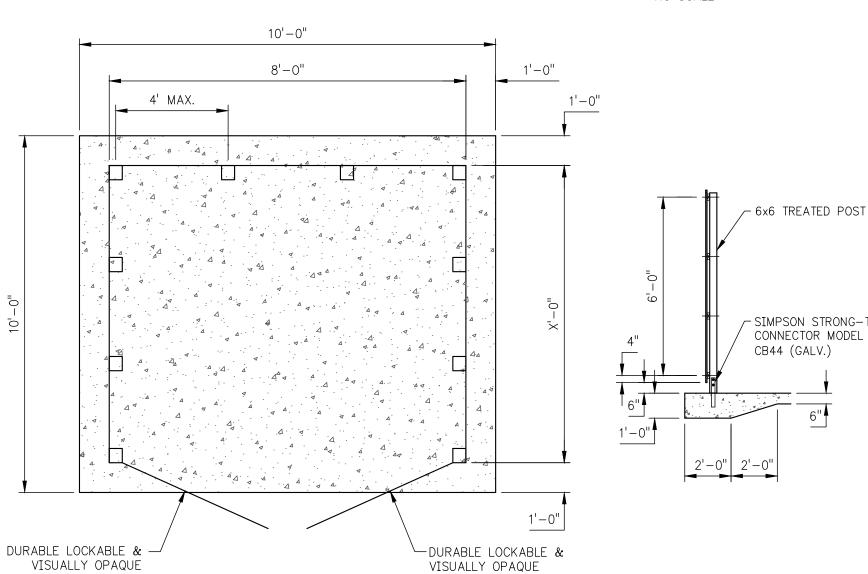
-GRANULAR SUB BASE

NO SCALE



ASPHALT SPILLWAY DETAIL

NO SCALE



VALVE BOX REMOVAL DETAIL

NOTES:

1. PLACE VALVE IN THE CLOSED POSITION PRIOR TO BURYING. CONTRACTOR TO COORDINATE

2. BURY VALVE USING CLASS II COMPACTED FILL (GRAVEL AND ASPHALT WHERE APPLICABLE) IN

ACCORDANCE WITH THE SPECIFICATIONS. 3. SERVICE DISRUPTION WILL NOT BE PERMITTED

AND/OR NECESSARY. ALL NEW COMPONENTS

DISINFECTED PRIOR TO MAKING CONNECTIONS

TO EXISTING SYSTEM. 12.5% CHLORINE SWAB

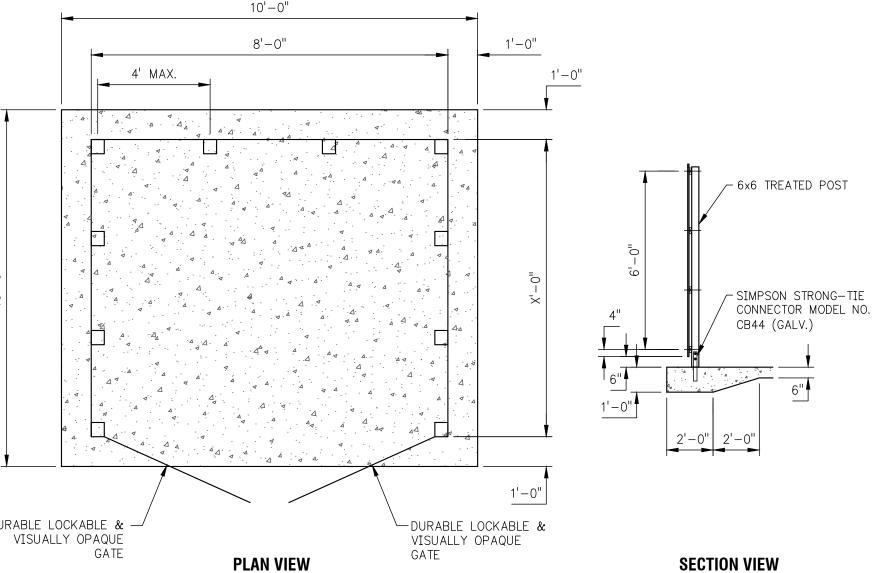
AND VISUAL LEAK INSPECTION SHALL BE

VALVE CLOSURE WITH THE OWNER.

SHALL BE PROPERLY TESTING AND

CONSIDERED ACCEPTABLE.

NO SCALE



SECTION VIEW DUMPSTER ENCLOSURE DETAILS

NO SCALE

*** X ** X *** X * └ 4000 PSI CONCRETE W/ 6" X 6" W2.9 X W2.9 MESH REINFORCING CENTERED IN SLAB M.D.O.T. CLASS II GRANULAR MATERIAL COMPACTED TO 95% OF MAX. DENSITY AS NEEDED TO ESTABLISH GRADE, 6" * DUMPSTER ENCLOSURE PROVIDED & INSTALLED

BY OWNER. CONTRACTOR TO PROVIDE & INSTALL CONCRETE PAD

ELEVATION VIEW

1x8 PRESSURE-TREAT WOOD

W/1 1/2" SPACE BETWEEN. OVER 2x4 PRESSURE-TREAT

WOOD STRINGERS

23349

UPGRADES

<u>@</u> £

CHARTER TOWNSHIP OF UNION

NATER TREATMENT PLANT U

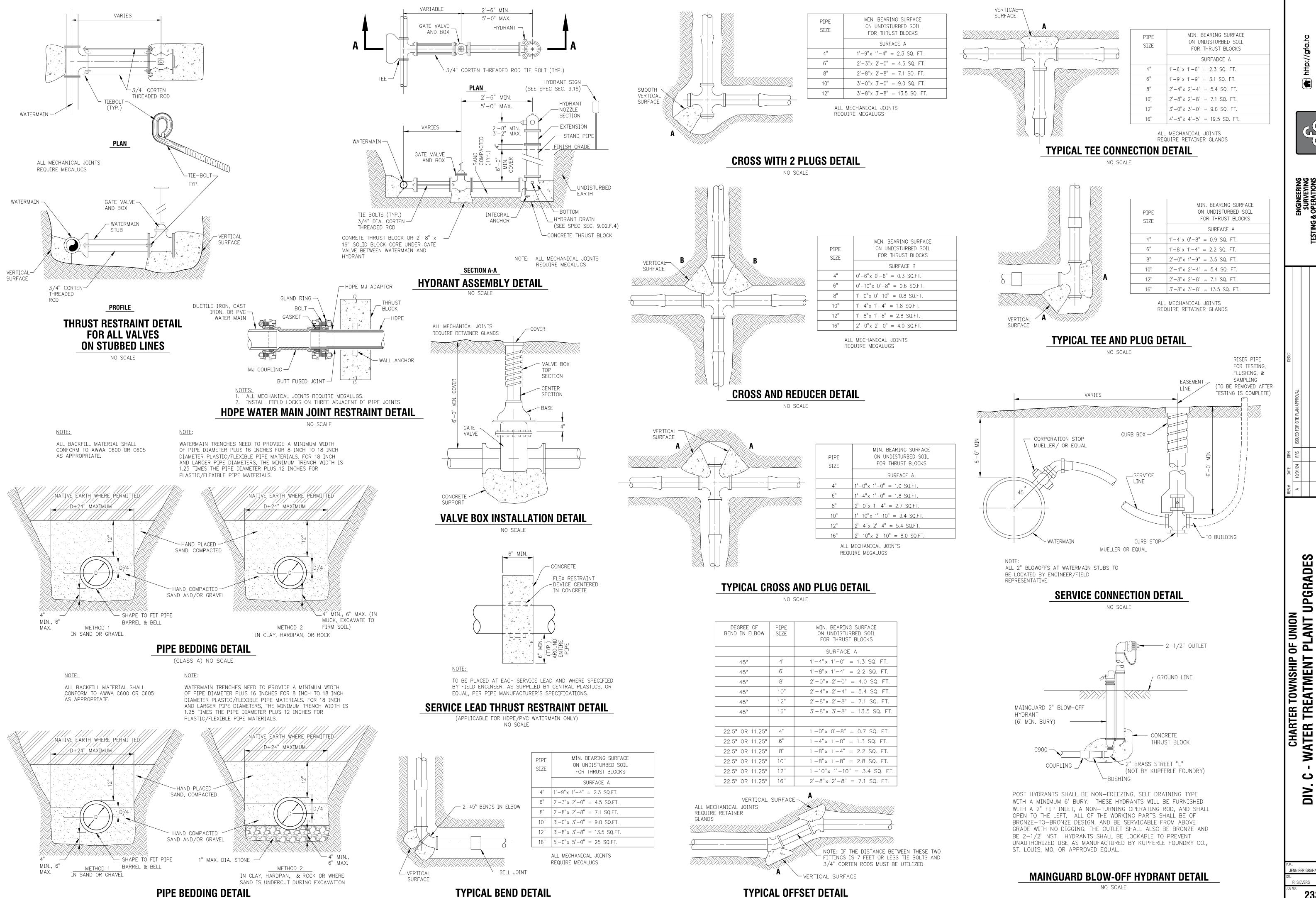
CONSTRUCTION DETAILS

SECTION 26, T.14 N., R.4 W.

SECTION 26, T.14 N., R.4 W.

C

NNIFER GRAHAM P.F. BALLANCE A. BELANGER



NO SCALE

(CLASS B) NO SCALE

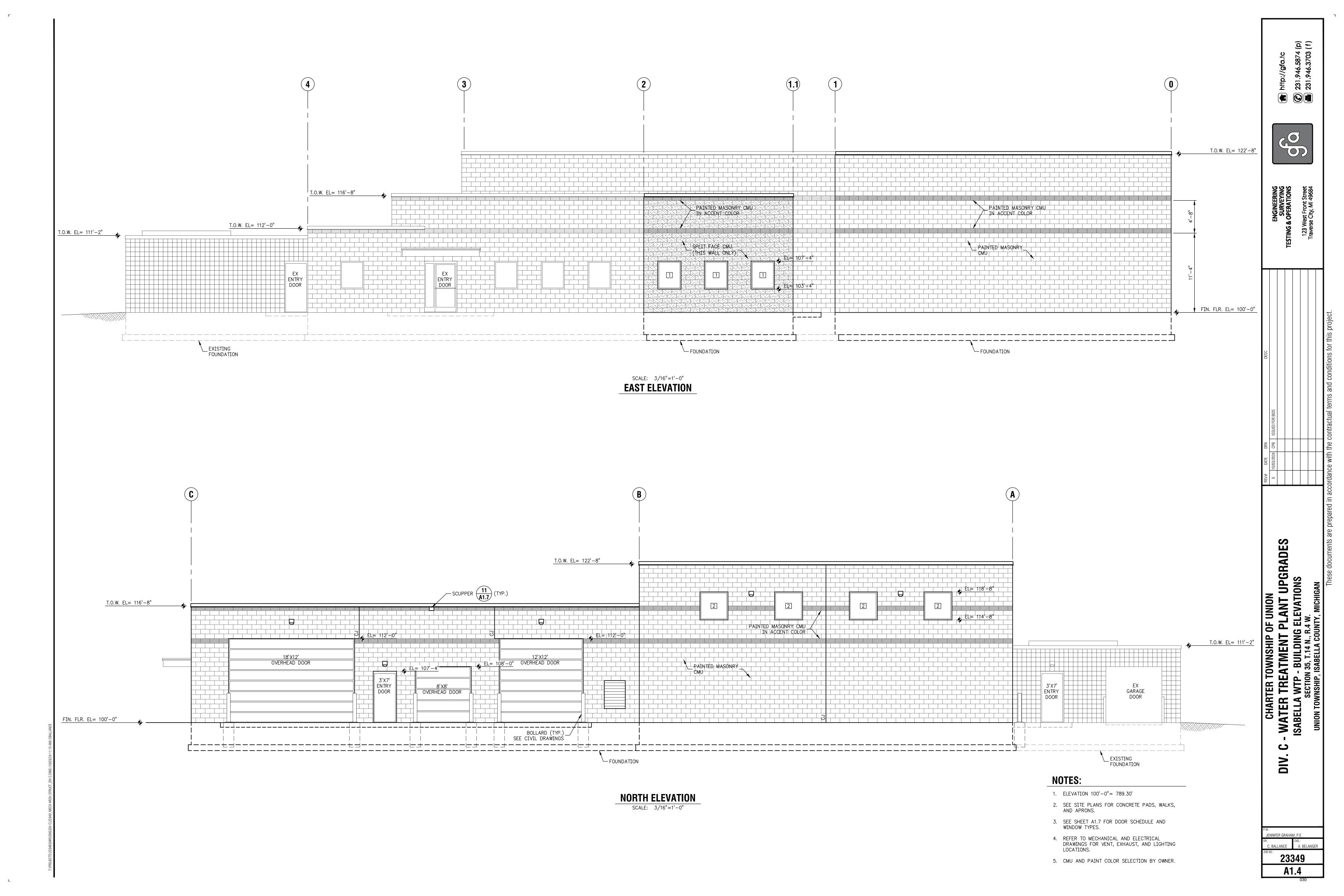
NO SCALE

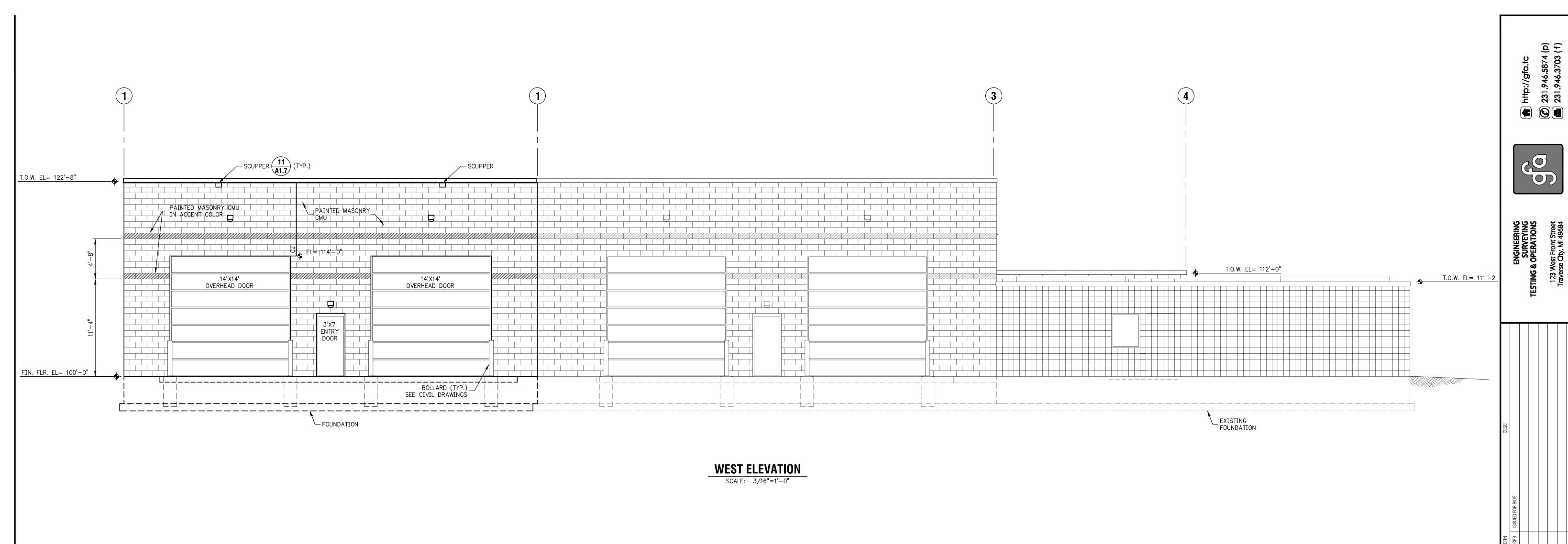
UPGRADES

CHARTER TOWNSHIP OF UNION

- WATER TREATMENT PLANT U
WATERMAIN DETAILS
SECTION 26, T.14 N., R.4 W.
UNION TOWNSHIP, ISABELLA COUNTY, MICHIGA

NNIFER GRAHAM P.F. R. SIEVERS A. BELANGER 23349





NOTES:

- 1. ELEVATION 100'-0"= 789.30'
- 2. SEE SITE PLANS FOR CONCRETE PADS, WALKS, AND APRONS.
- SEE SHEET A1.7 FOR DOOR SCHEDULE AND WINDOW TYPES.
- REFER TO MECHANICAL AND ELECTRICAL DRAWINGS FOR VENT, EXHAUST, AND LIGHTING LOCATIONS.
- 5. CMU AND PAINT COLOR SELECTION BY OWNER.

CHARTER TOWNSHIP OF UNION

DIV. C - WATER TREATMENT PLANT UPGRADES

ISABELLA WTP - BUILDING ELEVATIONS

SECTION 35, T.14 N., R.4 W.

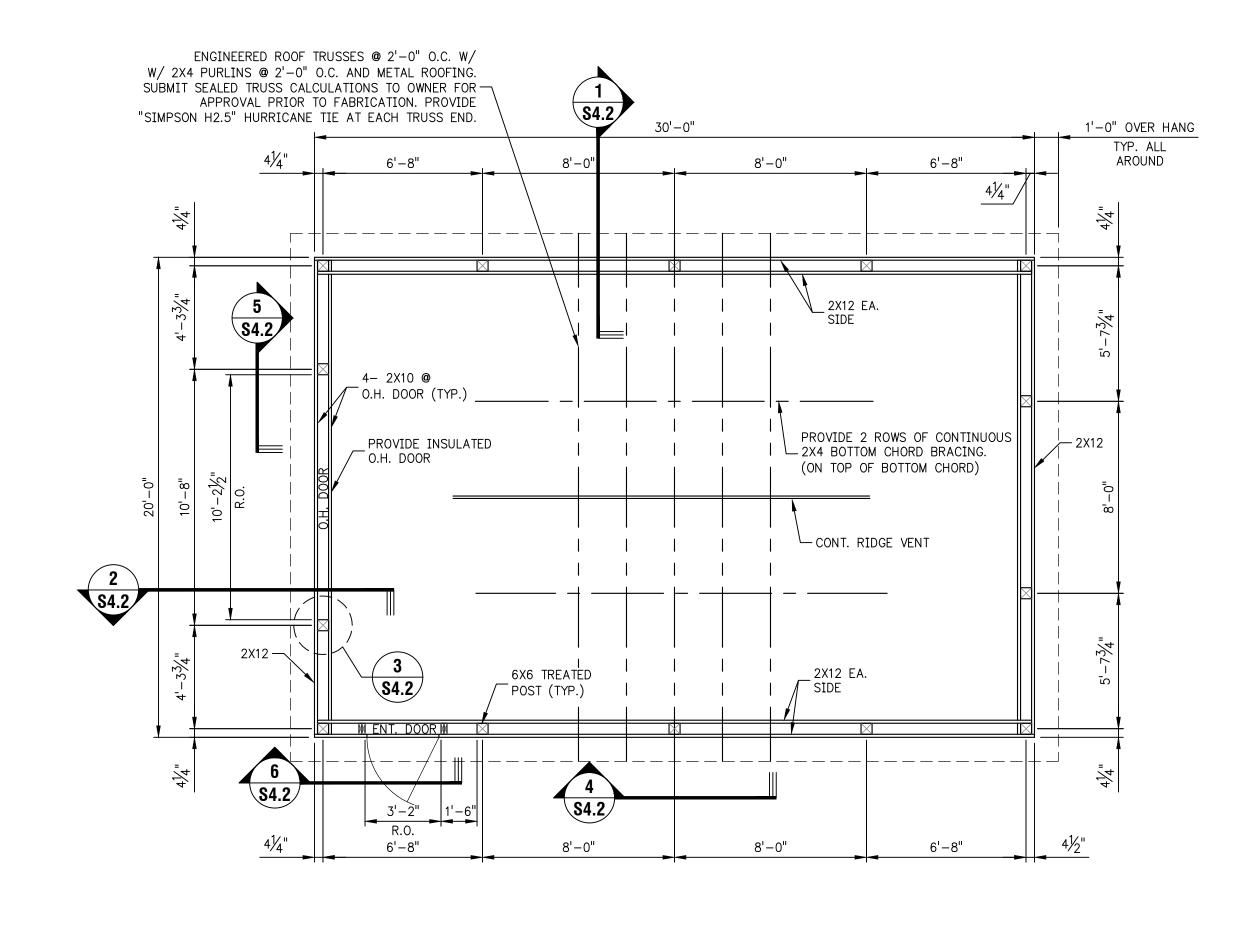
UNION TOWNSHIP, ISABELLA COUNTY, MICHIGAN

ENNIFER GRAHAM, P.E.

C. BALLANCE A. BELANGER

23349

23349\DWG\ENG\DIV C\23349_MECH ARCH STRUCT_DIV C.DWG (10/03/2411:14 AM) CBALLANCE



FRAMING PLAN SCALE: 1/4"=1'-0"

GENERAL NOTES

DESIGN:

STRUCTURAL DESIGN OF THIS BUILDING IS IN ACCORDANCE WITH THE MICHIGAN BUILDING CODE, 2015.

DESIGN LOADS:

SNOW LOAD

GROUND SNOW, Pg = 40 PSF

EXPOSURE FACTOR, Ce = 1.0 TERRAIN 'B', PARTIALLY EXPOSED

THERMAL FACTOR, Ct = 1.2

IMPORTANCE FACTOR, I =1.0, CATEGORY II

FLAT ROOF SNOW LOAD, Pf = Ps = 33.60 PSF

WIND LOAD

METHOD 1 - SIMPLIFIED PROCEDURE

EXPOSURE 'B'

TOPO FACTOR, Kzt = 1.0

IMPORTANCE FACTOR, I =1.0, CATEGORY II

EARTHQUAKE LOAD

Ss = 0.074g < 0.15g

Si = 0.036g < 0.04g

THEREFORE ASSIGN SEISMIC DESIGN CATEGORY 'A'

FOUNDATIONS:

ALL FOOTINGS SHALL BEAR ON UNDISTURBED SOIL HAVING A MINIMUM ASSUMED BEARING CAPACITY OF 1,500 P.S.F. THE ASSUMED BEARING CAPACITY SHALL BE VERIFIED BY GOURDIE FRASER PRIOR TO PLACING CONCRETE.

ALL ENGINEERED FILL SHALL BE PLACED IN LAYERS NOT EXCEEDING 9" IN LOOSE THICKNESS, AND COMPACTED TO A MINIMUM OF 95% OF MAXIMUM DRY DENSITY AS DETERMINED BY THE MODIFIED PROCTOR TEST.

ALL ENGINEERED FILL PLACEMENT SHALL BE TESTED AND APPROVED BY A SOILS TESTING LABORATORY.

SLAB-ON-GRADE AREA SHALL BE PROOF ROLLED. ALL SOFT SPOTS ENCOUNTERED SHALL BE REMOVED AND REPLACED WITH APPROVED FILL MATERIAL.

CONTRACTOR TO VERIFY AND/OR COORDINATE LOCATIONS OF ALL UNDERGROUND UTILITIES/PIPES.

CONTRACTOR SHALL NOTIFY ENGINEER IMMEDIATELY IN THE EVENT THAT THE SOILS ENCOUNTERED DO NOT PROVIDE THE ASSUMED BEARING CAPACITY.

CONCRETE:

ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE "AMERICAN CONCRETE INSTITUTE BUILDING CODE" (ACI 318) AND WITH "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS" (ACI 301), LATEST EDITIONS.

ALL NORMAL WEIGHT CONCRETE (145 P.C.F.) SHALL OBTAIN A MINIMUM 28 DAY COMPRESSIVE STRENGTH AS FOLLOWS:

- FOOTINGS: 3000 PSI
- SLABS-ON-GRADE: 3500 PSI
 STOOPS AND APRONS TO MATCH OR EXCEED ADJACENT SLAB STRENGTH

PROVIDE A TROWEL FINISH TO ALL INTERIOR CONCRETE AND A BROOM FINISH TO ALL EXTERIOR CONCRETE.

CALCIUM CHLORIDE AND/OR ADMIXTURES CONTAINING CALCIUM CHLORIDE SHALL NOT BE USED.

ALL CONCRETE SHALL BE AIR ENTRAINED 4% TO 6%.

TEST CYLINDERS SHALL BE MADE AND TESTED AS OUTLINED IN THE ACI-301 SPECIFICATION.

COLD WEATHER CONCRETING SHALL BE DONE IN ACCORDANCE WITH ACI-306, HOT WEATHER CONCRETING SHALL BE DONE IN ACCORDANCE WITH ACI-305, LATEST EDITIONS.

REINFORCING BARS SHALL BE DEFORMED BARS CONFORMING TO ASTM SPECIFICATION A-615, GRADE 60.

PROVIDE CONTRACTION JOINTS FOR SLAB-ON-GRADE AS SHOWN ON THE DRAWINGS.

NO CONCRETE SHALL BE POURED UNTIL THE CONCRETE DESIGN MIX(S) ARE REVIEWED AND APPROVED BY THE STRUCTURAL ENGINEER.

NO ALUMINUM OF ANY TYPE SHALL BE ALLOWED IN THE CONCRETE WORK, UNLESS COATED TO PREVENT ALUMINUM—CONCRETE REACTION.

NO ELECTRICAL CONDUIT OR PIPING SHALL BE EMBEDDED IN SLAB.

DOORS:

ENTRANCE DOOR TO BE 3'-0"X6'-8"X134" FLUSH FINISH, HOLLOW METAL, 16 GAUGE, EXPANDED FOAM CORE, WITH HOLLOW FRAME. PAINT WITH METALLIC PRIMER (GRAY). FINISH COLOR BY OWNER. PROVIDE GRADE 2 COMMERCIAL HARDWARE ENTRANCE LEVER SET AND STANDARD WEIGHT HINGES WITH SATIN STAINLESS STEEL FINISH. COORDINATE KEYING WITH OWNER.

OVERHEAD DOORS TO BE 10'-0"X8'-0" SECTIONAL, 16 GAUGE GALVANIZED, NON-INSULATED, FLUSH EXTERIOR, WITH WEATHERSEALS AND MANUALLY OPERATOR. OVERHEAD DOOR CORPORATION SERIES 416 OR EQUAL.

PROVIDE FLASHING AROUND ALL DOORS AND WINDOWS.

LUMBER:

POSTS: SOUTHERN PINE, NO. 2 DENSE OR BETTER, PRESSURE TREATED.

SKIRT BOARD: SOUTHERN PINE, NO. 2 OR BETTER, PRESSURE TREATED.

TRUSS SUPPORT HEADER: SOUTHERN PINE, NO. 2 DENSE OR BETTER.

GIRTS/PURLINS: SPRUCE-PINE-FIR, NO. 1/NO. 2 OR BETTER.

ROOFING:

PROVIDE APA RATED SHEATHING OF THICKNESS CALLED FOR ON DRAWINGS. PROVIDE ASPHALT SATURATED FELT UNDERLAYMENT. PROVIDE 3—TAB ASPHALT FIBERGLASS SHINGLES WITH MINIMUM 10 YEAR WARRANTY. COLOR AND STYLE TO BE SELECTED BY OWNER. PROVIDE CONTINUOUS RIDGE VENT AND DRIP EDGE.

SIDING:

PROVIDE VINYL SIDING IN STYLE AND COLOR AS SELECTED BY THE OWNER. PROVIDE CEDAR TRIM AT ALL DOORS, WINDOWS, OUTSIDE CORNERS, FACIA, ETC. PRIME AND FINISH PAINT ALL TRIM. COLOR SELECTED BY OWNER.

MISCELLANEOUS:

ALL EXISTING CONDITIONS MUST BE FIELD VERIFIED PRIOR TO BEGINNING WORK.

DO NOT SCALE DRAWINGS, USE DIMENSIONS.

THE STRUCTURE IS DESIGNED TO ACT AS A UNIT AND IS NOT STRUCTURALLY STABLE UNTIL COMPLETE. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL TEMPORARY BRACING REQUIRED TO INSURE STABILITY OF THE INDIVIDUAL STRUCTURAL COMPONENTS UNTIL THE STRUCTURE IS COMPLETED.

d in accordance with the contractual terms and conditions for this

CHARTER TOWNSHIP OF UNION

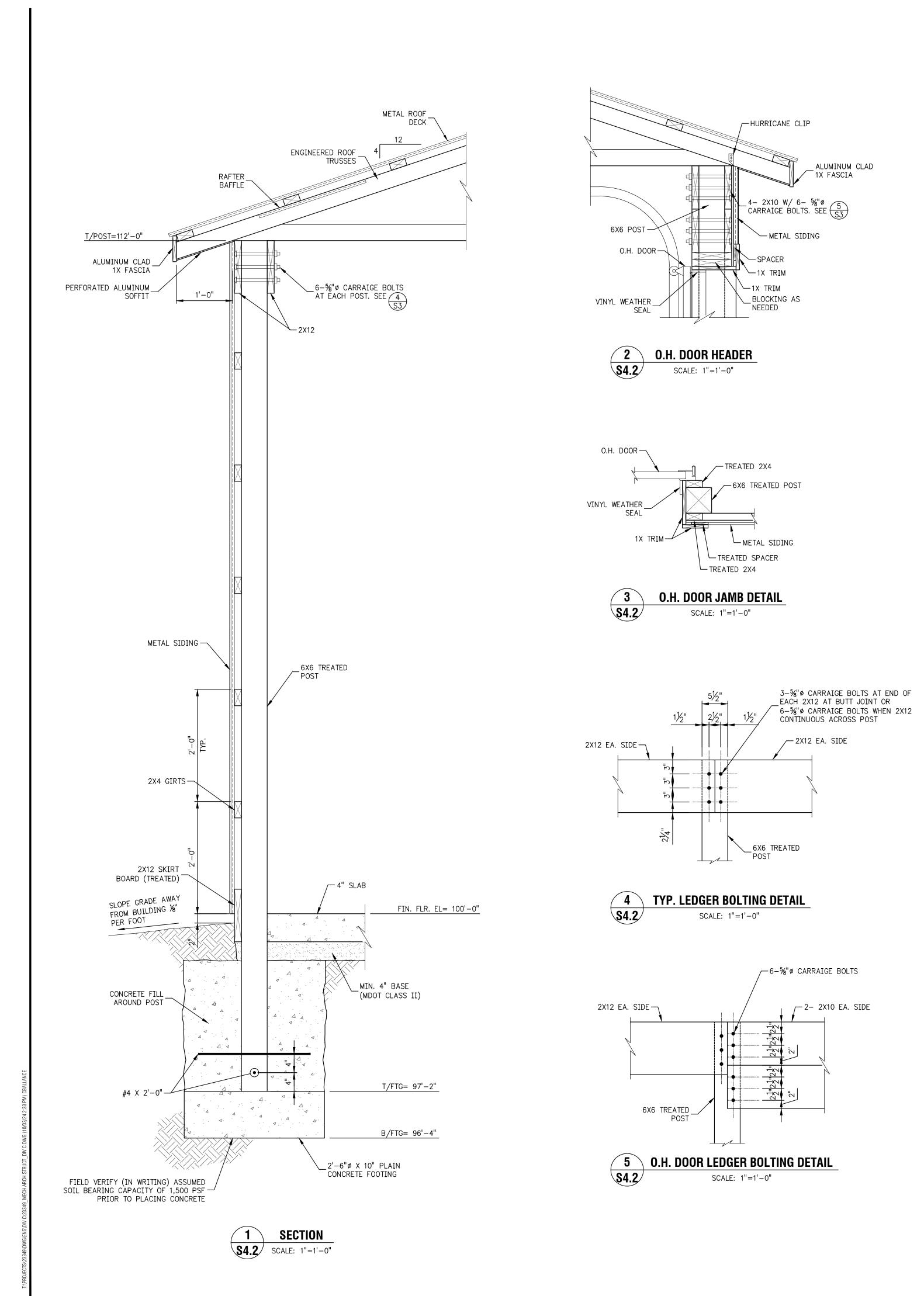
NATER TREATMENT PLANT UPGRADE

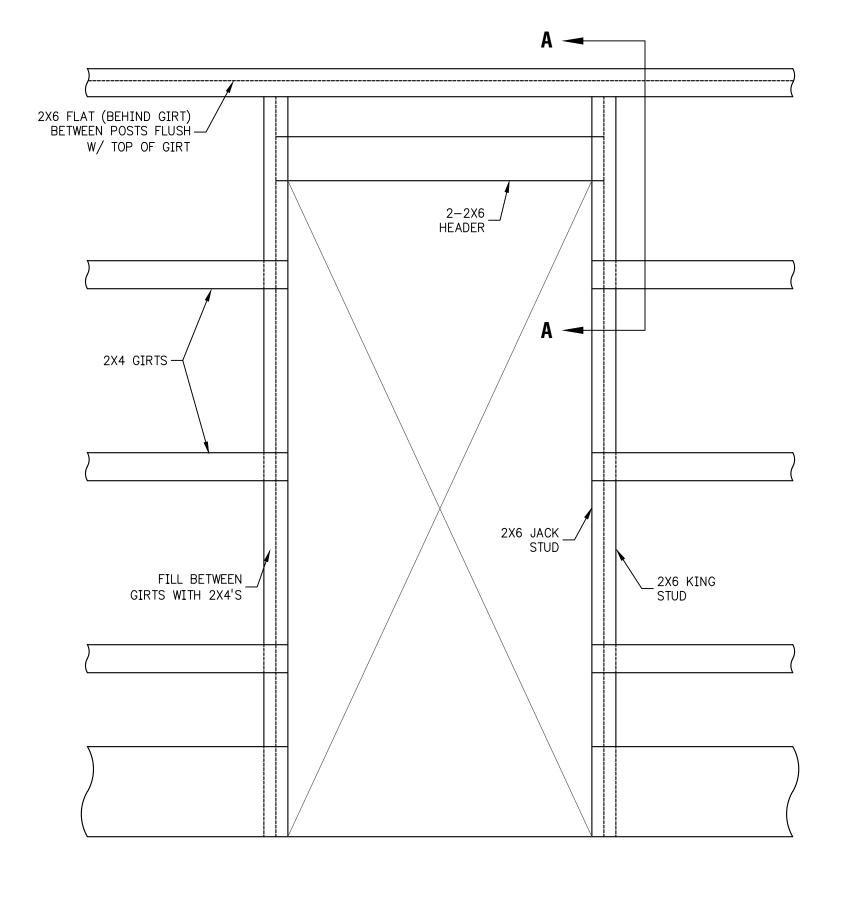
P - POLE BUILDING FOUNDATION & FRAMING IN SECTION 26, T.14 N., R.4 W.

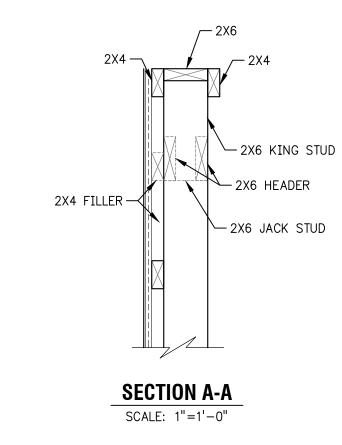
SECTION 26, T.14 N., R.4 W.

DIV. (ISABELLA

NNIFER GRAHAM, P.E.
CKD.:
A. BELANGER
10.:
23349



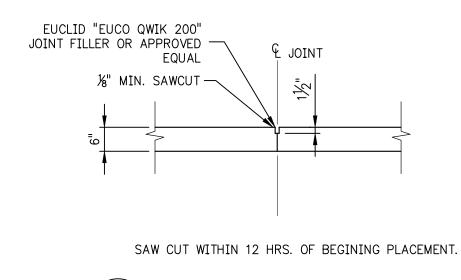




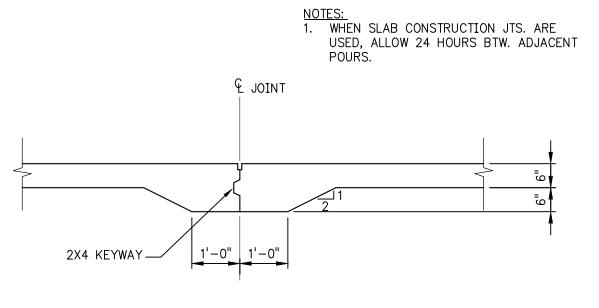
6 TYP. ENTRY DOOR FRAMING DETAIL

S3

SCALE: 1"=1'-0"



TYP. CONTRACTION JOINT (CNJ)



8 TYP. CONSTRUCTION JOINT (CNJ) SCALE: 1/2"=1'-0"

CHARTER TOWNSHIP OF UNION

DIV. C - WATER TREATMENT PLANT UPGRADES
ISABELLA WTP - POLE BUILDING SECTIONS & DETAILS
SECTION 26, T.14 N., R.4 W.
UNION TOWNSHIP, ISABELLA COUNTY, MICHIGAN

ENNIFER GRAHAM. P.E. 23349



|--|

NEER		
ENGINEER	SAS	æt
ECTAICAL	NEERING RVEYING RATIONS	ont Street

ENGIN SUF & OPEF

DESC	Review					accordance with the contractual terms and conditions for this project
DRN		JAV	JAV			h
DATE	09.25.2024 JAV	1	1			. d+i/w
REV#	-	2	3			rdon
						7000

CHARTER TOWNSHIP OF UNION

TER TREATMENT PLANT UPGRADES

A WTP - SITE LIGHTING CALCULATIONS

SECTION 35, T.14 N., R.4 W.

SECTION 35, T.14 N., R.4 W. C - WATER 1 ISABELA WTP DIV.

23349

SLC

ENNIFER GRAHAM, P.E.

Calculation Summary Project: Union Township Water Treatment Plant

10.0 + 0.0 + 0.0 + 0.0 + 0.0 + 0.0 + 0.0 + 0.0 + 0.0 + 0.0 + 0.0 $\begin{bmatrix} 0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 & +0.0 &$ $+^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0$ $+^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0.0} +^{0$

SITE LIGHTING CALCULATIONS

+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}

+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}+^{0.0}

SCALE: 1" = 30'-0"

SEE SPECIFICATION 16010 FOR APPROVED PRODUCT EQUIVALENTS TO THOSE SPECIFIED.

Type	Mount	Description	Lumen	Temp	CRI	Watts	Volt	Dim	Manufacturer	Catalog #	Notes
Α	Ceiling	8' Industrial LED Vaportite Industrial	9,000	3000K	80	66	120-277V	0-10V	Metalux	8VT2-LD5-9-DR-UNV-L835-CD1-WL-U	Mount to uni-strut attached to joists or directly to joists
A1	Ceiling	8' Industrial LED Vaportite Industrial	12,000	3000K	80	100	120-277V	0-10V	Metalux	8VT2-LD5-12-DR-UNV-L835-CD2-WL-U	Mount to uni-strut attached to joists or directly to joists
В	Wall	Wedge Wall Mounted Luminaire	2,705	4000K	70	20.1	120-277V	0-10V	McGraw-Edison	ISW-SA1A-740-U-SL3-xx-20K	xx = Architect/Owner to select finsih from standard list of finishes
B1	Wall	Wedge Wall Mounted Luminaire	2,705	4000K	70	20.1	120-277V	0-10V	McGraw-Edison	ISW-SA1A-740-U-SL3-xx-20K	xx = Architect/Owner to select finsih from standard list of finishes
EX	Wall	LED Exit Sign with Red lettering and White face	N/A	N/A	N/A		120-277V	N/A	Sure-Lites	SLX-7-R	

NOTES:

CAUTION !!!!!!!! E.C. SHALL VERIFY ALL ROUGH-IN ELEVATIONS, LOCATIONS AND/OR HEIGHTS OF ALL LIGHT FIXTURES, RECEPTACLE OUTLETS, T.V., COMPUTER, CLOCK OUTLETS, ETC. WITH ENGINEER. FAILURE TO DO SO WILL REQUIRE E.C. TO RELOCATE RESPECTIVE ITEMS AT THE E.C.'S EXPENSE.

2. CONNECT ALL EXIT SIGNS AHEAD OF THE LOCAL AREA LIGHTING'S CONTROL DEVICE (i.e., HAVING A DIRECT (HOT) CONNECTION TO THE BATTERY).

3. ALL LIGHTS IN THE BUILDING ARE CONNECTED TO A GENERATOR CIRCUIT AND WILL OPERATE WHEN THE GENERATOR STARTS WHEN NORMAL POWER

4. FEEDS TO NEW POWER, LIGHTING, LOW VOLTAGE AND FIRE ALARM DEVICES IN EXISTING WALLS SHALL BE ATTEMPTED IN EVERY WAY TO BE INSTALLED

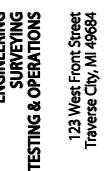


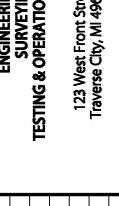










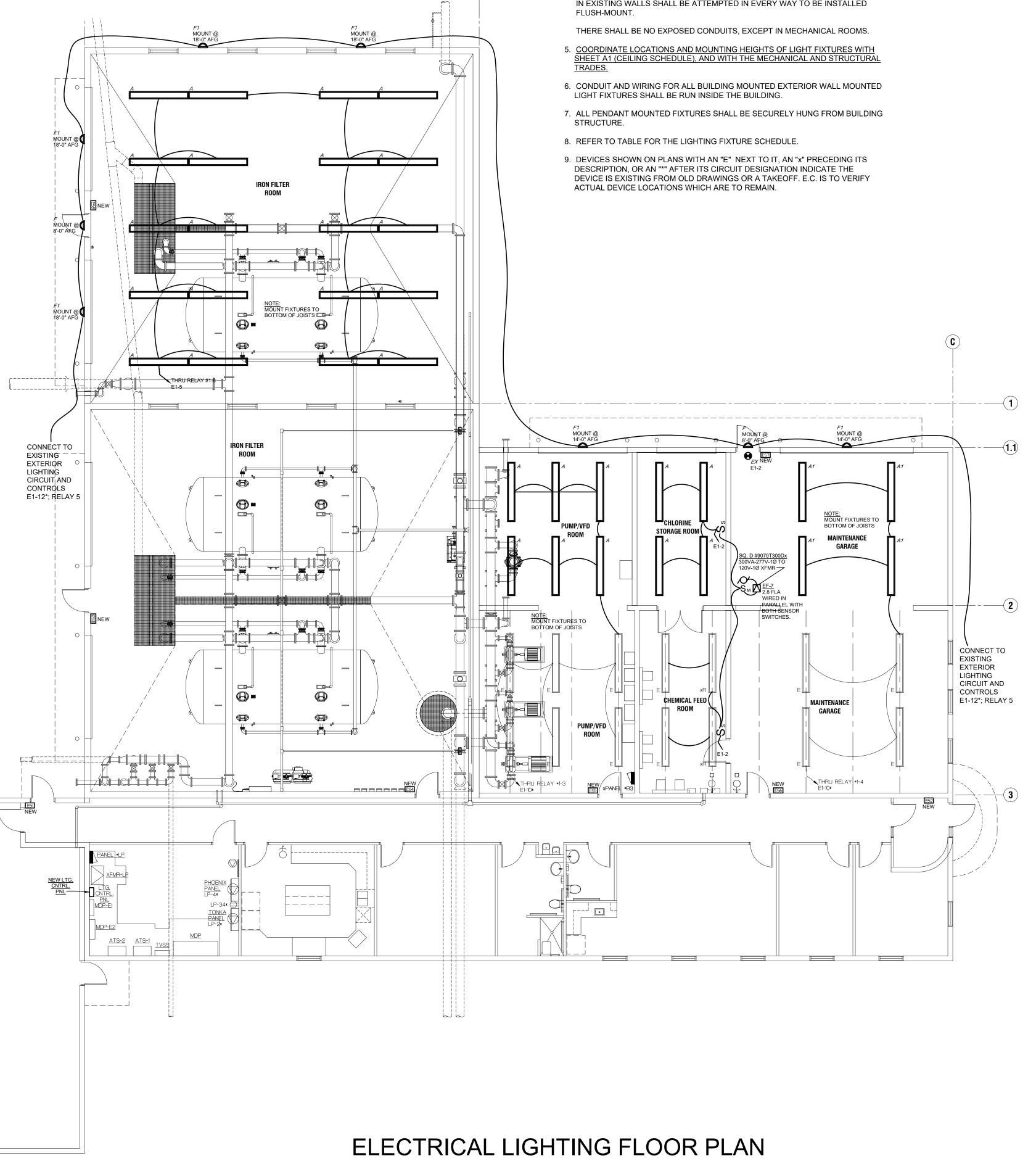




CHARTER TOWNSHIP OF UNION

DIV. C - WATER TREATMENT PLANT UPGRADES
ISABELA WTP - ELECTRICAL LIGHTING FLOOR PLAN
SECTION 35, T.14 N., R.4 W.
UNION TOWNSHIP, ISABELLA COUNTY, MICHIGAN

23349



McGraw-Edison Impact Elite LED

Wall Mount Luminaire

Product Certifications

ℯ Connected Systems

WaveLinx

Enlighted

Ordering Information page 2

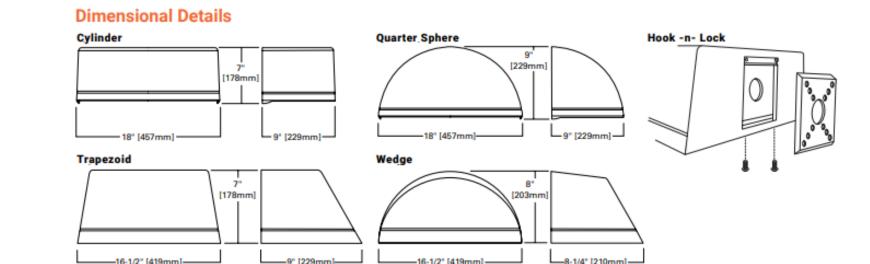
 Product Specifications page 2 Energy and Performance Data page 3

Control Options page 4

Quick Facts

 10 Optical Distributions Lumen packages range from 2,459 to 8,123

(20W - 66W) Efficacy up to 143 lumens per watt



SCALE: 1/8" = 1'-0"



Community and Economic Development Department

2010 S. Lincoln Rd. Mt. Pleasant, MI 48858 989-772-4600 ext. 232

COMBINED PRELIMINARY/FINAL SITE PLAN REPORT

TO: Planning Commission DATE: December 10, 2024

FROM: Peter Gallinat, Zoning Administrator ZONING: AG Agricultural District

PROJECT: PFINALSPR24-03 combined preliminary/final site plan approval application -

2024 Water Systems Upgrades - Division C Water Treatment Plant Upgrades.

PARCEL(S): PID 14-035-00-001-02

OWNER(S): Charter Township of Union

LOCATION: Approximately 13.5 acres located at 5228 S. Isabella Road in the NE 1/4 of Section

35.

EXISTING USE: Township Water Treatment **ADJACENT ZONING:** AG and SCIT.

Plant.

FUTURE LAND USE DESIGNATION: *Recreation/Institutional*: This category is designated primarily for indoor/outdoor recreation both private and publicly owned.

ACTION: To review the PFINALSPR24-03 preliminary site plan dated 10/01/2024 with modifications dated 12/06/24 for 2024 Water Systems Upgrades - Division C Water Treatment Plant Upgrades. Located at 5228 S. Isabella Road in the NE 1/4 of Section 35 and in the AG (Agricultural) District.

Site Plan Approval Process

Per Section 14.2.C. of the Zoning Ordinance, both preliminary site plan approval and final site plan approval are required for this project. Per Section 14.2.J., approval of a preliminary site plan by the Planning Commission "shall indicate its general acceptance of the proposed layout of buildings, streets, drives, parking areas, and other facilities and areas." Planning Commission approval of a final site plan "constitutes the final zoning approval for the project and allows for issuance of a building permit to begin site work or construction, provided all other construction and engineering requirements have been met" (Section 14.2.L.). Documentation of applicable outside agency permits and approvals will be required as part of a final site plan application.

Background Information

The existing Township Water Treatment Plant was constructed in 2010 to better serve the residents of the Charter Township of Union. The Township has proposed multiple improvements to the existing Water Treatment Plant located at 5228 S. Isabella Road. These include a total of 3,888-square-feet to the existing building, a 20-foot by 30-foot accessory building for storage, expanded pavement and an enlarged retention area. This site is considered non-conforming due to the site being developed before the current Township Zoning Ordinance 20-06 as amended.

Section 12.5 Nonconforming Sites

The purpose of this Section 12.5 (Nonconforming Sites) is to encourage improvements to existing sites in the Township that were developed before the site design requirements of this Ordinance were established or amended. This Section establishes requirements for prioritizing improvements to existing nonconforming sites that are intended to gradually bring the site into compliance with current Ordinance requirements. Nonconforming sites may be improved or modified without a complete upgrade of all site elements, subject to the following conditions:

- A. A nonconforming site shall not be improved or modified in a manner that increases its nonconformity.
- B. The proposed site improvements shall address public health, safety, and welfare by resolving public safety deficiencies and pedestrian/vehicle conflicts and improving emergency access.
- C. The proposed site improvements shall include at least three (3) of the following, as accepted by the Planning Commission:
 - 1. Preservation of natural resources or historical site features.
 - 2. Pedestrian access improvements.
 - 3. Vehicular access and circulation improvements.
 - 4. Building design or exterior facade improvements.
 - 5. Off-street parking or loading improvements.
 - 6. Landscaping improvements.
 - 7. Screening and buffering improvements.
 - 8. Exterior lighting improvements.
 - 9. **Drainage and stormwater management improvements.**
 - 10. Clean up or restoration of a blighted site, removal of contaminated soil, or similar environmental improvements.
- D. The scope of any additional site improvements requested by the Planning Commission shall be in reasonable proportion to the scale and construction cost of proposed building improvements, expansions, or other improvements.
- E. A reasonable timeline for completion of site improvements to an existing nonconforming site may be approved as part of any plan approval. Failure to complete improvements in accordance with an approved timeline shall be deemed a violation of this Ordinance.

The applicant noted on the plan section 12.5 and which of the 10 items the plan will improved. For this report, those items have been highlighted in **BOLD** above. There are no parking or loading improvements shown on the plan as explained within this report. Although only 3 items are required for section 12.5, loading and off-street parking are required for all projects.

The following items of required information must be addressed by the applicant on the site plan:

Add loading and parking area details to the plan, as noted in this report. Parking and
loading areas have been provided on the updated plan on page C2.2. that comply with
the zoning standards of each in Section 9. CONFORMS

Preliminary/Final Combined Site Plan Review Comments

1.	Buildin submit of requ 14.2.S.	14.2P and 14.2.S Required Site Plan Information, Standards for Site Plan Review) g elevation drawings are noted on the cover sheet as completed but were not ted. The site plan as presented is sufficient for preliminary review based on the scope sired information per section 14.2.P and standards for site plan approval in section <i>The following details will need to be added to a revised final site plan:</i> Provide the required building elevation drawings and other information as noted in
	J	Provide the required building elevation drawings and other information as noted in this report. The completed building elevation pages have been provided as A1.4 and A1.5. CONFORMS
2.	and EG	8 Environmental Performance Standards The hazardous substance reporting form LE permit checklist were missing from the initial site plan application submittal but ubsequently provided by the applicant. CONFORMS .
3.	square 3,888-s use red for any	9 (Off Street Parking and Loading Requirements). The existing building is 6,700-feet. The two additions of 21-feet by 64-feet, and 53-feet by 48-feet add an additional square-feet to the building for a total of 10,588-square-feet. A public and institutional puires 1 parking space per 1,000 square feet. Additionally, one loading area is required building at least 5,000 square-feet in size. <i>The following details will need to be added vised final site plan:</i>
		Add at least 4-additional parking spaces to the site. A total of 10 parking spaces are required for the expanded facility that are 9-feet in width and 18.5 feet in depth. At least one space must be a dedicated ADA compliant parking space. There are currently 6-parking spaces on the east side of the existing building. There is potential room to the north and west of the building for the additional 4-spaces required. The revised plan shows the six existing parking spaces in the east side of the existing building that contain one as ADA parking. Four additional parking spaces have been provided in the rear yard. All ten spaces are 9-feet wide and 18.5-feet in depth. CONFORMS
		Add the required loading area in the rear yard of the building that is at least 50-feet long and 10-feet wide with 15-feet of clearance. There is adequate space for such a loading area to the west of the 53-foot by 48-foot addition. A loading area with the required dimensions has been provided in the rear yard. CONFORMS
		Add the correct parking formula and calculations per Section 9 standards for public and institutional uses on the site plan along with the existing and proposed total numbers of parking spaces. The correct parking formula of 1-spaces required per 1,000 square-feet has been added to page C2.2. CONFORMS
4.	Section	8.2 (Exterior Lighting). A photometric plan with lighting manufacturer lighting

- 4. **Section 8.2 (Exterior Lighting).** A photometric plan with lighting manufacturer lighting specifications have been provided on page SLC & E1.1L. The lighting is under 10-foot-candles and the fixtures are down shielded as required by Section 8.2. **CONFORMS.**
- 5. **Section 10 (Landscaping and Screening).** While the site is non-conforming and no new landscaping is being proposed, the plan notes the removal of nine trees to the north. This is

to accommodate the drive aisle expansion. Further to the north there is substantial natural tree vegetation that screens the use from property to the north. **CONFORMS**

- 6. **Section 7.14 (Trash removal and Collection)** A 10-foot by 10-foot enclosure is planned for a dumpster. The location is in the rear yard as required and displayed on page C.2.2. Further details are shown on page C4.1. The enclosure is wood and is 6-feet high and will be on a 10-foot by 10-foot concrete pad as required. *The following details need to be added to a revised final site plan:*
 - □ Revise the concrete pad so that it extends at least 10-feet in front of the dumpster enclosure as required. This revision has been completed and found on page C.2.2. CONFORMS
 - Add details to the site plan for the bollards and the type of wood used to verify compliance with Section 7.14.D-E. These details have been added to page C4.1 and comply with Section 7.14. CONFORMS
- 7. **Section 7.10 (Sidewalks and Pathways)** The applicant has requested temporary relief from sidewalk construction in accordance with the adopted sidewalk policy of August 28, 2024. "Less than 50% of the surveyed section(s) of the Township along the road(s) fronting the proposed development has sidewalks. If on a corner lot, the mile will extend in both directions along the frontage roads. Once the threshold has been met the sidewalk or pathway shall be required to be constructed within 365 calendar days." Staff has no objection from a planning perspective to a Planning Commission action to grant this temporary sidewalk relief. <u>The following details should be a revised final plan:</u>
 - Add a proposed sidewalk connector from the proposed sidewalk along S. Isabella Road that will take pedestrians to the building, as also required by the Sidewalk and Pathway Ordinance and which would also be constructed in the future if the temporary relief were to be rescinded or the public sidewalk section otherwise constructed. The applicant and Engineer have reservations regarding a connecting sidewalk shown on the plan. Due to safety concerns the applicant and Engineer see a sidewalk connector from the road as a safety risk. The sidewalk ordinance is clear that sidewalk connections from the road must be shown on the plan. CAN CONFORM
- 8. **Outside agency approvals.** Outside agency reviews have been received from the Mt. Pleasant Fire Department, ICTC, Township Public Services, and Storm water management. Review from the Isabella County Road Commission would only be required for the portion of the proposed sidewalk within the S. Isabella Road right-of-way if the requested temporary relief from construction is not granted by the Planning Commission. **CAN CONFORM.**

Objective

The Planning Commission shall review the application materials and site plan, together with any reports and recommendations. The Planning Commission shall identify and evaluate all relevant factors and shall then take action by motion to approve the site plan, to approve the site plan

with conditions, to deny the site plan application, or to postpone further consideration of the site plan to a date certain in accordance with Section 14.2.H. of the Zoning Ordinance.

Key Findings

This project is a phase 2 project associated with an overall site plan previously approved in 2018 under the former Zoning Ordinance No. 1991-5.
 The proposed project is a nonconforming site that was established before the current Zoning Ordinance 20-06, as amended. The project can be consistent with the standards of Section 12.5 (Nonconforming Sites), provided required modifications are made on a final site plan.
 With the exception of details and recommended changes that can be addressed by the applicant on the final site plan, the plan conforms to Section 14.2.P. (Required Site Plan Information) and Section 14.2.S. (Standards for Site Plan Approval) for a preliminary site plan. As presented, the site plan is not sufficiently complete for final site plan approval.
 Both sidewalks along S. Isabella Road and a connecting sidewalk to the building on site must be shown on the plan. Both sidewalks are eligible for sidewalk relief consideration by the Planning Commission. If construction of the sidewalks is ordered, a review by the Isabella

Recommendations

County Road Commission will be required for the portion of the sidewalk that falls within the

Based on the above findings, I recommend with condition that the Planning Commission take action to approve the PFINALSPR24-03 for preliminary & final site plan approval dated 10/01/2024 & 12/06/24 (as revised) for Water Systems Upgrades - Division C Water Treatment Plant Upgrades located at 5228 S. Isabella Road in the NE 1/4 of Section 35 and in the AG (Agricultural) District.

☐ Condition that a sidewalk connector from S. Isabella Road to the building be shown on a revised plan for administrative approval before a building permit is issued.

Please contact me at (989) 772-4600 ext. 241, or via email at pgallinat@uniontownshipmi.com, with any questions about this information.

Respectfully submitted,

Road right-of-way.

Peter Gallinat, Zoning Administrator

Community and Economic Development Department

<u>Draft Motions</u>: PSPR 24-03 Combined Preliminary - Final Site Plan Review Application Upgrades to the Township's Water Treatment Plant at 5228 S. Isabella Road

MOTION TO APPROVE THE C	COMBINED PRELIMINARY – FINAL SITE I	PLAN AS PRESENTED:					
Motion by	, supported by	, to <u>approve</u>					
	eliminary and final site plan dated						
upgrades to the Township's \	Water Treatment Plant on approximatel	y 13.5 acres of land at 5228					
S. Isabella Rd. (PID14-035-20-	-001-02) in the northeast quarter of Sec	tion 35, finding that the site					
plan fully complies with the a	applicable Zoning Ordinance requireme	nts for preliminary and final					
site plan approval, includin	g Sections 14.2.P. (Required Site Plan	n Information) and 14.2.S.					
(Standards for Site Plan Appr	oval).						
MOTION TO APPROVE THE C	COMBINED PRELIMINARY – FINAL SITE I	PLAN WITH CONDITIONS:					
	, supported by						
the PSPR24-03 combined pro	eliminary and final site plan dated	, 2024 for					
upgrades to the Township's \	Water Treatment Plant on approximatel	y 13.5 acres of land at 5228					
S. Isabella Rd. (PID14-035-20-	-001-02) in the northeast quarter of Sec	tion 35, finding that the site					
	plan can comply with the applicable Zoning Ordinance requirements for $\underline{\text{preliminary and final}}$ site						
plan approval, including Sect	ions 14.2.P. (Required Site Plan Informa	tion) and 14.2.S. (Standards					
for Site Plan Approval), <u>subje</u>	ct to the following condition(s):						
,							
MOTION TO APPROVE ONLY	THE PRELIMINARY SITE PLAN AS PRES	ENTED:					
	, supported by						
	nary site plan dated						
•	ment Plant on approximately 13.5 acres						
•	the northeast quarter of Section 35, fin						
	Zoning Ordinance requirements for pre						
	equired Site Plan Information) and 14.2	2.3. (Standards for Site Plan					
Approval).							

<u>Draft Motions</u>: PSPR 24-03 Combined Preliminary - Final Site Plan Review Application Upgrades to the Township's Water Treatment Plant at 5228 S. Isabella Road

MOTION TO APPROVE ONLY THE PRELIMINARY SITE PLAN WITH CONDITIONS:		
Motion by	, supported by	, to <u>approve</u>
	iminary site plan dated	
	eatment Plant on approximately 13.5 acres	
Rd. (PID14-035-20-001-0	2) in the northeast quarter of Section 35, fi	nding that the site plan can
comply with the applical	ole Zoning Ordinance requirements for <u>pre</u>	<u>liminary</u> site plan approval,
including Sections 14.2.P	P. (Required Site Plan Information) and 14.2	2.S. (Standards for Site Plan
Approval), <u>subject to the</u>	following condition(s):	
	ACTION:	
		to wasturous setions
	, supported by	
	ned preliminary and final site plan dated p's Water Treatment Plant at 5228 S. Isabella	
	p's water freatment Flant at 3228 3. Isabelia, 2025 for the following reasons:	3 Nu. (P1D14-055-20-001-02)
MOTION TO DENY:		
Motion by	, supported by	, to <u>deny</u>
the PSPR24-03 combined	d preliminary and final site plan dated	, 2024 for
upgrades to the Townshi	p's Water Treatment Plant on approximatel	y 13.5 acres of land at 5228
S. Isabella Rd. (PID14-035	5-20-001-02) in the northeast quarter of Sec	tion 35, finding that the site
•	h applicable Zoning Ordinance requirement	•
•	mation) and 14.2.S. (Standards for Site Plan	Approval), <u>for the following</u>
<u>reasons</u> :		