



PLANNING COMMISSION MEETING

LOCATION: TOWNSHIP ANNEX, 7527 HIGHLAND ROAD, WHITE LAKE, MI 48383
THURSDAY, AUGUST 15, 2024 – 6:30 PM

White Lake Township | 7525 Highland Rd | White Lake, MI 48383 | Phone: (248) 698-3300 | www.whitelaketwp.com

AGENDA

1. CALL TO ORDER
2. ROLL CALL
3. PLEDGE OF ALLEGIANCE
4. APPROVAL OF AGENDA
5. APPROVAL OF MINUTES
 - A. [June 20, 2024](#)
6. CALL TO THE PUBLIC (FOR ITEMS NOT ON THE AGENDA)
7. PUBLIC HEARING
8. CONTINUING BUSINESS
 - A. [Lakepointe](#)
[Location: Located on the northeast corner of Union Lake Road and Carpathian, consisting of approximately 13.32 acres. The property is currently zoned PD \(Planned Development\). Identified as parcel numbers 12-36-177-002 and 17-36-177-003.](#)
[Request: i\) Final site plan re approval](#)
[ii\) Revised Planned development agreement approval](#)
[Applicant: Fairview Construction Company](#)
9. NEW BUSINESS
 - A. [Review and discussion of the 2025-2030 draft Capital Improvement Plan \(CIP\)](#)
10. LIAISON'S REPORT
11. PLANNING CONSULTANT'S REPORT
12. DIRECTOR'S REPORT
13. OTHER BUSINESS
14. COMMUNICATIONS
15. NEXT MEETING DATE: September 5, 2024
16. ADJOURNMENT

Procedures for accommodations for persons with disabilities: The Township will follow its normal procedures for individuals with disabilities needing accommodations for effective participation in this meeting. **Please contact the Township Clerk's office at (248) 698-3300 X-164 at least two days in advance of the meeting.** An attempt will be made to make reasonable accommodations.

**WHITE LAKE TOWNSHIP
PLANNING COMMISSION
JUNE 20, 2024**

CALL TO ORDER

Chairperson Seward called the meeting to order at 6:30 P.M. He then led the Pledge of Allegiance.

ROLL CALL

Present:

- T. Joseph Seward, Chairperson
- Debby Dehart
- Merrie Carlock, Vice Chairperson
- Mona Sevic
- Robert Seeley
- Pete Meagher
- Matt Slicker
- Steve Anderson (arrival at 6:39 P.M.)

Absent:

- Scott Ruggles, Township Board Liaison

Others:

- Sean O’Neil, Community Development Director
- Andrew Littman, Staff Planner
- Hannah Kennedy-Galley, Recording Secretary

APPROVAL OF AGENDA

MOTION by Commissioner Seeley, seconded by Commissioner Carlock to approve the agenda as presented.

APPROVAL OF MINUTES

- A. May 16, 2024

MOTION by Commissioner Seeley, seconded by Commissioner Sevic to approve the minutes of May 16, 2024 as presented. The motion carried with a voice vote: (7 yes votes).

CALL TO THE PUBLIC (FOR ITEMS NOT ON THE AGENDA)

None

PUBLIC HEARING

- A. **12-16-200-030 - Rezoning Request**
 Location: Property described as Parcel Number 12-16-200-030, located south of Hitchcock Road, on the west side of Haley Road, consisting of approximately 15 acres.
 Request: **Applicant requests to rezone the parcel from AG (Agricultural) to SF**

(Suburban Farms) or any other appropriate zoning district.

Applicant: Lisa Gulda

Director O'Neil gave a brief report of the applicant's request.

Commissioner Sevic asked staff if the surrounding lots on the west side of Haley Road wooded. Director O'Neil confirmed.

Chairperson Seward opened the public hearing at 6:42 P.M.

Jeremy Kelly, said he owned the parcels to the south west of the subject site, and said there was a court order document that stipulated the allowed acreage for the splits.

Director O'Neil said the only matter being considered tonight was the rezoning. The splits would be done through the Assessing Department, and was a separate matter from the rezoning request. The issue of the splits and the court order should not have bearing on the rezoning request.

Mr. Kelly stated that his acreage was set up for a conservation sanctuary, per his late father's wishes.

Beverly Hurst, 7430 Hitchcock, wanted to know the specifics of the rezoning request. Director O'Neil said roughly 10 acres of the property was Suburban Farm, and about five acres of the property was Agricultural.

Anthony Dubay, 7785 Haley, spoke against the applicant's request. He wanted to see bigger acreage lots, and would rather see three houses than five.

Laura Meyer, 2880 Haley Road, spoke in opposition of the applicant's request and expressed her concern about increased traffic on Haley Road.

Christopher Young, 7755 Haley Road, expressed concerns about potential endangered species inhabiting the property.

Mark Hurst, 7430 Hitchcock Road, asked staff's reasoning for advocating for the request.

Michael Meyer, 7685 Haley Road, wanted to know how a decision on the rezoning request could be made without the lot splits. Director O'Neil said today's request was changing land use, and the land division did not come through the Planning Commission, and was a separate process.

Beverly Hurst, 7430 Hitchcock, said a rezoning needed to take account into what would occur on the property in the future. It would be impactful to the residents and Haley Road.

Derrick Hunt, 7476 Hitchcock, said he grew up on the road and was concerned about the water table and the wildlife. He wanted to keep the late Terry Kelly's dream alive by leaving the property as is.

Chairperson Seward closed the public hearing at 7:05 P.M.

Commissioner Dehart said she did not like split zoning, and the property owners had a right to have the same zoning as the surrounding neighbors

MOTION by Commissioner Meagher, seconded by Commissioner Slicker to recommend the Township approve the rezoning requested by Lisa Gulda for vacant parcel 12-16-200-030 from AG (Agricultural) to SF (Suburban Farm). The motion carried with a voice vote: (8 yes votes). (Meagher/yes, Seeley/yes, Dehart/yes, Carlock/yes, Seward/yes, Anderson/yes, Slicker/yes, Sevic/yes).

CONTINUING BUSINESS

A. West Valley

Location: Identified as parcel 12-36-176-003, located on the west side of Union Lake Road, across from Carpathian Drive, and north of Cooley Lake Road, consisting of approximately 15 acres.

Currently zoned as (RM-1) Attached Single Family

Request: **Final site plan re-approval**

Applicant: Fairview Construction Company

Director O’Neil briefly summarized the applicant’s request. The secondary access drive off of Casa Loma had been eliminated, per the Fire Department.

Commissioner Anderson asked staff if the developer would be accountable for the Comfort Care’s secondary access. Director O’Neil said the developer would be working out those details with the Comfort Care team.

Jason Emerine, 3925 Country Club Drive, said the Cedar Island Road ROW did tie into the property line. He had met with the Fire Chief and Fire Marshal and spoke at length regarding the removal of the secondary access point. A turning access plan was provided, and a paved access road would be provided to the property line. A fire access easement would also be included. All three were requirements from the Fire Marshal in order to eliminate the secondary access road. The developer would provide the access road to the property line, and Comfort Care would take care of the access road beyond the property line.

The water main connection would be provided for future connection, including a 12” main with a stub.

It was **MOVED** by Commissioner Seeley, seconded by Commissioner Sevic, to approve the final site plan for West Valley, identified as vacant parcel 12-36-176-003, located on the west side of Union Lake Road, across from Carpathian Drive, and north of Cooley Lake Road, consisting of approximately 15 acres, zoned as (RM-1) Attached Single Family. The motion carried with a voice vote: (8 yes votes).

NEW BUSINESS

None.

OTHER BUSINESS

None.

LIAISON'S REPORT

The ZBA met last month; there were five applicants. There was one denial and four approvals. Parks and Recreation did not meet this month. Rockin the Farm would be held on July 20 at Fisk Farm.

DIRECTOR'S REPORT

The zoning ordinance amendments were adopted at the Board meeting this past Tuesday. Sanitary sewer caps were added to the Elizabeth Lake Road reconstruction project. Several lakes received fireworks permits.

The bond sale for the Triangle Trail and Stanley parks projects went through. Triangle Trail was near completion. The Elizabeth Lake Road reconstruction project was moving along, there was hope the road would be opened by the beginning of the school year. The bid opening for the sitework was today, and at a preliminary glance, the bids were on budget. The bid package for the building would go out in a week, and be open for a few weeks. A bid opening for the buildings was tentatively scheduled for late July, with the award expected in early August. The CIP update would be underway soon.

The new Staff Planner, Andrew Littman, was introduced. He worked at McKenna previously, and had also worked at Gibbs Planning Group. He was looking forward to working at the Township. Welcome Andrew!

COMMISSIONER COMMENTS

Commissioner Dehart complimented Carter's Plumbing on their site improvements. She wanted beautification to the roundabouts in the Township.

NEXT MEETING DATE: August 1, 2024

ADJOURNMENT

MOTION by Commissioner Meagher, seconded by Commissioner Slicker, to adjourn at 7:58 P.M. The motion carried with a voice vote: (8 yes votes).

Director's Report

Project Name: Lakepointe
 Description: Final site plan and PDA re-approval
 Date on Agenda this packet pertains to: August 15, 2024

- Public Hearing
- Initial Submittal
- Revised Plans
- Preliminary Approval
- Final Approval
- Special Land Use
- Rezoning
- Other: PDA re-approval

Contact	Consultants & Departments	Approval	Denial	Approved w/Conditions	Other	Comments
Sean O'Neil	CDD Director	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Subject to all staff and consultant review comments being addressed.
DLZ	Engineering Consultant	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See letters dated 04/10/2024 and 008/07/24.
Justin Quagliata	Former Staff Planner	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See letter dated 04/02/2024.
John Holland	WLT Fire Chief	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See letter dated 03/24/2024.
Lisa Hamameh	Township Attorney	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See letter dated 08/07/2024.



INNOVATIVE IDEAS
EXCEPTIONAL DESIGN
UNMATCHED CLIENT SERVICE

April 10, 2024

Sean O' Neil, Director
Community Development Department
Charter Township of White Lake
7525 Highland Road
White Lake, Michigan 48383

RE: Lake Pointe – Final Site Plan and Final Engineering Plan –7th Review

DLZ # 1745-0385-00

Dear Mr. O' Neil,

Our office has reviewed the above-mentioned revised plans prepared by Seiber, Keast, Lehner Engineering and dated February 13, 2024. These plans were reviewed for conformance with the Township Engineering Design Standards. We offer the following comments for your consideration:

Please note that comments from our December 21, 2023 review are listed in *italics*. Responses to those comments are listed in **bold**. New comments are listed in standard type.

Preliminary Site Plan Comments-The following comments from our Preliminary Site Plan review letter dated January 7, 2020 will need to be addressed:

Grading/Paving

1. *The proposed bypass lane on the west side of the Union Lake Road has been removed from this submittal. We defer to Oakland County Road Commission regarding the requirements for this bypass lane.* **Comment remains as a notation.**

Storm Sewer & Storm Water Management

1. *The plans have been revised to utilize detention instead of retention. A detention basin outlet has been provided which will leave the site, cross Union Lake Road, and discharge through the West*

Valley site which is currently under common ownership. The FEP plans for both developments will need to be coordinated to ensure capacity is available in the West Valley development and proposed outlet. Condo Documents will need to be clarified for both developments regarding shared maintenance responsibility. The Road Commission for Oakland County will need to approve and permit the proposed storm sewer outlet crossing. **Comment remains as a notation. We also note that the FEP plans for both developments have been coordinated and that capacity is available in and accounted for in the West Valley storm sewer system. A supplemental sheet (Overall Storm Water Management System “West Valley & Lake Pointe”) has been included in the FEP sets for both developments.**

Final Site Plan/Final Engineering Plan Comments-

Grading/Paving

1. An off- site easement will be required from Independence Village for construction of proposed sidewalk should the area for construction fall outside the existing Union Lake Road right of way. Please verify location of right of way relative to proposed sidewalk. Comment remains. Design engineer has indicated that the applicant will be sending an easement request to the Independence Village owner requesting an easement for the sidewalk that is proposed across the Independence Village frontage. **Comment remains as a notation.**
2. Note that the grading plan has been reviewed for general conformance with the Township’s requirements for grading. More detailed grading reviews will be conducted on individual buildings at time of plot plan submittal. **Comment remains as a notation.**

Sanitary Sewer

1. The sanitary sewer proposed along the Union Lake Road frontage is proposed to be constructed as part of the proposed West Valley development. Note that approval of this development is subject to the approval of that offsite sanitary sewer, and it must be available for use by this development. In addition, an off-site easement will be required from Independence Village granted to West Valley for construction of proposed sanitary sewer should the area for construction fall outside the existing Union Lake Road right of way. Please verify location of right of way relative to proposed sanitary sewer. Design engineer has noted that the existing sanitary sewer to the northwest along Union Lake Road is within the future 60’ half right of way for Union Lake Road. **Comment remains as a notation in regard to West Valley approval requirements.**
2. It should be noted that the REU unit assignment factor of 0.6 REU per unit is acceptable for the purpose of capacity calculations however the Township Ordinance requires 1.0 REU per unit for the purpose of capital connection charges. **Comment remains as a notation.**



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WLT- Lake Pointe- FSP/FEP Review.07

April 10, 2024

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3. *Approvals/permits will be required from OCWRC and EGLE. Once sanitary sewer revisions have been addressed, please provide signed & sealed electronic set for submittal to WRC along with a completed part 41 Permit Application. Easement exhibits have been submitted for review and comments were provided in our April 6, 2021 review letter. Please provide revised easement exhibits for review. Comment addressed. Revised easement exhibits were submitted, and outstanding comments have been addressed. Please reference our April 28, 2021 PDA review letter. In addition, a signed and sealed electronic set for sanitary sewer permit application and a Part 41 permit application have recently been provided. We note that EGLE held the previous permit submittal until the sanitary sewer plans and permit application were submitted for West Valley. No sanitary sewer permit has been issued for Lake Pointe. Resubmittal of plans and permit application to EGLE is currently in process. **Comment remains as a notation.***

Watermain

1. *The plans show a 20-foot-wide watermain easement which is acceptable. Easement exhibits shall be provided for review as attachments to the Township standard conveyance document. Easement exhibits have been submitted for review and comments were provided in our April 6, 2021 review letter. Please provide revised easement exhibits for review. Comment addressed. Revised easements exhibits were submitted, and outstanding comments have been addressed. Please reference our April 28, 2021, PDA review letter. **Comment remains as a notation.***
2. *A permit will be required from EGLE for the watermain portion of the project. Once the watermain items have been addressed, please provide 5 signed & sealed hard copies of applicable plan sheets along with a completed, electronic Act 399 permit application for Township signature and submittal to EGLE. Comment outstanding; An EGLE Act 399 permit was issued April 14, 2021 and is valid for 2 years, so it is now expired. The permit will need to be renewed. Comment addressed. Signed and sealed plans and permit application for watermain permit renewal have been submitted electronically to our office; submittal to the appropriate agencies for permit renewal is currently in process. **Comment remains as a notation.***

Stormwater Management

1. *A Storm Water Management Facilities Easement, Maintenance Agreement and Lien document will need to be completed and exhibits provided for review. Easement exhibits have been submitted for review and comments were provided in our April 6, 2021 review letter. Please provide revised easement exhibits for review. Comment addressed. Revised easements exhibits were submitted, and*



INNOVATIVE IDEAS
EXCEPTIONAL DESIGN
UNMATCHED CLIENT SERVICE

WLT- Lake Pointe- FSP/FEP Review.07

April 10, 2024

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outstanding comments have been addressed. Please reference our April 28, 2021, PDA review letter.

Comment remains as a notation.

2. *Flows from the proposed detention basin for this development are proposed to be routed through proposed storm sewer in the proposed West Valley development to the southeast on the south side of Union Lake Road. Note that the West Valley development will require Final Engineering Plan approval prior to approval of Lake Pointe, since the feasibility of Lake Pointe will depend on installation of storm sewer within the West Valley development. **Comment remains as a notation.***
3. *The footings for the proposed retaining wall along the east and southeast part of the property will need to be placed such that the footings have no negative influence with respect to vertical or lateral stresses on the adjacent storm sewer. Please verify this will not occur. Comment partially addressed. The design engineer has stated that “The retaining wall has not yet been designed. The retaining wall has been shifted so the face of wall is at least 10 feet away (horizontally) from the storm sewer. Given that the depth of the storm sewer is less than 10 feet and that the retaining wall will have some sort of buried foundation depth, the retaining wall foundation loads on underlying soils should not have an influence on the storm sewer.” We request that the engineer who will design the wall provide an analysis of the loads and potential impacts the wall may have on surrounding utilities. Please provide completed analysis to our office. Comment addressed; signed & sealed wall design calculations have been provided. Note the wall calculations have not been reviewed by this office but will be filed with the project documents for future reference. **Comment remains as a notation.***
4. **Since Lake Pointe is dependent on West Valley for conveyance of stormwater flows from the Lake Pointe site, we are requesting confirmation from EGLE that they are aware of Lake Pointe’s stormwater contribution to West Valley’s ultimate stormwater outlet and that EGLE has evaluated and approves of this. This confirmation shall be required prior to final engineering approval for Lake Pointe.**

Required Permits and Approvals

The following permits and approvals will be required:

1. Permit from the Road Commission for all work within the Union Lake Road Right-Of-Way including the proposed storm sewer crossing.
2. SESC permit from OCWRC. **Permit #000698-2021-CO issued 2021.**
3. A Notice of Coverage for Stormwater Discharge under the NPDES program as administered by EGLE is required.
4. Watermain permit from EGLE (Expired)- Renewal of permit in progress.



INNOVATIVE IDEAS
EXCEPTIONAL DESIGN
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5. Sanitary sewer permit from OCWRC (We found record of approval from May 17, 2021; OCWRC Job #S21-0125 CW). It will have to be determined if this is still valid or if resubmittal is required.
6. Sanitary sewer permit from EGLE (We recall EGLE was holding their review of plans until West Valley plans were submitted for review concurrently)
7. Executed Stormwater Maintenance Agreement
8. Easements for Sanitary Sewer and Watermain
9. Sidewalk easement from Independence Village

Recommendation

The plans are approvable subject to the applicant acquiring the approvals/permits referenced above, and the related West Valley approvals including that mentioned in Comment 4 under Stormwater Management above.

Please contact our office should you have any questions.

Sincerely,

DLZ Michigan

Michael Leuffgen, P.E.
Department Manager

Victoria Loemker, P. E.
Senior Engineer

Cc: Justin Quagliata, Community Development, *via email*
Hannah Kennedy-Galley, Community Development, *via email*
Aaron Potter, DPS Director, White Lake Township, *via email*
Jason Hanifen, Fire Marshall, White Lake Township, *via email*

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Rik Kowall, Supervisor
Anthony L. Noble, Clerk
Mike Roman, Treasurer



Item A.
Scott Ruggles
Liz Fessler Smith
Andrea C. Voorheis
Michael Powell

WHITE LAKE TOWNSHIP

7525 Highland Road • White Lake, Michigan 48383-2900 • (248) 698-3300 • www.whitelaketwp.com

April 2, 2024

JMF White Lake, LLC
1700 W. Big Beaver Road, Suite 120
Troy, MI 48084

ATTN: Michael Furnari

**RE: Lake Pointe – Final Site Plan Backcheck #4
Parcel Number 12-36-177-003**

Dear Mr. Furnari:

Community Development Department staff have completed the second backcheck for the above referenced project. The following comments from the previous backcheck dated December 26, 2023 are listed below. Responses to those comments are provided in **(green)**.

- All required landscape areas in excess of 200 square feet shall be irrigated to assist in maintaining a healthy condition for all plantings and lawn areas. **An irrigation plan shall be provided. (Comment outstanding).** **(Comment addressed. Sheet LS-3 has been revised accordingly).** **(Note: an irrigation plan dated February 3, 2024 (revision date February 21, 2024) has been provided).**
- All required site irrigation systems shall include a rain sensor or similar measure to ensure irrigation does not occur during or shortly after precipitation events. All site plans shall note installation of required irrigation. **Add note to landscape plan. (Comment addressed. A note has been added to Sheet LS-3).**
- Trees shall not be planted closer than four feet to a property line. **Add note to landscape plan. (Comment partially addressed. Note 22 has been added to Sheet LS-1. However, the spelling of the word “planted” is incorrect and shall be addressed).** **(Comment addressed. Note 22 has been revised).**
- Trees identified for protection during construction and the means of protection shall be identified prior to final site plan. No construction shall occur until tree protection has been installed and approved by the Community Development Director. **Add note to landscape plan. (Comment addressed. A note has been added to Sheet LS-3).**
- Austrian Pine and White Pine are not an acceptable evergreen tree. **Pine trees are prohibited in the Township. Revise landscape plan to provide an acceptable species of evergreen tree and remove all references to pine trees. (Comment partially addressed. The landscape legend on Sheet LS-2 still lists pine species. Revise the landscape legend accordingly).** **(Comment remains outstanding).** **(Comment outstanding. Contrary to the response letter, the landscape legend on Sheet LS-2 still needs revision)**

- No more than two planted trees in a row shall be of the same species. **Revise landscape plan. (Comment outstanding).** (Comment addressed. Tree cluster/grouping planting notes have been added to Sheet LS-2).
- The landscape plan mentions mulch. Per the Zoning Ordinance, the mulch product itself shall be at least doubled-shredded quality. **Revise landscape plan. (Comment partially addressed. The tree planting, evergreen planting, and shrub planting details on Sheet LS-2 still do not note double-shredded mulch. Revise accordingly).** (Comment addressed. The details on Sheet LS-3 have been revised accordingly).
- As stated in previous correspondence (dated February 22, 2021), **the building materials shall be labeled on the building elevations, Sheets A201 and A203.** (Comment outstanding). (Comment remains outstanding). (Comment addressed. Material notations have been added to the elevations).
- As stated in previous correspondence (dated February 22, 2021), **elevations and building material details shall be provided for the clubhouse building.** (Comment addressed. Community building elevations have been provided).
- **Architectural plan sheets A101, A102, A200, A201, A203 all list West Valley list in the title block. While the residential buildings proposed between both projects are the same, plans in the Lake Pointe plan set shall be titled as such. Revise accordingly.** (Comment outstanding). (Comment addressed. The title blocks on the aforementioned sheets have been revised).
- As stated in previous correspondence (dated February 22, 2021), Sheet LS-5 indicates a decorative street light is proposed adjacent to the entrance of the development, and pedestrian bollard lighting is proposed at several places along the internal sidewalk network. Neither of the lighting types are full cutoff luminaries as required for outdoor lighting. However, the Zoning Ordinance permits non-cutoff fixtures if they are decorative pedestrian fixtures less than 100 watts and pedestrian fixtures shall not use clear globes. **Wattage for each luminaire shall be noted on Sheet LS-5, and lighting fixture specification sheets (cut sheets) shall be submitted for the two aforementioned luminaries.** (Comment outstanding). (Comment remains outstanding). (Comment addressed. Luminaire wattage has been added to Sheet LS-5 and cut sheets have been provided for both of the aforementioned luminaries).
- **The lighting fixture specification sheet (cut sheet) shall be submitted for the proposed entrance sign panel “uplighting.” The method of sign illumination is subject to review and approval by the Planning Division. Note uplighting is prohibited in the Township and the sign panel uplighting detail on Sheet LS-4 shall be removed.** (Comment addressed. The sign panel uplighting detail on Sheet LS-5 have been removed).

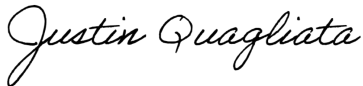
Prior to scheduling a pre-construction meeting, the following items shall be addressed: (Comments outstanding). (Comments remain outstanding). (Comments remain outstanding).

- Planned Development Agreement (PDA) review and approval. (A revised PDA, submitted April 1, 2024, is currently under review).
- Final Engineering Plan (FEP) review and approval (completed administratively).
- Provide documentation satisfactory to the Township Attorney evidencing ownership of the property.

- Submit ~~reciprocal access~~ **pathway/sidewalk** easement agreement (must be reviewed, approved, and executed prior to scheduling a pre-construction meeting).
- Submit required utility (water, sewer, storm sewer) easement agreements (must be reviewed, approved, and executed prior to scheduling a pre-construction meeting).
- Provide a construction cost estimate sealed by the design engineer.
- Provide inspection fees (payable at the pre-construction meeting).
- Provide Certificates of Insurance listing DLZ and the Township as Additional Insured. Note XCU (Explosion, Collapse, and Underground) coverage must be provided.
- Provide a copy of all applicable agency permits to Township (must be submitted prior to scheduling a pre-construction meeting).
- Five (5) hard copies of the final plans must be brought to the pre-construction meeting for signing/stamping.

If you have any questions regarding this matter, please contact me at (248) 698-3300 ext. 177 or by email at justinq@whitelaketwp.com.

Sincerely,



Justin Quagliata
Staff Planner

cc: Sean O'Neil, Community Development Director
Nick Spencer, Building Official
Michael Leuffgen, DLZ
Victoria Loemker, DLZ
Jason Emerine, Seiber Keast Lehner, Inc.



Fire Department
Charter Township
of White Lake

Site / Construction Plan Review

To: Sean O'Neil, Planning Department Director

Date: 03/26/24

Project: Lake Pointe

File #: Not Shown

Date on Plans: 02/13/24 (revision)

The Fire Department has the following comments with regard to the revised plans for the project known as Lake Pointe:

The Fire Department has no further comments regarding this project as submitted.

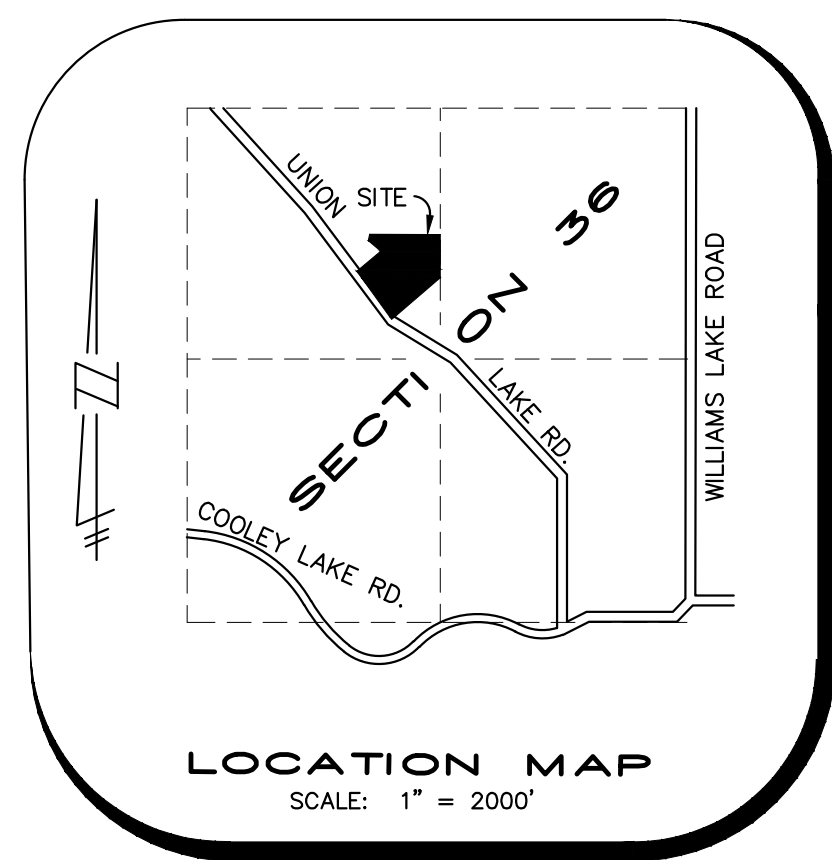
John Holland
Fire Chief
Charter Township of White Lake
(248)698-3993
jholland@whitelaketwp.com

Plans are reviewed using the International Fire Code (IFC), 2015 Edition and Referenced NFPA Standards.

ENGINEERING CONSTRUCTION PLANS FOR LAKE POINTE

A MULTI FAMILY DEVELOPMENT
SECTION 36, TOWN 3 NORTH, RANGE 8 EAST, WHITE LAKE TOWNSHIP,
OAKLAND COUNTY, MICHIGAN

PREPARED FOR:
JMF, WHITE LAKE, LLC
1700 W. BIG BEAVER ROAD, STE. 120
TROY, MI 48084
PHONE: (248) 602-2220



BENCHMARKS

BM#1 - CONCRETE MONUMENT AT SOUTHWEST CORNER OF PROPERTY.
ELEVATION: 948.29 NAVD88

BM#2 - TELECOM MANHOLE COVER AT NORTHEAST CORNER OF CARPATHIAN DRIVE AND UNION LAKE ROAD.
ELEVATION: 984.75 NAVD88

BM#3 - TELECOM MANHOLE COVER ±485' WSET OF CENTER OF SECTION 36 ALONG THE SOUTH PROPERTY LINE.
ELEVATION: 962.72 NAVD88

NCS PID D16198
ELEVATION 966.63 NAVD88

LEGAL DESCRIPTION

LEGAL DESCRIPTION - OVERALL PARCEL RECOMBINATION:
A PARCEL OF LAND BEING A PART OF THE SOUTHEAST ¼ OF THE NORTHWEST ¼ OF SECTION 36, T.3N., R.8E., WHITE LAKE TOWNSHIP, OAKLAND COUNTY, MICHIGAN, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE NORTH ¼ POST OF SAID SECTION 36, T.3N., R.8E., OAKLAND COUNTY, MICHIGAN, THENCE PROCEEDING ALONG THE NORTH AND SOUTH ¼ LINE OF SAID SECTION 36, SOUTH 00 DEGREES 03 MINUTES 47 SECONDS EAST, 1315.77 FEET TO THE NORTHEAST CORNER OF THE SOUTHEAST ¼ OF THE NORTHWEST ¼ OF SAID SECTION, THENCE IN PART ALONG THE WESTERLY LINE OF BOCOVINA COUNTRYSIDE HOMES, OAKLAND COUNTY PLAN NO. 755, MASTER DEED AS RECORDED IN LIBER 12457, PAGES 419 THROUGH 492, 1ST AMENDMENT AS RECORDED IN LIBER 13514, PAGES 811 THROUGH 817 OAKLAND COUNTY RECORDS, SOUTH 00 DEGREES 18 MINUTES 25 SECONDS EAST, 475.18 FEET, THENCE ALONG THE NORTHWESTERLY LINE OF CARPATHIAN DRIVE AS RECORDED IN BOCOVINA HOMESITES, OAKLAND PLAN NO. 754, MASTER DEED AS RECORDED IN LIBER 12457, PAGES 493 THROUGH 563, 1ST AMENDMENT AS RECORDED IN LIBER 13514, PAGES 801 THROUGH 810, OAKLAND COUNTY RECORDS, SOUTH 46 DEGREES 03 MINUTES 08 SECONDS WEST, 580.14 FEET TO THE CENTERLINE OF UNION LAKE ROAD, THENCE ALONG THE ARC OF A CURVE TO THE RIGHT, RADIUS 1432.69 FEET, CENTRAL ANGLE 12 DEGREES 18 MINUTES 04 SECONDS, (THE CHORD OF SAID CURVE BEARS NORTH 42 DEGREES 30 MINUTES 07 SECONDS WEST, 307.00 FEET) AND HAVING AN ARC DISTANCE OF 307.58 FEET; THENCE CONTINUING ALONG SAID CENTERLINE THE FOLLOWING TWO COURSES, NORTH 36 DEGREES 21 MINUTES 05 SECONDS WEST, 21.54 FEET AND NORTH 36 DEGREES 44 MINUTES 42 SECONDS WEST, 468.27 FEET; THENCE NORTH 21 DEGREES 07 MINUTES 22 SECONDS EAST, 307.10 FEET; THENCE SOUTH 88 DEGREES 32 MINUTES 43 SECONDS EAST, 812.20 FEET TO THE POINT OF BEGINNING OF THE PARCEL, HEREIN DESCRIBED, CONTAINING 580,140 GROSS SQUARE FEET OR 13.32 GROSS ACRES OF LAND, MORE OR LESS, ALSO BEING SUBJECT TO THE RIGHTS OF THE PUBLIC AND/OR ANY OTHER GOVERNMENTAL UNIT IN ANY PART OF UNION LAKE ROAD TAKEN, USED OR DEDICATED FOR STREET, ROAD, HIGHWAY OR PUBLIC UTILITY PURPOSES. ALSO BEING SUBJECT TO ANY OTHER EASEMENTS, RESTRICTIONS OR CONDITIONS OF RECORD, SIDWELL NOS.: 12-36-177-003, 12-36-177-002.

GENERAL NOTES

- THE CONTRACTOR SHALL CONTACT THE TOWNSHIP ENGINEER AT (248) 334-9901 48 HOURS PRIOR TO BEGINNING OF CONSTRUCTION. THE CONTRACTOR SHALL KEEP THE INSPECTOR APPRAISED OF THE NEED FOR INSPECTION ON A DAY TO DAY BASIS. LACKING SPECIFIC SCHEDULING WITH THE INSPECTOR, THE CONTRACTOR SHALL GIVE 48 HOURS NOTICE TO THE TOWNSHIP ENGINEER PRIOR TO RECOMMENDING WORK. INSPECTION FAILURE TO INFORM THE INSPECTOR OR THE TOWNSHIP ENGINEER OF A WORK CANCELLATION MAY RESULT IN A ONE HALF DAY INSPECTION CHARGE TO THE DEVELOPER.
- THE DEVELOPER SHALL CONTACT THE TOWNSHIP PLANNING DEPARTMENT AT (248) 698-3300 TO SCHEDULE A PRE-CONSTRUCTION MEETING. THE DEVELOPER'S PRIME SITE CONTRACTOR SHALL ATTEND. A COPY OF ALL PERMITS MUST BE SUBMITTED TO THE PLANNING DEPARTMENT PRIOR TO SCHEDULING THE MEETING.
- ALL CONSTRUCTION MUST CONFORM TO THE CURRENT STANDARDS AND SPECIFICATIONS ADOPTED BY WHITE LAKE TOWNSHIP.
- CONTRACTOR SHALL CONTACT MISS DIG AT 1-800-482-7171, 72 HOURS IN ADVANCE OF CONSTRUCTION, FOR EXISTING UNDERGROUND UTILITY LOCATIONS.
- ALL SOIL EROSION AND SILTATION MUST BE CONTROLLED AND CONTAINED ON-SITE.
- ALL EXCAVATION, INCLUDING ALL UTILITIES AND LEADS, UNDER OR WITHIN 1 ON 1 INFLUENCE OF ANY PAVEMENT (INCLUDING SIDEWALKS), EXISTING OR PROPOSED, OR WHERE SAND BACKFILL IS CALLED FOR ON THE PLAN, SHALL BE BACKFILLED AND COMPACTED WITH GRANULAR MATERIAL (SAND) MDOT CLASS II TO 95 PERCENT MAXIMUM UNIT DENSITY (ALL OTHERS 90 PERCENT).
- THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE TO EXISTING UTILITIES AND FACILITIES. THE CONTRACTOR SHALL EXPOSE EXISTING UTILITIES AT THE PROPOSED UTILITY CROSSINGS PRIOR TO THE START OF UNDERGROUND CONSTRUCTION. ANY CONFLICTS WITH UTILITIES SHALL BE IMMEDIATELY REPORTED TO THE PROJECT ENGINEER.
- WHERE TWO UTILITIES CROSS, INCLUDING SANITARY SEWER LEADS, PROVIDE POROUS GRADE "B" BACKFILL MATERIAL COMPACTED TO THE UNDERSIDE OF THE HIGHER UTILITY OR AS SPECIFIED ON THE DETAIL SHEET.
- DUST CONTROL SHALL BE MAINTAINED AT ALL TIMES.
- ANY MUD TRACKED ONTO UNION LAKE ROAD SHALL BE REMOVED DAILY.
- IF DEWATERING IS DETERMINED TO BE REQUIRED, IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO IDENTIFY THE AREA TO BE DEWATERED, SUBMIT A DEWATERING PLAN TO THE WHITE LAKE TOWNSHIP ENGINEERING DIVISION FOR REVIEW, TO MONITOR AND TO DETERMINE THAT THERE WILL NOT BE ANY IMPACT TO ANY ADJOINING OR OFFSITE PROPERTIES. DEWATERING PROCEDURES SHALL BE IN COMPLIANCE WITH WHITE LAKE TOWNSHIP.
- A ROAD COMMISSION FOR OAKLAND COUNTY RIGHT-OF-WAY PERMIT IS REQUIRED FOR ANY WORK WITHIN THE UNION LAKE ROAD RIGHTS-OF-WAY (OR ANY PUBLIC ROAD RIGHT-OF-WAY) AND/OR ANY TOWNSHIP EASEMENT.
- CONTRACTOR SHALL FIELD VERIFY ALL EXISTING UTILITY LOCATIONS, INVERTS AND GRADES PRIOR TO THE START OF ANY WORK.
- ALL PAVEMENT MARKINGS, TRAFFIC CONTROL SIGNS, AND PARKING SIGNS SHALL COMPLY WITH THE DESIGN AND PLACEMENT REQUIREMENTS OF THE 2011 MICHIGAN MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
- WHITE LAKE TOWNSHIP HAS NO RESPONSIBILITY TO IMPROVE OR MAINTAIN THE PRIVATE STREETS CONTAINED WITHIN OR PRIVATE STREETS PROVIDING ACCESS TO THE PROPERTY DESCRIBED IN THE PLAN.
- IN ORDER TO VERIFY COMPLIANCE WITH APPROVED PLANS, FULL-TIME CONSTRUCTION OBSERVATION WILL GENERALLY BE REQUIRED DURING ALL PHASES OF UNDERGROUND SITE CONSTRUCTION INCLUDING INSTALLATION OF SANITARY SEWER, STORM SEWERS, DRAINS, WATER MAINS AND APPURTENANCES AS WELL AS PRIVATE STREET CURBING AND PAVING CONSTRUCTION. INTERMITTENT OBSERVATIONS WILL BE MADE FOR SITE GRADING, PARKING LOT CURBING AND PAVING, RETAINING WALL CONSTRUCTION AND OTHER SURFACE ACTIVITY.

LAKE POINTE

Quantity Summary

SANITARY SEWER		QUANTITY
1	6" PVC SDR 35 HOUSE LEAD	1,506 L.F.
2	8" PVC TRUSS SANITARY SEWER	1,387 L.F.
3	4" DIA. MANHOLE	10 EA.
WATER MAIN		QUANTITY
1	8" WATER MAIN D.I. CL54	2,216 L.F.
2	HYDRANT, VALVE & BOX	7 EA.
3	8" G.V.&W.	3 EA.
4	8"x12" TAPPING SLEEVE, VALVE & WELL	2 EA.
5	1" WATER SERVICE	1,101 L.F.
STORM SEWER		QUANTITY
1	12" C-76 CL 4	1,886 L.F.
2	15" C-76 CL 4	611 L.F.
3	18" C-76 CL 4	592 L.F.
4	21" C-76 CL 4	543 L.F.
5	24" C-76 CL 4	47 L.F.
6	2" DIA. INLET	9 EA.
7	4" DIA. CATCH BASIN	21 EA.
8	6" DIA. CATCH BASIN	1 EA.
9	4" DIA. MANHOLE	5 EA.
10	6" DIA. OVERFLOW MANHOLE	1 EA.
11	24" CONC. END SECTION W/ RIP RAP	1 EA.
12	6" DIA. CONTECH CS-6	1 EA.
13	36" STANDPIPE	1 EA.
PAVING		QUANTITY
1	INTERNAL ASPH. PAVEMENT (4" ON 10")	5,124 S.Y.
2	R.C.O.C. ROW ASPHALT PAVEMENT	511 S.Y.
3	CONCRETE SIDEWALK	22,880 S.F.
4	THICKENED EDGE CONCRETE WALK	537 L.F.
5	24" MOUNTABLE CONC. & STANDARD GUTTER	2,922 L.F.
6	F4 CONC. CURB& GUTTER	396 L.F.
7	B2 ROLL CURB WITH GUTTER	121 L.F.

ESTIMATED QUANTITIES ARE FOR REFERENCE ONLY. CONTRACTOR SHALL DETERMINE THE QUANTITIES OF WORK REQUIRED TO COMPLETE THE PROJECT.



- ### SHEET INDEX
- COVER SHEET
 - COMPOSITE UTILITY AND OVERALL SITE PLAN
 - EXISTING CONDITIONS AND DEMOLITION PLAN
 - GRADING & S.E.S.C. PLAN
 - GRADING & S.E.S.C. PLAN
 - GRADING & S.E.S.C. PLAN
 - PROPOSED CONTOUR PLAN
 - DETAILED GRADING PLAN FOR ADA PATHWAYS
 - ROAD AND SANITARY SEWER PLAN
 - ROAD AND SANITARY SEWER PROFILES
 - WATERMAIN PLAN
 - 10A. WATER MAIN PROFILES
 11. STORM SEWER PLAN
 12. STORM SEWER PROFILES
 13. STORM SEWER PROFILES
 14. CONTECH CS-6 DETAILS
 15. DETENTION BASIN PLAN, CALCULATIONS AND PROFILE
 16. DRAINAGE DISTRIBUTION PLAN & STORM SEWER CALCULATIONS
 - 16A. OVERALL STORM WATER MANAGEMENT SYSTEM "WEST VALLEY & LAKE POINTE"
 17. APPROACH PLAN
 - ND1. NOTES AND DETAILS
 - ND2. NOTES AND DETAILS
- DETAILS:**
- WHITE LAKE TOWNSHIP
SANITARY SEWER STANDARD DETAILS
WATER MAIN STANDARD DETAILS
STORM SEWER STANDARD DETAILS
- OAKLAND COUNTY
SOIL EROSION AND SEDIMENTATION CONTROL DETAILS
- LANDSCAPE PLANS:**
- LS-1 OVERALL LANDSCAPE PLAN
LS-2 GENERAL LANDSCAPE PLANTING DETAIL
LS-3 PLANT MATERIAL LIST AND PLANT DETAILS
LS-4 BLDG. FOUNDATION, CLUBHOUSE AND ENTRY PLANTINGS
LS-5 SITE AMENITY, PERGOLA AND ENTRY SIGN DETAILS
LS-6 POOL DECK PLAN
LS-7 POOL PERGOLA/TRELLIS ELEVATIONS & DETAILS
- IRRIGATION PLANS:**
- IRR-1 IRRIGATION PLAN
IRR-2 IRRIGATION PLAN
IRR-3 IRRIGATION PLAN
IRR-4 IRRIGATION NOTES & DETAILS
- ARCHITECTURE PLANS:**
- A100 BUILDING PLANS
A101 UNIT ELEVATIONS
A200 BUILDING PLANS
A201 BUILDING ELEVATIONS
A202 BUILDING PLANS
A203 BUILDING ELEVATIONS
A204 BUILDING PLANS
A205 BUILDING ELEVATIONS
AS-1 SITE PLAN
CB4.0 COMMUNITY BUILDING ELVATIONS

CLINTON TOWNSHIP OFFICE
17001 NINETEEN MILE ROAD, SUITE 3
CLINTON TOWNSHIP, MI 48038
586.412.7050

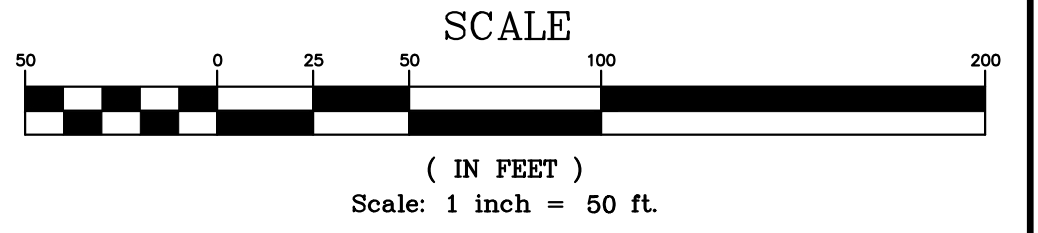
FARMINGTON HILLS OFFICE
39205 COUNTRY CLUB DRIVE, SUITE C8
FARMINGTON HILLS, MI 48331
248.308.3331

ARCHITECTURAL PLANS PROVIDED BY:
ALEXANDER V. BOGAERTS AND ASSOCIATES, P.C.
2445 FRANKLIN ROAD
BLOOMFIELD HILLS, MICHIGAN 48302
PHONE: 248.334.5000

LANDSCAPE PLANS PROVIDED BY:
FELINO PASCUAL & ASSOCIATES LANDSCAPE ARCHITECTURE
24333 ORCHARD LAKE ROAD, SUITE G
FARMINGTON, MICHIGAN 48336
PHONE: 248.557.5588

SURVEY PROVIDED BY:
ALPINE ENGINEERING, INC.
46892 WEST ROAD, SUITE 109
NOVI, MICHIGAN 48377
PHONE: 248.926.3765

REVISIONS			ENGINEER'S SEAL
NO.	ITEM	DATE	
1.	REVISE PER OWNER	6-3-20	
2.	REVISE GRADES ON UNITS 2 AND 6	11-9-20	
3.	REV PER 11-20-20 WL TWP LETTER	02-02-21	
4.	REVISE PER WHITE LAKE TWP	03-03-21	
5.	ADD WATER MAIN PROFILES PER E.G.L.E.	04-07-21	
6.	REVISED PER TOWNSHIP	04-25-23	
8.	REVISE PER AGENCIES	02-13-24	
DATE:	DESIGNED BY: A.A.	JOB NUMBER:	18-039
	CHECKED BY: P.K.	DRAWING FILE:	19089CY.dwg



- ### NOTES
- ON-SITE SANITARY SEWERS, AND WATER MAINS SHALL BE CENTERED IN A 20-FOOT WIDE EASEMENT.
 - ALL OFF-SITE SANITARY AND WATER MAIN IMPROVEMENTS WILL BECOME PUBLIC PROPERTY.
 - CRITICAL STORM STRUCTURES WILL BE FITTED WITH TRAPS.
 - PERIODIC MAINTENANCE OF THE STORM WATER DETENTION BASIN WILL BE REQUIRED.
 - PROVISIONS PURSUANT TO OAKLAND COUNTY DRAIN COMMISSION EROSION CONTROL MANUAL WILL BE UNDERTAKEN INCLUDING, BUT NOT LIMITED TO, SILT FENCE AND INLET FILTERS.
 - "NO PARKING - FIRE LANE" SIGNAGE SHALL BE INSTALLED PROHIBITING PARKING ON ONE SIDE OF THE STREET.
 - PROPOSED GRADES WILL MATCH EXISTING ELEVATIONS AT THE PROPERTY LINE UNLESS RETAINING WALLS ARE PROVIDED OR GRADING EASEMENTS OBTAINED.
 - A PERMIT FROM THE ROAD COMMISSION FOR OAKLAND COUNTY WILL BE REQUIRED FOR ALL WORK IN THE UNION LAKE ROAD RIGHT-OF-WAY.
 - ALL WATER MAIN SHALL BE CLASS 54 DUCTILE IRON. ALL GATE VALVES SHALL BE PLACED IN GATE WELLS.
 - ALL STRUCTURES EXCEPT FOR INLETS WHICH CONNECT TO CATCH BASINS WILL BE A MINIMUM OF FOUR FEET IN DIAMETER.
 - THE DEVELOPMENT SHALL BE CONSTRUCTED AS A SINGLE PHASE.
 - THE CONSTRUCTION TYPE OF THE PROPOSED BUILDINGS IS WOOD CONSTRUCTION WITH BRICK VENEER AND SLAB ON GRADE.
 - THE FRONT PORCH LIGHTS AND THE COACH LIGHTS WILL UTILIZE 75 WATT BULBS.

PARKING CALCULATIONS

SPACES REQUIRED:

- 2 SPACES FOR EACH UNIT, PLUS 1/4 SPACE FOR EACH BEDROOM.
- 2 SPACES FOR EACH UNIT = 138 SPACES
- 138 BEDROOMS/4 = 34.5 SPACES
- TOTAL SPACES REQUIRED = 172.5

SPACES PROVIDED:

- 2 SPACES PER GARAGE = 138
- 2 SPACES PER DRIVEWAY = 138
- ADDITIONAL PARKING SPACES = 31
- TOTAL SPACES PROVIDED = 307

Accessible Parking Spaces

Total Parking Spaces (Excluding Garages) = 169

Accessible Spaces	Per 2010 ADA (208.2.3 Residential Facilities)	Total Required (Minimum 2% of the total)	4
Total Provided	Standard Accessible Spaces	Van Accessible Spaces	4

- ### SITE DATA
- EXISTING ZONING: R1-C/SINGLE FAMILY RESIDENTIAL AND LB/LOCAL BUSINESS
 - SITE AREA: 13.32 ACRES GROSS, 12.76 ACRES NET
 - PROPOSED LAND USE: ATTACHED SINGLE FAMILY DEVELOPMENT APARTMENTS- MULTI FAMILY
 - ALL PROPOSED UNITS ARE 2-BEDROOMS
 - DENSITY: 69 UNITS/12.76 ACRES = 5.41 UNITS/ACRE
 - PROPERTY LINE SETBACK = FRONT 40 FEET
SIDE 25 FEET
REAR 25 FEET
 - INTERNAL SETBACK = 30 FEET FROM BACK OF CURB.
 - SIDE YARD SETBACK: MIN. 20 FEET BETWEEN BUILDINGS
 - DWELLING UNITS: 69 - (2 BEDROOM UNITS)
 - TRASH DISPOSAL SHALL BE BY CURB SIDE PICKUP.
 - LIGHTING SHALL BE PROVIDED BY PHOTOCELL OPERATED LIGHTS LOCATED ON THE FRONT OF EACH HOME.

WETLANDS

NO WETLANDS EXIST ON SITE.

FLOODPLAIN INFORMATION

THE SUBJECT PROPERTY LIES WITHIN A ZONE "X" FLOOD HAZARD AREA - "AREAS OF MINIMAL FLOODING", PER THE NATIONAL FLOOD INSURANCE PROGRAM, FLOOD INSURANCE RATE MAP, MAP NUMBER 26125C0477F, MAP EFFECTIVE SEPTEMBER 29, 2006.

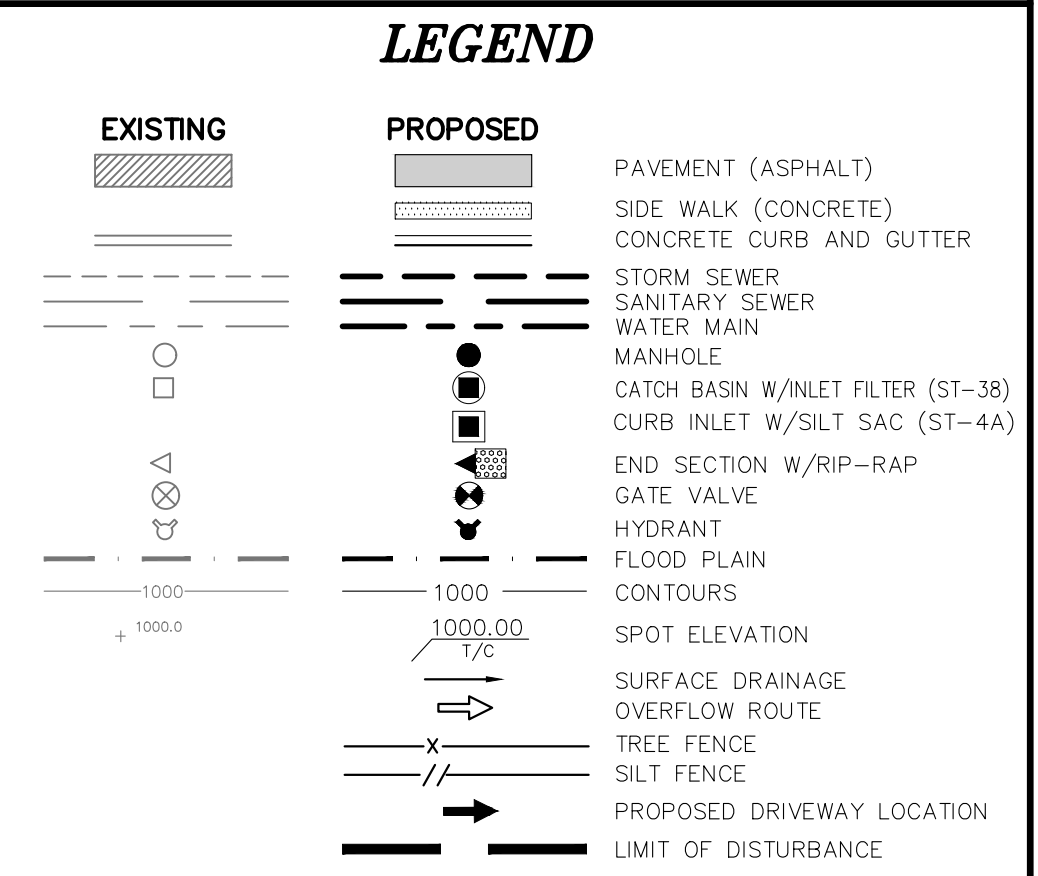
DENSITY CALCULATION:

AREA OF RESIDENTIAL SITE = 13.32 Ac.
 AREA OF 60' R.O.W. = 0.56 Ac.
 DENSITY AREA = 13.32-0.56 = 12.76 Ac.
 AREA OF INTERNAL ROADS = 1.31 Ac.
 NET DENSITY AREA = 12.76-1.31 = 11.45 Ac.
 NET DENSITY AREA = 498,762 S.F.

IF RM-1 ZONING APPLIED:

FOR 2 BEDROOMS UNITS
 REQUIRED 6,000 S.F./UNIT
 DEDUCT 10,000 S.F. FOR FIRST UNIT

TOTAL ALLOWABLE UNITS = 498,762 - 10,000 / 6,000 = 81
 TOTAL ALLOWABLE UNITS = 82 UNITS
 TOTAL UNITS PROVIDED = 69 UNITS
 (5.41 UNITS / ACRE)



- ### LIST OF ALL REQUIRED STATE AND FEDERAL PERMITS
- | TYPE | AGENCY | STATUS |
|-------------------|--------|-----------|
| 1. NPDES | MDEQ | NOT FILED |
| 2. SANITARY SEWER | MDEQ | NOT FILED |
| 3. WATER MAIN | MDEQ | NOT FILED |

LAKE POINTE

SECTION 36, TOWN 3 NORTH, RANGE 8 EAST
 WHITE LAKE TWP., OAKLAND COUNTY, MICHIGAN

REVISIONS

NO.	ITEM	DATE
1.	REVISE PER OWNER	6-3-20
2.	REVISE GRADES ON UNITS 2 AND 6	11-9-20
3.	REV PER 11-20-20 WL TWP LETTER	02-02-21
4.	REVISE PER WHITE LAKE TWP	03-03-21
5.	REVISED PER TOWNSHIP	04-25-23
6.	REVISED PER TOWNSHIP	7-27-23
7.	REVISED PER AGENCIES	02-13-24

UTILITY WARNING: UNDERGROUND UTILITY LOCATIONS AS SHOWN ON THE PLAN, WERE OBTAINED FROM UTILITY OWNER AND NOT FIELD LOCATED.

811 Know what's below. Call before you dig.

DATE: 04-08-2020 DESIGNED BY: A.A. JOB NUMBER: 19-039
 CHECKED BY: J.E. DRAWING FILE: 190309CU.dwg

LOT COVERAGE:

GROSS AREA OF SITE = 13.32 Ac.
 BUILDING AREA = 3.05 Ac.
 PROPOSED LOT COVERAGE = 3.05 / 13.32 = 22.89%

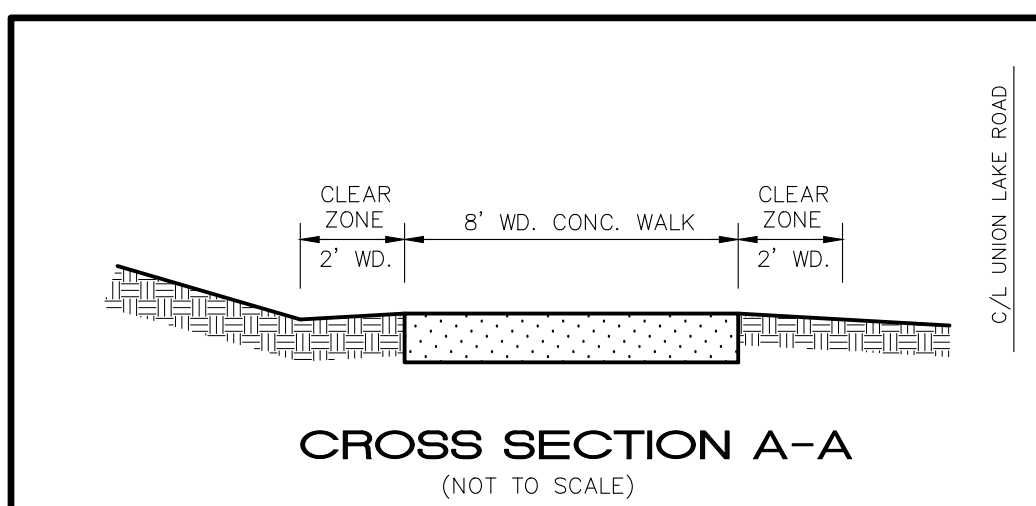
OPEN SPACE

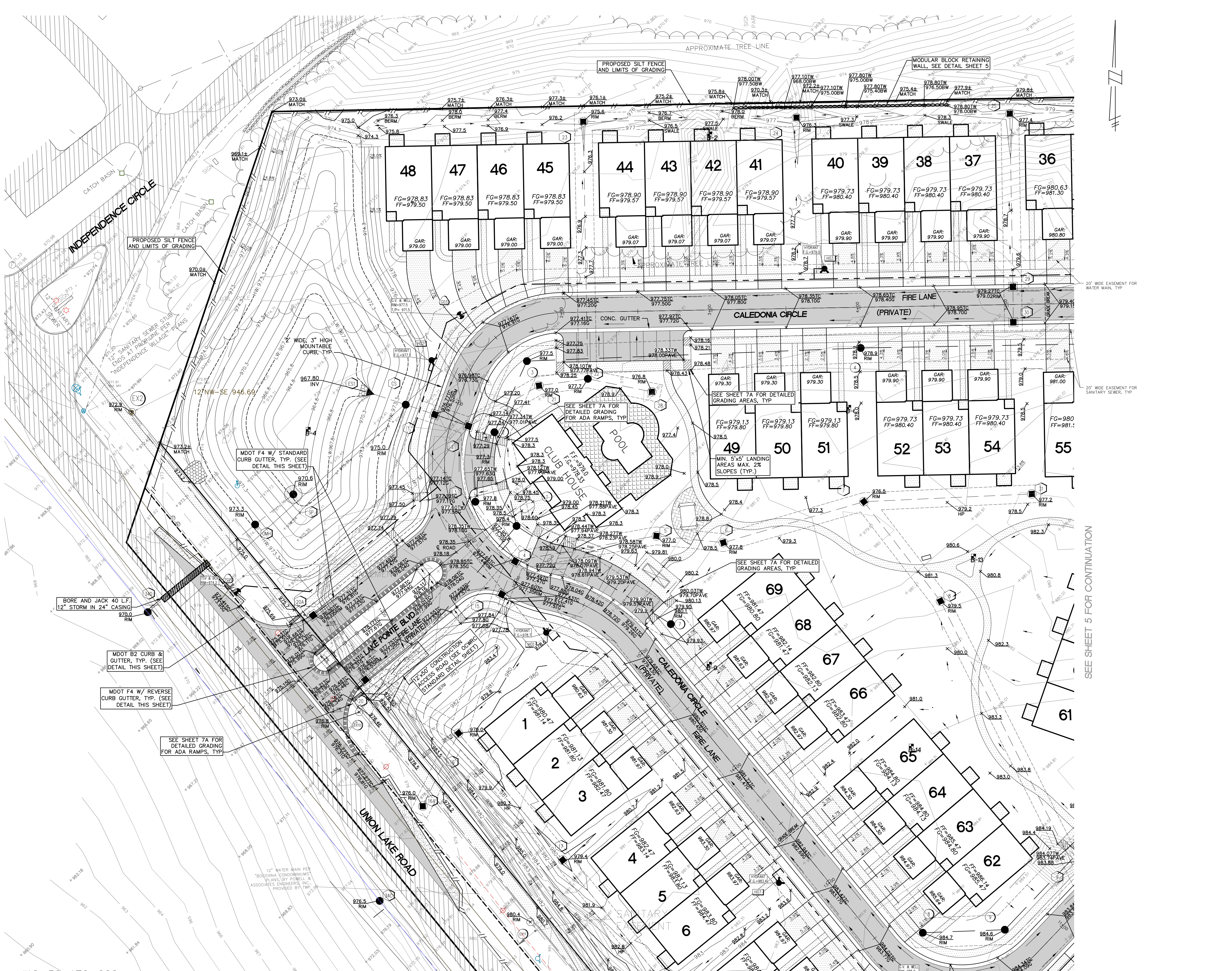
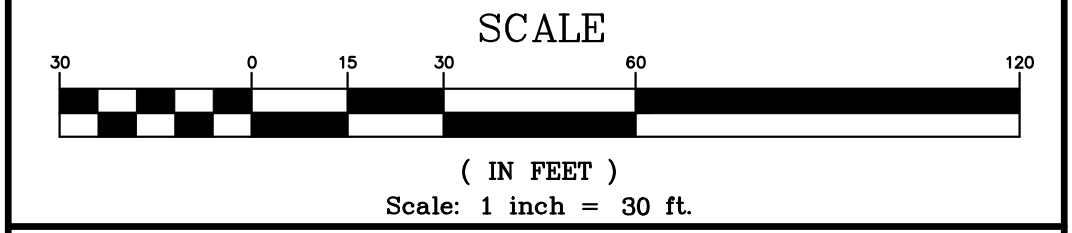
NET SITE AREA = 555,826 S.F.
 ROADS = 57,063 S.F.
 SIDEWALKS = 31,908 S.F.
 DRIVEWAYS = 24,358 S.F.
 BUILDINGS = 132,860 S.F.
 CLUBHOUSE & POOL = 132,860 S.F.
 LAWN AREA = 366,700 S.F. = 8.42 AC.

- ### PROPOSED IMPROVEMENTS
- MUNICIPAL SEWER TO BE PROVIDED BY CONSTRUCTING A GRAVITY SEWER. ALL ON-SITE GRAVITY SEWER SHALL BE 8-INCH DIAMETER.
 - WATER SUPPLY TO BE PROVIDED BY CONNECTING TO EXISTING 12" WATER MAINS ALONG UNION LAKE ROAD. ALL WATER MAIN SHALL BE 8-INCH DIAMETER UNLESS OTHERWISE NOTED.
 - ON-SITE STORM WATER DETENTION SHALL BE PROVIDED PER OAKLAND COUNTY DRAIN COMMISSION STANDARDS. ALL STORM DRAINAGE EASEMENTS SHALL BE A MINIMUM OF 20 FEET WIDE IF NECESSARY.
 - ROADWAYS SHALL BE 27' WD. (B-B) WITH CONC. CURB & GUTTER AND ASPHALT PAVEMENT. ALL ROADWAYS SHALL BE PRIVATE. ALL SIDEWALKS SHALL BE 5 FEET WIDE. UNLESS OTHERWISE NOTED, AND MEET ALL ADA REQUIREMENTS.
 - ALL ELECTRIC, CABLE T.V. AND TELEPHONE LINES SHALL BE LOCATED UNDERGROUND, AND SHALL BE PLACED WITHIN EASEMENTS DEDICATED FOR SUCH USE.

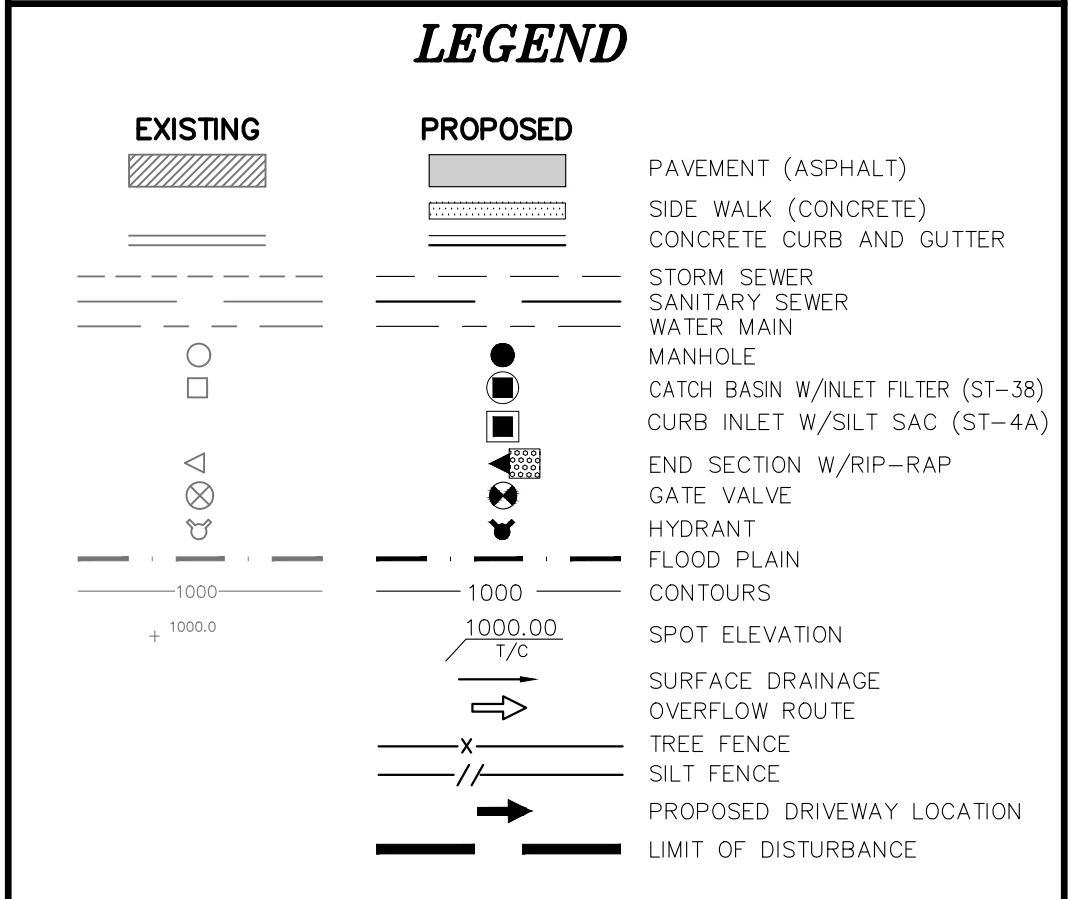
STORM STRUCTURE SCHEDULE

NO.	TYPE	SIZE (DIA)	SUMP DEPTH (feet)	FRAME AND COVER
1	CATCH BASIN	4	2	EJW 7065 Frame Type M1 Cover
2	CATCH BASIN	4	2	EJW 7065 Frame Type M1 Cover
3	MANHOLE	4	0	EJW 1040 Frame Type B Cover
4	CATCH BASIN	4	2	EJW 7065 Frame Type M1 Cover
5	CATCH BASIN	4	2	EJW 1040 Frame Type N Cover
6	CATCH BASIN	4	2	EJW 1040 Frame Type N Cover
7	CATCH BASIN	6	2	EJW 1040 Frame Type N Cover
8	CATCH BASIN	4	2	EJW 1040 Frame Type N Cover
9	CATCH BASIN	4	2	EJW 7065 Frame Type M1 Cover
10	CATCH BASIN	4	2	EJW 7065 Frame Type M1 Cover
11	CATCH BASIN	4	2	EJW 1040 Frame Type N Cover
12	CATCH BASIN	4	2	EJW 1040 Frame Type N Cover
13	CATCH BASIN	4	2	EJW 1040 Frame Type N Cover
14	INLET	2	0	EJW 1040 Frame Type N Cover
15	CATCH BASIN	4	2	EJW 7065 Frame Type M1 Cover
16	CATCH BASIN	4	2	EJW 1040 Frame Type N Cover
17	CATCH BASIN	4	2	EJW 1040 Frame Type N Cover
18	CATCH BASIN	4	2	EJW 1040 Frame Type N Cover
19	INLET	2	0	EJW 1040 Frame Type N Cover
20	CATCH BASIN	4	2	EJW 7045 Frame Type M1 Cover
21	INLET	2	0	EJW 7045 Frame Type M1 Cover
22	CATCH BASIN	4	2	EJW 1040 Frame Type N Cover
23	MANHOLE	4	0	EJW 1040 Frame Type B Cover
24	CATCH BASIN	4	2	EJW 1040 Frame Type N Cover
25	CATCH BASIN	4	2	EJW 1040 Frame Type N Cover
26	MANHOLE	4	0	EJW 1040 Frame Type B Cover
27	INLET	2	0	EJW 1040 Frame Type N Cover
28	INLET	2	0	EJW 1040 Frame Type N Cover
29	CATCH BASIN	4	2	EJW 7065 Frame Type M1 Cover
30	INLET	2	0	EJW 7065 Frame Type M1 Cover
31	INLET	2	0	EJW 1040 Frame Type N Cover
32	INLET	2	0	EJW 1040 Frame Type N Cover
34C	MANHOLE	4	0	EJW 1040 Frame Type B Cover
34D	MANHOLE	4	0	EJW 1040 Frame Type B Cover
OMH	OVERFLOW MANHOLE	6	0	EJW 1040 Frame Type B Cover
SP	STAND PIPE	3		SEE DETAIL ON SHEET 15
CS	CONTECH	6		SEE DETAIL ON SHEET 14





- O.C.W.R.C. S.E.S.C. NOTES**
- CONTRACTOR SHALL MAINTAIN ALL SOIL EROSION CONTROLS WEEKLY AND AFTER EVERY STORM EVENT.
 - SEE SHEET ND1 FOR SOIL EROSION CONTROL MAINTENANCE.
- GRADING NOTES**
- PROVIDE MINIMUM 2% SLOPE IN SIDE YARD AND REAR YARD SWALES.
 - MAINTAIN A MAXIMUM 1V:3H SLOPE FROM HOUSE TO SIDE YARD SWALES.
 - AFTER INITIAL EXAMINATION & GRADING OF THE RETENTION BASIN, SILT FENCE SHALL BE PLACED AROUND THE BASINS UNTIL PERMANENT VEGETATION IS ESTABLISHED.
- PAVING NOTES**
- SIDEWALKS AND RAMP CONSTRUCTION SHALL BE ACCORDANCE WITH ADA STANDARDS. (SEE SHEET ND1 FOR RAMP DETAILS)
 - SEE SHEET ND1 & 16 FOR ALL CURB AND PAVING DETAILS.
 - SEE UNION LAKE ROAD APPROACH PLAN NOTES ON SHEETS 16.



LAKE POINTE
SECTION 36, TOWN 3 NORTH, RANGE 8 EAST
WHITE LAKE TWP., OAKLAND COUNTY, MICHIGAN

REVISIONS		UTILITY WARNING
NO.	ITEM	DATE
1.	REVISE PER OWNER	6-3-20
2.	REVISE GRADINGS ON UNITS 2 AND 6	11-9-20
3.	REV PER 11-20-20 WL TWP LETTER	02-02-21
4.	REVISE PER WHITE LAKE TWP	03-03-21
6.	REVISED PER TOWNSHIP	04-25-23
7.	REVISED PER TOWNSHIP	7-27-23
8.	REVISE PER AGENCIES	02-13-24

UNDERGROUND UTILITY LOCATIONS AS SHOWN ON THE PLAN, WERE OBTAINED FROM UTILITY OWNER AND NOT FIELD LOCATED.

811 Know what's below. Call before you dig.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF AND/OR RELOCATION OF ALL UTILITIES THAT MAY INTERFERE WITH CONSTRUCTION.

DATE: 04-08-2020 DESIGNED BY: A.A. JOB NUMBER: 19-039
CHECKED BY: J.E. DRAWING FILE: 19039GR.dwg

GRADING & S.E.S.C. PLAN

SKL SEIBER KEAST LEHNER ENGINEERING | SURVEYING

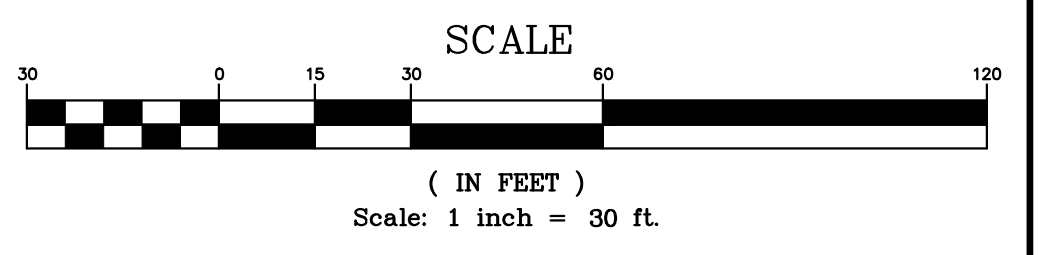
CLINTON TOWNSHIP OFFICE: 1700 NINETEEN MILE ROAD, SUITE 3 CLINTON TOWNSHIP, MI 48838 588.412.7050

PARMENTON HILLS OFFICE: 38206 COUNTRY CLUB DRIVE, SUITE C8 PARMENTON HILLS, MI 48381 248.308.3341

SHEET 4

SEE SHEET 6 FOR CONTINUATION

SEE SHEET 5 FOR CONTINUATION



- O.C.W.R.C. S.E.S.C. NOTES**
- CONTRACTOR SHALL MAINTAIN ALL SOIL EROSION CONTROLS WEEKLY AND AFTER EVERY STORM EVENT.
 - SEE SHEET ND1 FOR SOIL EROSION CONTROL MAINTENANCE.
- GRADING NOTES**
- PROVIDE MINIMUM 2% SLOPE IN SIDE YARD AND REAR YARD SWALES.
 - MAINTAIN A MAXIMUM 1V:3H SLOPE FROM HOUSE TO SIDE YARD SWALES.
 - AFTER INITIAL EXAMINATION & GRADING OF THE RETENTION BASIN, SILT FENCE SHALL BE PLACED AROUND THE BASINS UNTIL PERMANENT VEGETATION IS ESTABLISHED.
- PAVING NOTES**
- SIDEWALKS AND RAMP CONSTRUCTION SHALL BE ACCORDANCE WITH ADA STANDARDS. (SEE SHEET ND1 FOR RAMP DETAILS)
 - SEE SHEET ND1 & 16 FOR ALL CURB AND PAVING DETAILS.
 - SEE UNION LAKE ROAD APPROACH PLAN NOTES ON SHEETS 16.

LEGEND

EXISTING	PROPOSED	DESCRIPTION
[Symbol]	[Symbol]	PAVEMENT (ASPHALT)
[Symbol]	[Symbol]	SIDE WALK (CONCRETE)
[Symbol]	[Symbol]	CONCRETE CURB AND GUTTER
[Symbol]	[Symbol]	STORM SEWER
[Symbol]	[Symbol]	SANITARY SEWER
[Symbol]	[Symbol]	WATER MAIN
[Symbol]	[Symbol]	MANHOLE
[Symbol]	[Symbol]	CATCH BASIN W/INLET FILTER (ST-38)
[Symbol]	[Symbol]	CURB INLET W/SILT SAC (ST-4A)
[Symbol]	[Symbol]	END SECTION W/RIP-RAP
[Symbol]	[Symbol]	GATE VALVE
[Symbol]	[Symbol]	HYDRANT
[Symbol]	[Symbol]	FLOOD PLAIN
[Symbol]	[Symbol]	CONTOURS
[Symbol]	[Symbol]	SPOT ELEVATION
[Symbol]	[Symbol]	SURFACE DRAINAGE
[Symbol]	[Symbol]	OVERFLOW ROUTE
[Symbol]	[Symbol]	TREE FENCE
[Symbol]	[Symbol]	SILT FENCE
[Symbol]	[Symbol]	PROPOSED DRIVEWAY LOCATION
[Symbol]	[Symbol]	LIMIT OF DISTURBANCE

LAKE POINTE
SECTION 36, TOWN 3 NORTH, RANGE 8 EAST
WHITE LAKE TWP., OAKLAND COUNTY, MICHIGAN

REVISIONS		UTILITY WARNING
NO.	DATE	UNDERGROUND UTILITY LOCATIONS AS SHOWN ON THE PLAN, WERE OBTAINED FROM UTILITY OWNER AND NOT FIELD LOCATED. Know what's below. Call before you dig. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF AND/OR RELOCATION OF ALL UTILITIES THAT MAY INTERFERE WITH CONSTRUCTION.
1. REVISE PER OWNER	6-3-20	
2. REVISE GRADINGS ON UNITS 2 AND 6	11-9-20	
3. REV PER 11-20-20 WL TWP LETTER	02-02-21	
4. REVISE PER WHITE LAKE TWP	03-03-21	
6. REVISED PER TOWNSHIP	04-25-23	
7. REVISED PER TOWNSHIP	7-27-23	
8. REVISE PER AGENCIES	02-13-24	

DATE: 04-08-2020 DESIGNED BY: A.A. JOB NUMBER: 19-039
CHECKED BY: J.E. DRAWING FILE: 19039GR.dwg

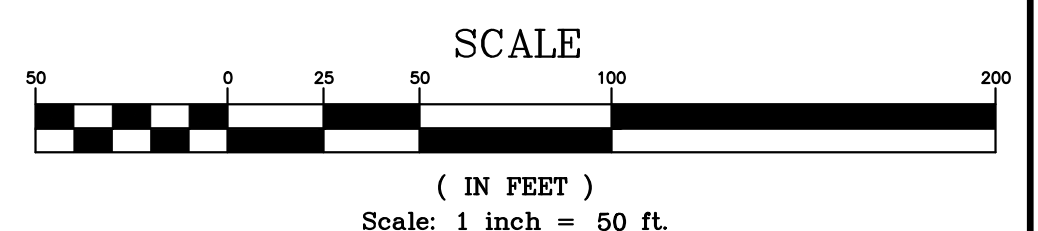
GRADING & S.E.S.C. PLAN

SKL SEIBER KEAST LEHNER ENGINEERING | SURVEYING

CLINTON TOWNSHIP OFFICE: 1700 NINETEEN MILE ROAD, SUITE 3 CLINTON TOWNSHIP, MI 48831 588.412.7060

FARMINGTON HILLS OFFICE: 38205 COUNTRY CLUB DRIVE, SUITE C8 FARMINGTON HILLS, MI 48331 248.308.3341

SHEET 6



LEGEND

EXISTING	PROPOSED	
		PAVEMENT (ASPHALT)
		SIDE WALK (CONCRETE)
		CONCRETE CURB AND GUTTER
		STORM SEWER
		SANITARY SEWER
		WATER MAIN
		MANHOLE
		CATCH BASIN W/INLET FILTER (ST-38)
		CURB INLET W/SILT SAC (ST-4A)
		END SECTION W/RIP-RAP
		GATE VALVE
		HYDRANT
		FLOOD PLAIN
		CONTOURS
		SPOT ELEVATION
		SURFACE DRAINAGE
		OVERFLOW ROUTE
		TREE FENCE
		SILT FENCE
		PROPOSED DRIVEWAY LOCATION
		LIMIT OF DISTURBANCE

LAKE POINTE
 SECTION 36, TOWN 3 NORTH, RANGE 8 EAST
 WHITE LAKE TWP., OAKLAND COUNTY, MICHIGAN

REVISIONS		UTILITY WARNING
NO.	ITEM	DATE
1.	REVISE PER OWNER	6-3-20
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3.	REV PER 11-20-20 WL TWP LETTER	02-02-21
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7.	REVISED PER TOWNSHIP	7-27-23
8.	REVISED PER AGENCIES	02-13-24

UNDERGROUND UTILITY LOCATIONS AS SHOWN ON THE PLAN, WERE OBTAINED FROM UTILITY OWNER AND NOT FIELD LOCATED.

811 Know what's below. Call before you dig.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF AND/OR RELOCATION OF ALL UTILITIES THAT MAY INTERFERE WITH CONSTRUCTION.

DATE: 04-08-2020 DESIGNED BY: A.A. JOB NUMBER: 19-039
 CHECKED BY: J.E. DRAWING FILE: 19039GR.dwg

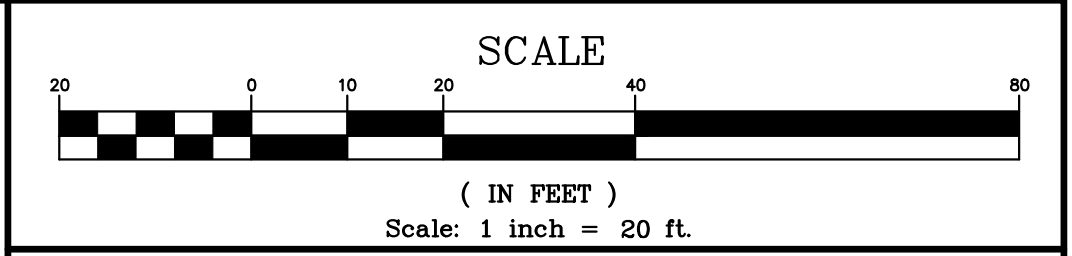
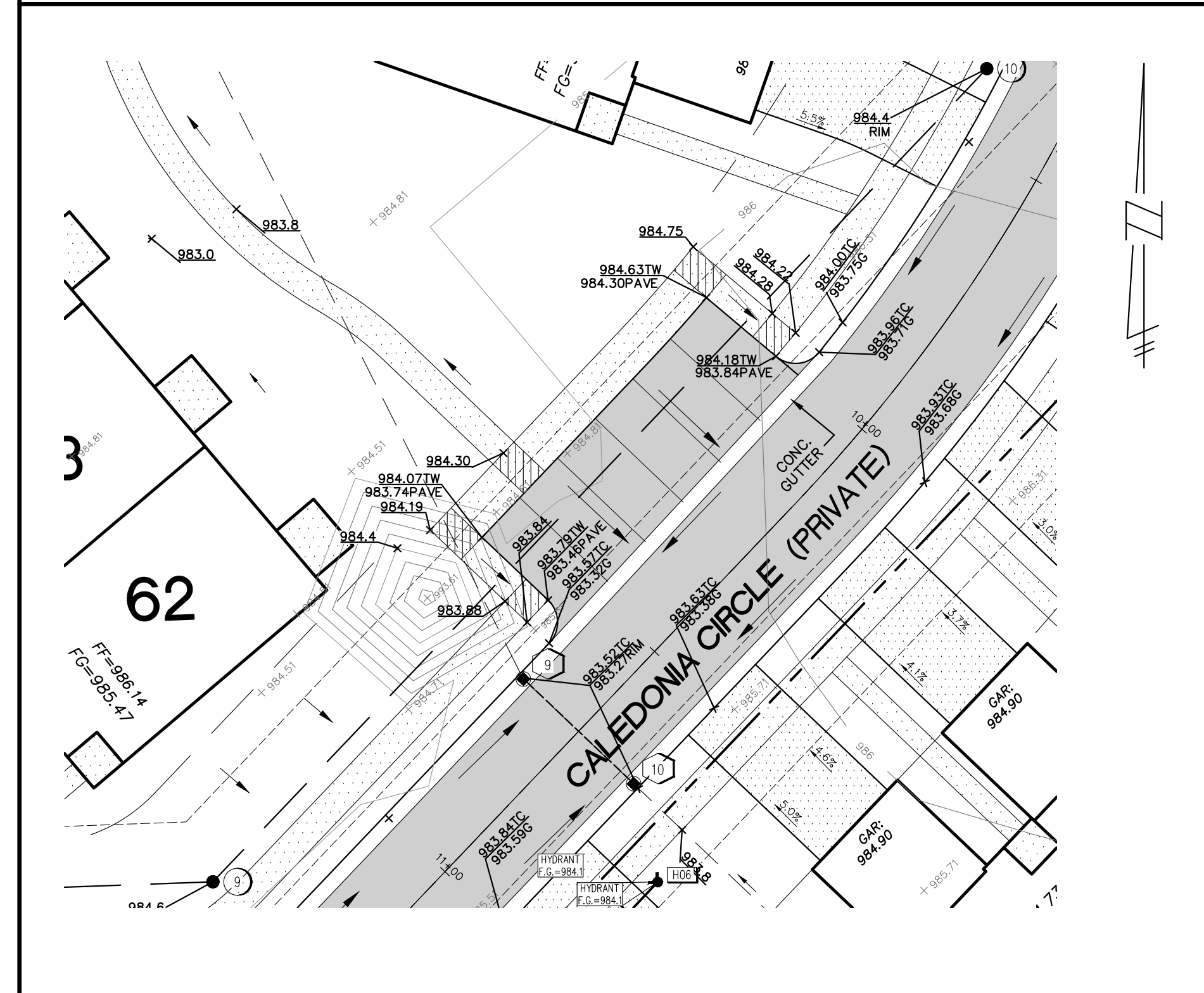
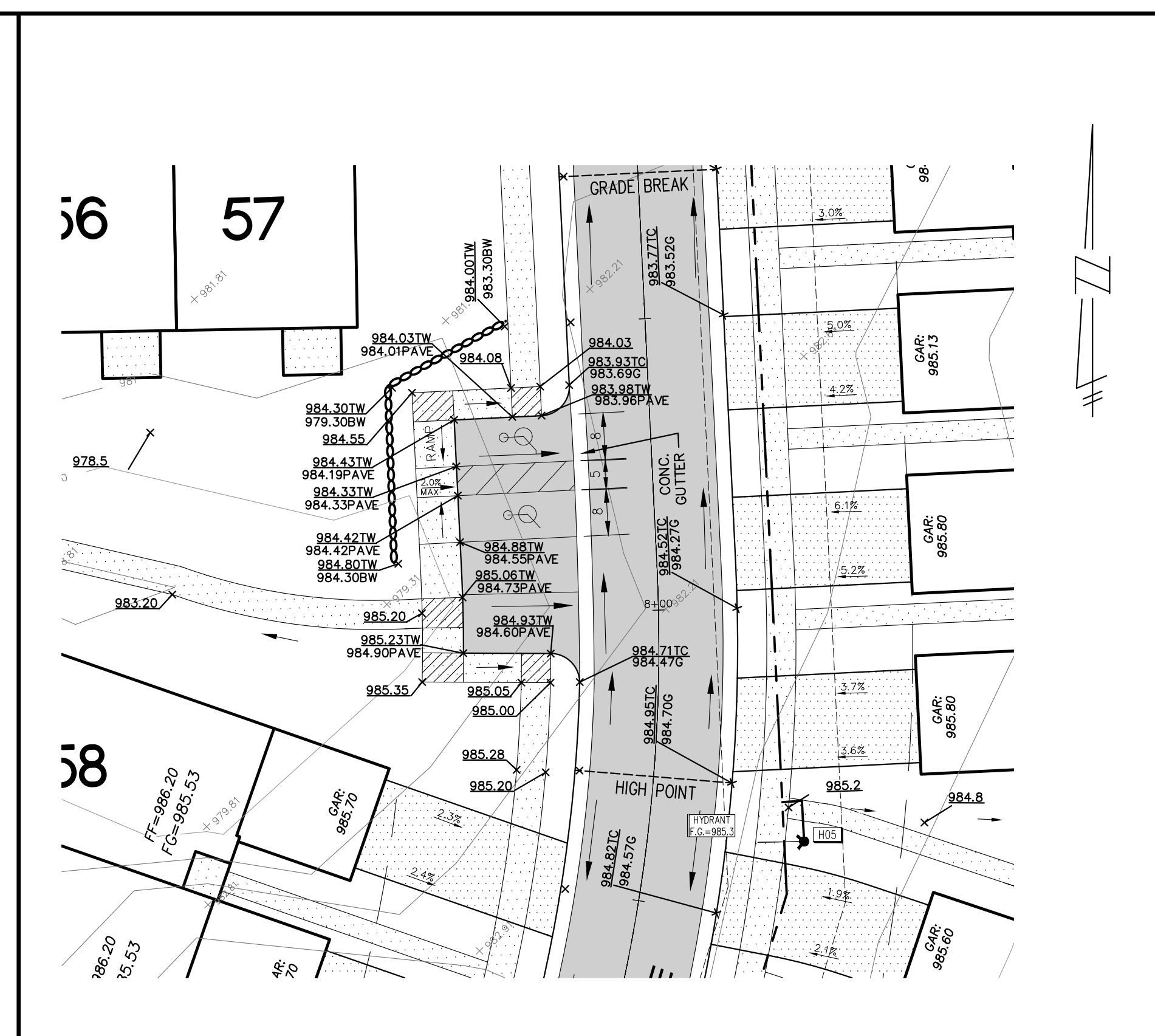
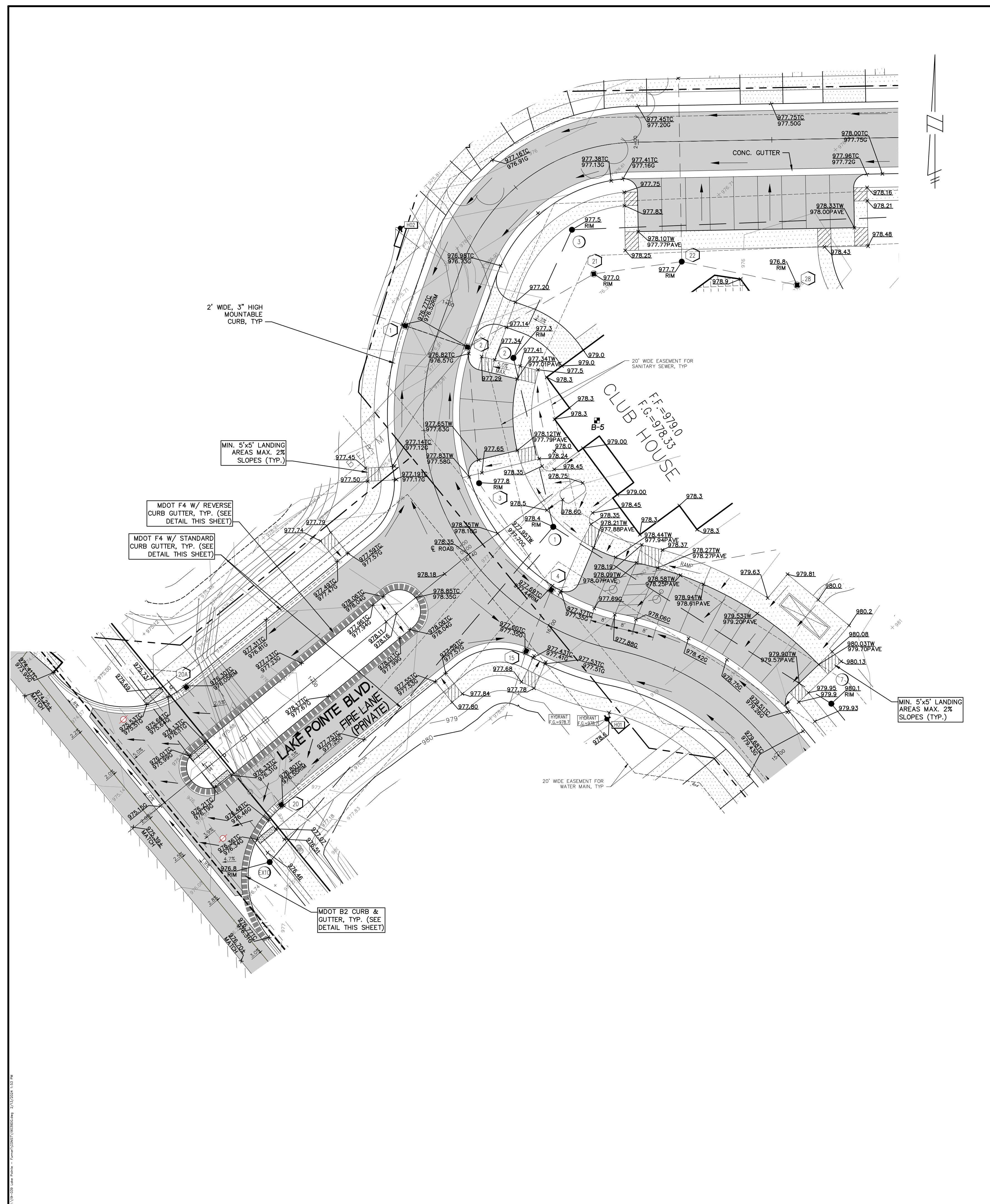
PROPOSED CONTOUR PLAN

SKL SEIBER KEAST LEHNER ENGINEERING | SURVEYING

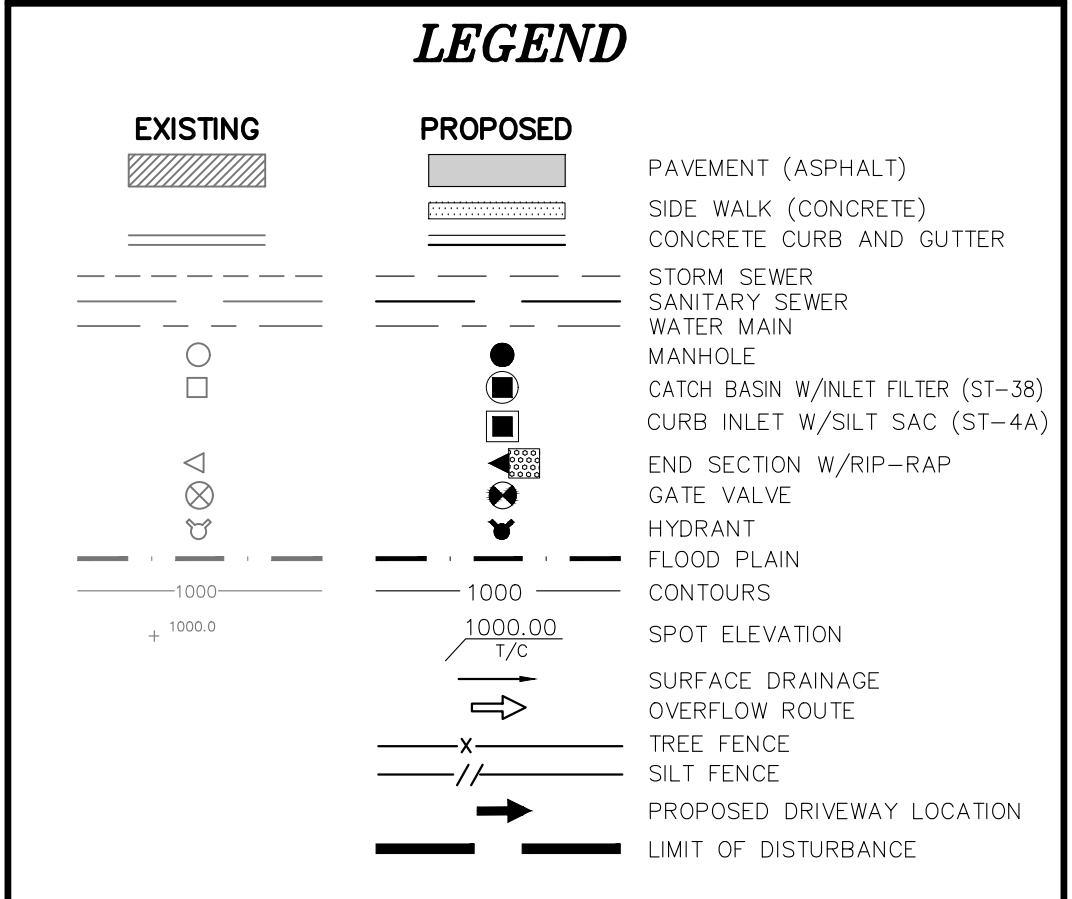
CLINTON TOWNSHIP OFFICE: 1700 NINETEEN MILE ROAD, SUITE 3 CLINTON TOWNSHIP, MI 48038 588.412.7050

PARENTON HILLS OFFICE: 38206 COUNTRY CLUB DRIVE, SUITE C8 PARENTON HILLS, MI 48831 248.308.3311

SHEET **7**



- O.C.W.R.C. S.E.S.C. NOTES**
1. CONTRACTOR SHALL MAINTAIN ALL SOIL EROSION CONTROLS WEEKLY AND AFTER EVERY STORM EVENT.
 2. SEE SHEET ND1 FOR SOIL EROSION CONTROL MAINTENANCE.
- GRADING NOTES**
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 2. SEE SHEET ND1 & 16 FOR ALL CURB AND PAVING DETAILS.
 3. SEE UNION LAKE ROAD APPROACH PLAN NOTES ON SHEETS 16.



LAKE POINTE
SECTION 36, TOWN 3 NORTH, RANGE 8 EAST
WHITE LAKE TWP., OAKLAND COUNTY, MICHIGAN

REVISIONS		UTILITY WARNING
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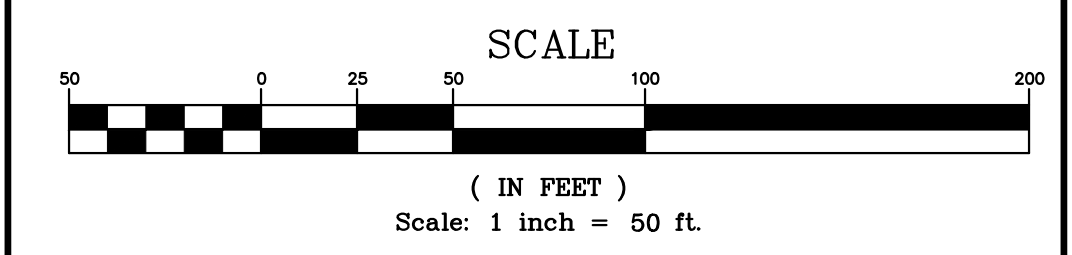
DATE: 04-08-2020 DESIGNED BY: A.A. JOB NUMBER: 19-039
CHECKED BY: J.E. DRAWING FILE: 19039DG.dwg

DETAILED GRADING PLAN FOR ADA PATHWAYS

SKL SEIBER KEAST LEHNER ENGINEERING | SURVEYING

CLINTON TOWNSHIP OFFICE: 1700 NINETEEN MILE ROAD, SUITE 3 CLINTON TOWNSHIP, MI 48038 588.412.7060
FARMINGTON HILLS OFFICE: 38205 COUNTRY CLUB DRIVE, SUITE C8 FARMINGTON HILLS, MI 48331 248.308.3341

SHEET 7A



SANITARY SEWER BASIS OF DESIGN
 CONNECTION TO PROPOSED MANHOLE / 12-INCH PVC TRUSS
 ON THE NORTHEAST SIDE OF UNION LAKE ROAD AT LAKE POINTE BLVD.

INITIAL DESIGN AND ULTIMATE

RESIDENTIAL EQUIVALENCY UNIT (REU) CALCULATION			
Area (Ac)	Number of Units	Unit Factor	REUs
13.32	69	0.6	41.4
Health Club / Fitness Center w Showers &/or Pool			
Area (SF)	Number of Fixtures	Unit Factor	REUs
	5	1.29	6.5
		TOTAL	47.9

POPULATION	= 2.7 people/unit x 129.20 people	47.9 units
POPULATION DENSITY	= 129.20 people / 13.32 Acres	9.70 ppl / ac
AVERAGE FLOW	= 129.20 people x 12,920 gal/day	100 gal/cap/day
	= 0.0200 cfs	
PEAK FACTOR	= (18+SQRT(P/1000))/(4+SQRT(P/1000))	
	= 4.21 (28,400 > Pop > 500)	
PEAK FLOW	= PEAK FACTOR X AVERAGE FLOW	
	= 0.0842 cfs	

COMPACTED SAND BACKFILL UNDER THE INFLUENCE OF ROADS. MATERIAL COMPACTED TO 95% MAXIMUM UNIT DENSITY.

NOTES

- ALL SANITARY SEWER SHALL BE PVC TRUSS PIPE OR APPROVED EQUIVALENT.
- ALL SANITARY SEWER LEADS SHALL BE SDR 23.5 PVC PIPE.
- ALL TRENCHES WITHIN 1 ON 1 SLOPE FROM TOP OF CURBS SHALL BE BACKFILLED WITH GRANULAR MATERIAL CLASS II AND COMPACTED TO 95% OF MAXIMUM UNIT WEIGHT.
- SANITARY LEADS SHALL BE A MINIMUM OF 1% GRADE, A MAXIMUM OF 150 LF AND A MINIMUM 6" DIAMETER.
- SANITARY LEADS SHALL BE BURIED AT LEAST 5 FEET DEEP WHERE UNDER THE INFLUENCE OF PAVEMENT.
- ALL SANITARY MANHOLES SHALL BE 4' DIAMETER UNLESS OTHERWISE NOTED.

LEGEND

EXISTING	PROPOSED	DESCRIPTION
[Symbol]	[Symbol]	PAVEMENT (ASPHALT)
[Symbol]	[Symbol]	SIDE WALK (CONCRETE)
[Symbol]	[Symbol]	CONCRETE CURB AND GUTTER
[Symbol]	[Symbol]	STORM SEWER
[Symbol]	[Symbol]	SANITARY SEWER
[Symbol]	[Symbol]	WATER MAIN
[Symbol]	[Symbol]	MANHOLE
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[Symbol]	[Symbol]	GATE VALVE
[Symbol]	[Symbol]	HYDRANT
[Symbol]	[Symbol]	FLOOD PLAIN
[Symbol]	[Symbol]	CONTOURS
[Symbol]	[Symbol]	SPOT ELEVATION
[Symbol]	[Symbol]	SURFACE DRAINAGE
[Symbol]	[Symbol]	OVERFLOW ROUTE
[Symbol]	[Symbol]	TREE FENCE
[Symbol]	[Symbol]	SILT FENCE
[Symbol]	[Symbol]	PROPOSED DRIVEWAY LOCATION
[Symbol]	[Symbol]	LIMIT OF DISTURBANCE

LAKE POINTE
 SECTION 36, TOWN 3 NORTH, RANGE 8 EAST
 WHITE LAKE TWP., OAKLAND COUNTY, MICHIGAN

REVISIONS			UTILITY WARNING
NO.	ITEM	DATE	
1.	REVISE PER OWNER	6-3-20	UNDERGROUND UTILITY LOCATIONS AS SHOWN ON THE PLAN, WERE OBTAINED FROM UTILITY OWNER AND NOT FIELD LOCATED.
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4.	REVISE PER WHITE LAKE TWP	03-03-21	
6.	REVISED PER TOWNSHIP	04-25-23	811 Know what's below. Call before you dig.
7.	REVISED PER TOWNSHIP	7-27-23	
8.	REVISE PER AGENCIES	02-13-24	

DATE: 04-08-2020 DESIGNED BY: A.A. JOB NUMBER: 19-039
 CHECKED BY: J.E. DRAWING FILE: 19039RD.dwg

ROAD AND SANITARY SEWER PLAN

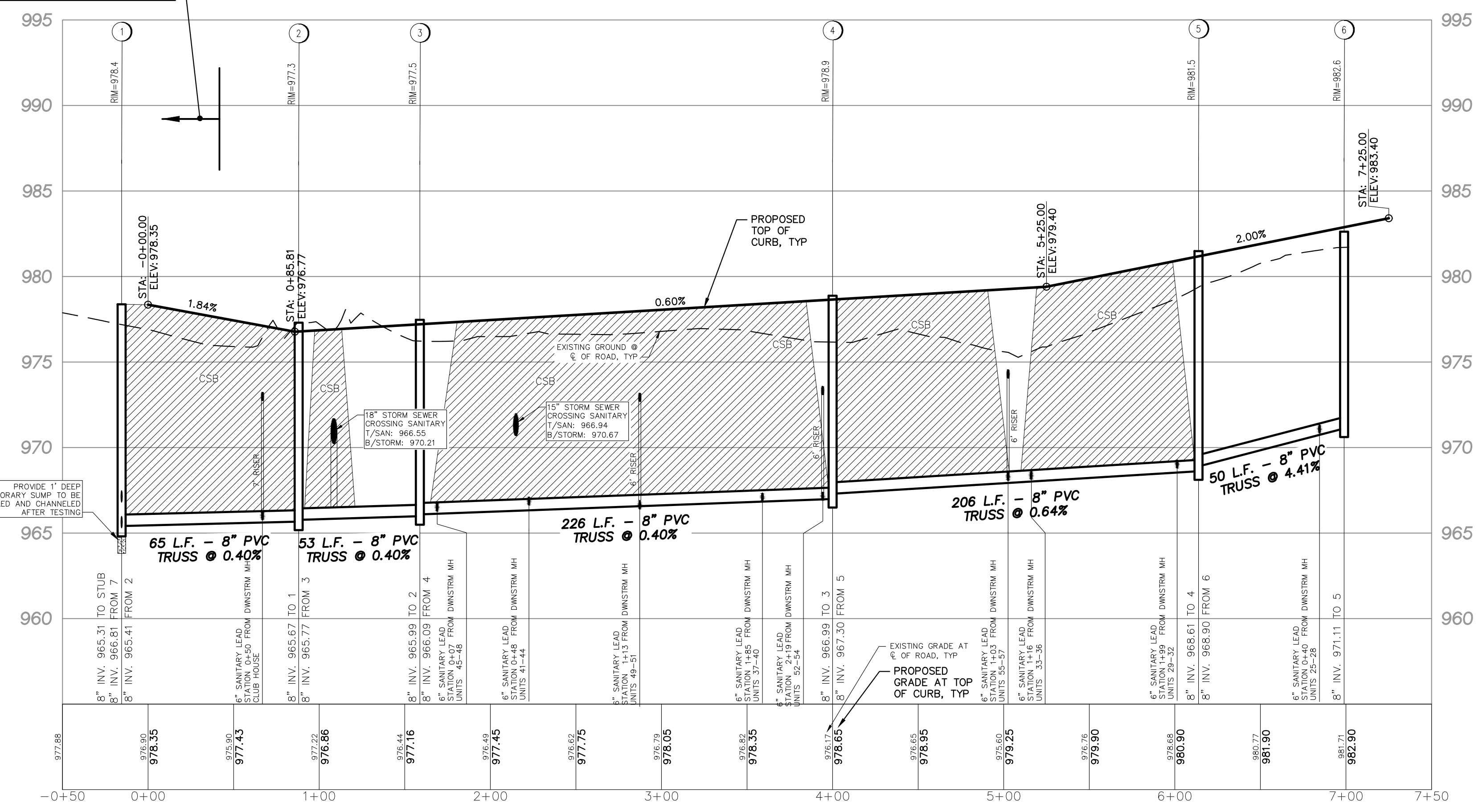
SKL SEIBER KEAST LEHNER ENGINEERING | SURVEYING

CLINTON TOWNSHIP OFFICE: 1700 NINETEEN MILE ROAD, SUITE 3 CLINTON TOWNSHIP, MI 48831 588.412.7060

PARMENTON HILLS OFFICE: 38205 COUNTRY CLUB DRIVE, SUITE C8 PARMENTON HILLS, MI 48381 248.308.3341

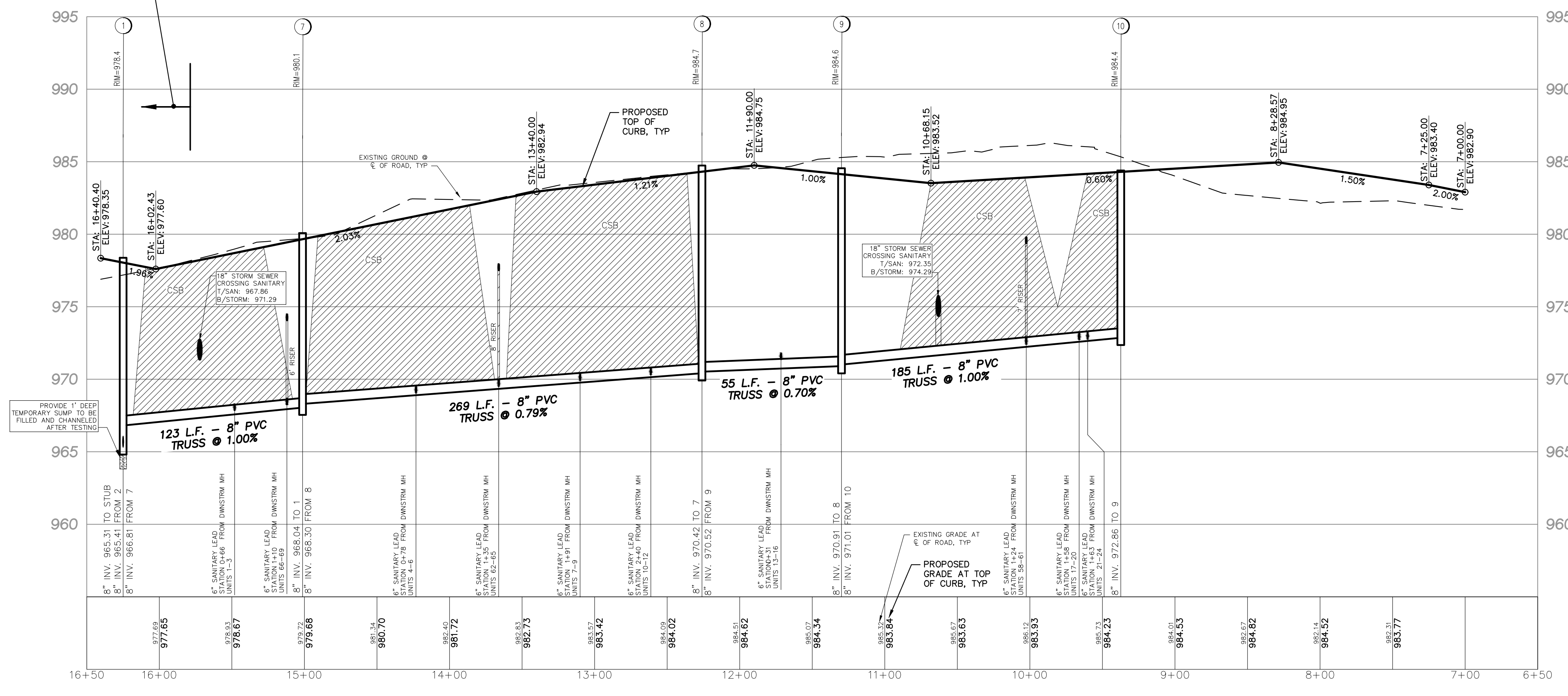
SHEET 8

SEE GRADING PLAN (SHEET 4) FOR INTERSECTION GRADING DETAIL

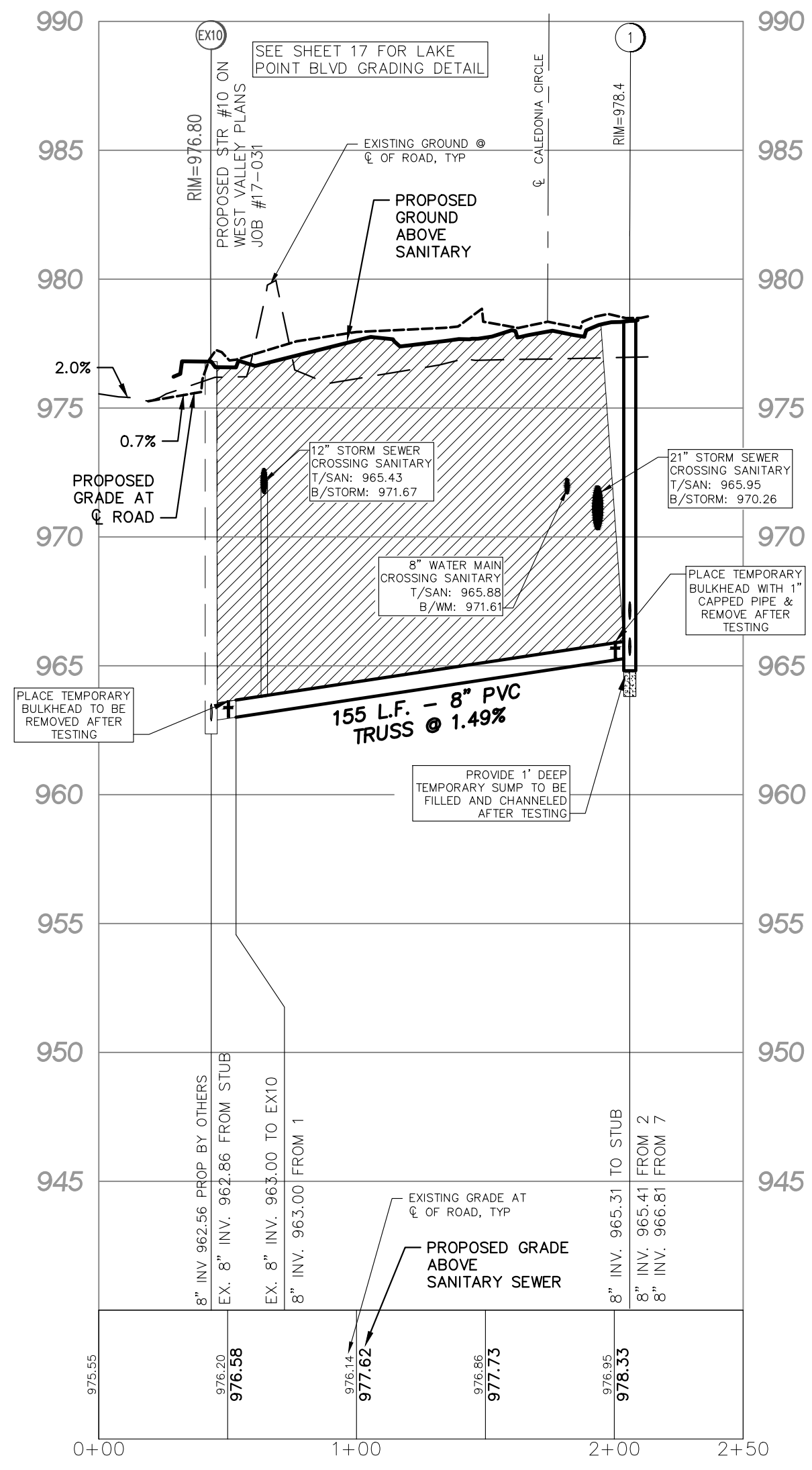


CALEDONIA CIRCLE
SCALE: HORIZONTAL: 1" = 50'
VERTICAL: 1" = 5'

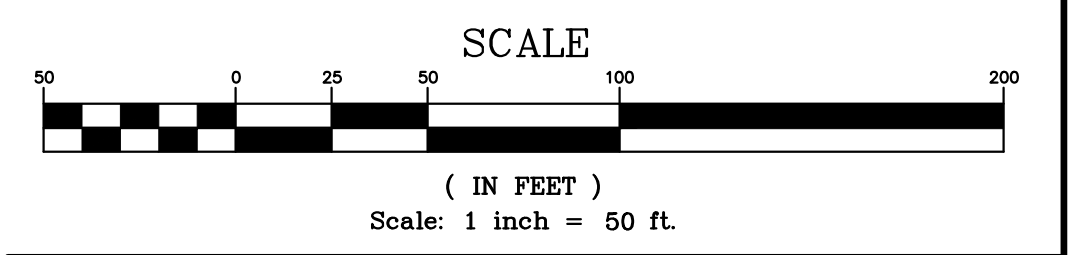
SEE GRADING PLAN (SHEET 4) FOR INTERSECTION GRADING DETAIL



CALEDONIA CIRCLE
SCALE: HORIZONTAL: 1" = 50'
VERTICAL: 1" = 5'



LAKE POINTE BLVD
SCALE: HORIZONTAL: 1" = 50'
VERTICAL: 1" = 5'



LEGEND	
	EXISTING PAVEMENT (ASPHALT)
	PROPOSED PAVEMENT (ASPHALT)
	EXISTING SIDE WALK (CONCRETE)
	PROPOSED SIDE WALK (CONCRETE)
	EXISTING CONCRETE CURB AND GUTTER
	PROPOSED CONCRETE CURB AND GUTTER
	EXISTING STORM SEWER
	PROPOSED STORM SEWER
	EXISTING SANITARY SEWER
	PROPOSED SANITARY SEWER
	EXISTING WATER MAIN
	PROPOSED WATER MAIN
	EXISTING MANHOLE
	PROPOSED MANHOLE
	EXISTING CATCH BASIN W/INLET FILTER (ST-38)
	PROPOSED CATCH BASIN W/INLET FILTER (ST-38)
	EXISTING CURB INLET W/SILT SAC (ST-4A)
	PROPOSED CURB INLET W/SILT SAC (ST-4A)
	EXISTING END SECTION W/RIP-RAP
	PROPOSED END SECTION W/RIP-RAP
	EXISTING GATE VALVE
	PROPOSED GATE VALVE
	EXISTING HYDRANT
	PROPOSED HYDRANT
	EXISTING FLOOD PLAIN
	PROPOSED FLOOD PLAIN
	EXISTING CONTOURS
	PROPOSED CONTOURS
	EXISTING SPOT ELEVATION
	PROPOSED SPOT ELEVATION
	EXISTING SURFACE DRAINAGE
	PROPOSED SURFACE DRAINAGE
	EXISTING OVERFLOW ROUTE
	PROPOSED OVERFLOW ROUTE
	EXISTING TREE FENCE
	PROPOSED TREE FENCE
	EXISTING SILTY FENCE
	PROPOSED SILTY FENCE
	EXISTING PROPOSED DRIVEWAY LOCATION
	PROPOSED PROPOSED DRIVEWAY LOCATION
	EXISTING LIMIT OF DISTURBANCE
	PROPOSED LIMIT OF DISTURBANCE

LAKE POINTE
SECTION 36, TOWN 3 NORTH, RANGE 8 EAST
WHITE LAKE TWP., OAKLAND COUNTY, MICHIGAN

REVISIONS			UTILITY WARNING
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DATE: 04-08-2020 DESIGNED BY: A.A. JOB NUMBER: 19-039
CHECKED BY: J.E. DRAWING FILE: 19039RD.dwg

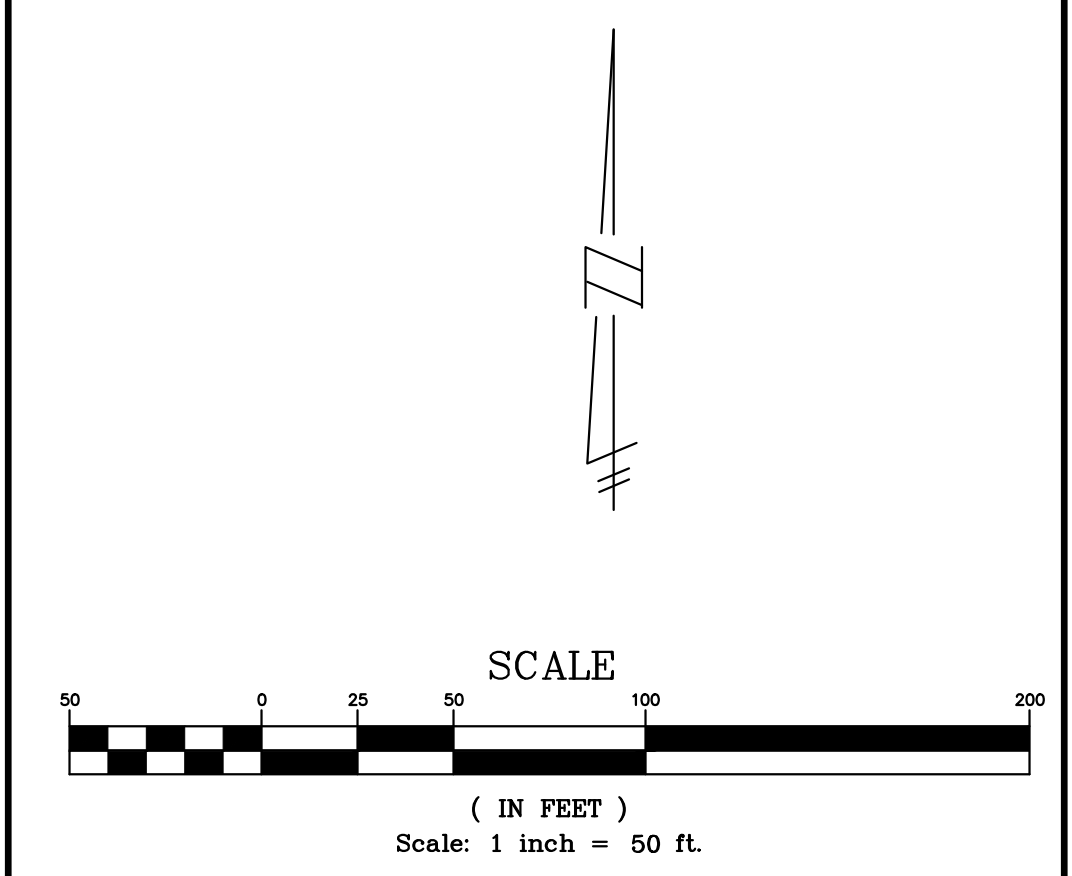
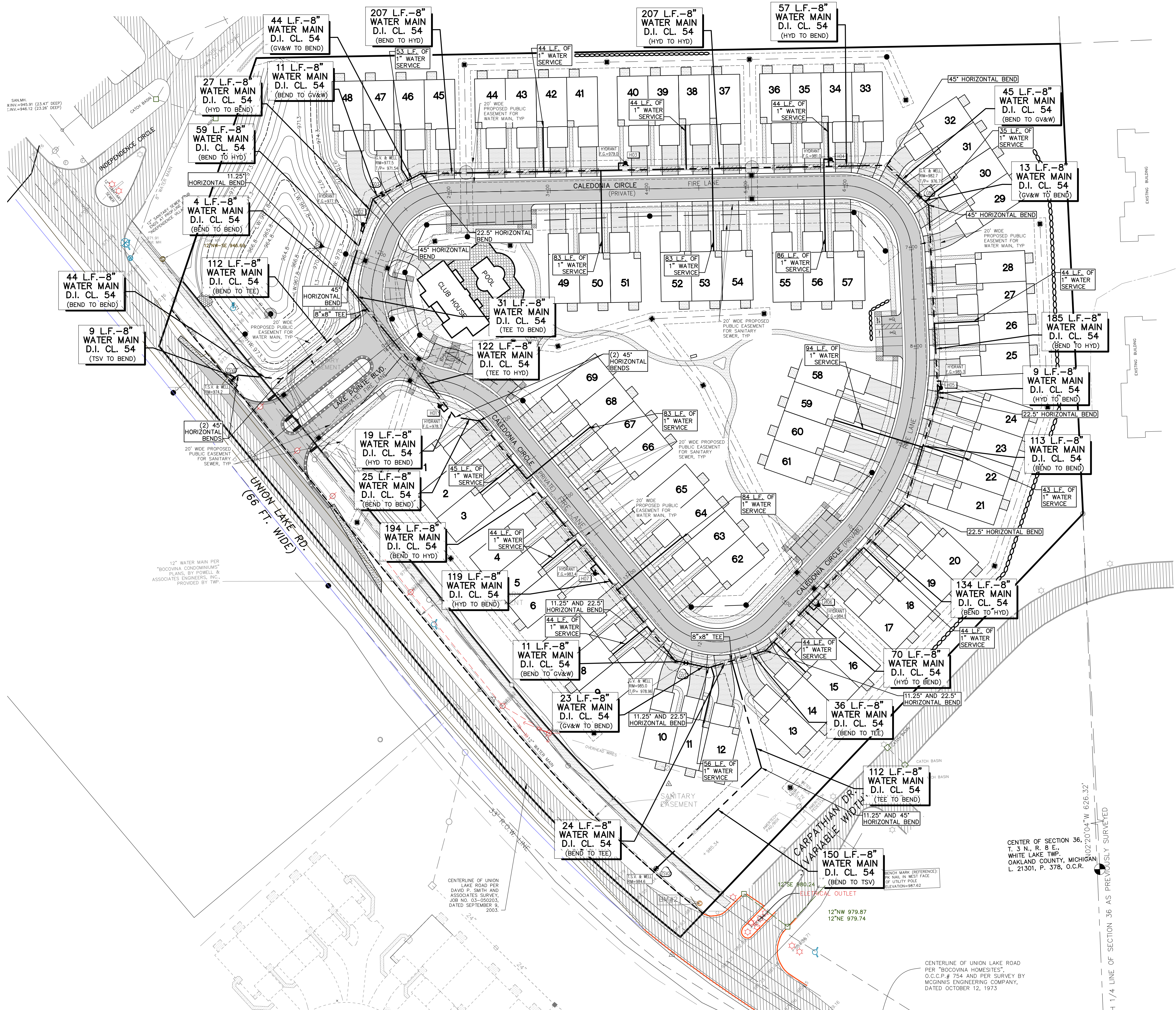
ROAD AND SANITARY SEWER PROFILES

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CLINTON TOWNSHIP OFFICE: 1700 NINETEEN MILE ROAD, SUITE 3 CLINTON TOWNSHIP, MI 48038 588.412.7060

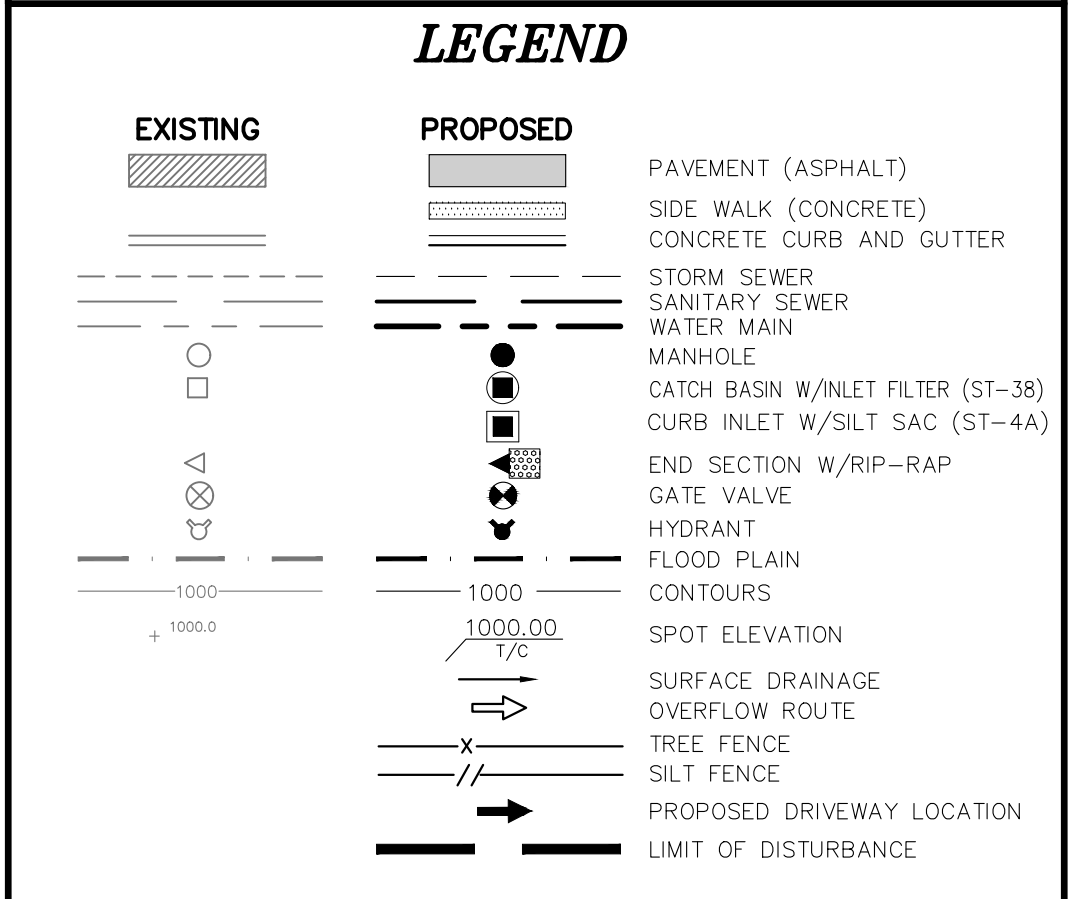
PARENTON HILLS OFFICE: 38205 COUNTRY CLUB DRIVE, SUITE C8 PARENTON HILLS, MI 48381 248.308.3311

SHEET 9



LOWER WATER MAIN AS NECESSARY TO MAINTAIN 18" MINIMUM VERTICAL SEPARATION BETWEEN UTILITIES.
 COMPACTED SAND BACKFILL UNDER THE INFLUENCE OF ROADS. MATERIAL COMPACTED TO 95% MAXIMUM UNIT WEIGHT.

- NOTES**
1. ALL TRENCHES WITHIN 1 ON 1 SLOPE FROM TOP OF CURBS SHALL BE BACKFILLED WITH GRANULAR MATERIAL CLASS II AND COMPACTED TO 95% OF MAXIMUM UNIT WEIGHT.
 2. WATER MAINS SHALL BE INSTALLED WITH A MINIMUM OF 6'-0" OF COVER EXCEPT AT GATE WELLS WHERE THEY SHALL BE INSTALLED WITH A 5' DEPTH OF COVER.
 3. ALL WATER MAIN SHALL BE DUCTILE IRON, CLASS 54, CEMENT LINED.
 4. ALL HYDRANTS MUST BE A MINIMUM OF 6' (FROM CENTER) OFF THE BACK OF CURB.
 5. HYDRANT LEADS ARE 6". LENGTH OF LEAD IS 13' UNLESS OTHERWISE NOTED.
 6. ALL WATER SERVICES ARE TO BE 1" DIAMETER. ALL WATER SERVICES SHALL BE COPPER K OR 200 PSI BLUE POLY SDR9 TUBING WITH TRACER WIRE, OR APPROVED EQUAL.



LAKE POINTE
 SECTION 36, TOWN 3 NORTH, RANGE 8 EAST
 WHITE LAKE TWP., OAKLAND COUNTY, MICHIGAN

REVISIONS		UTILITY WARNING
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UNDERGROUND UTILITY LOCATIONS AS SHOWN ON THE PLAN, WERE OBTAINED FROM UTILITY OWNER AND NOT FIELD LOCATED.

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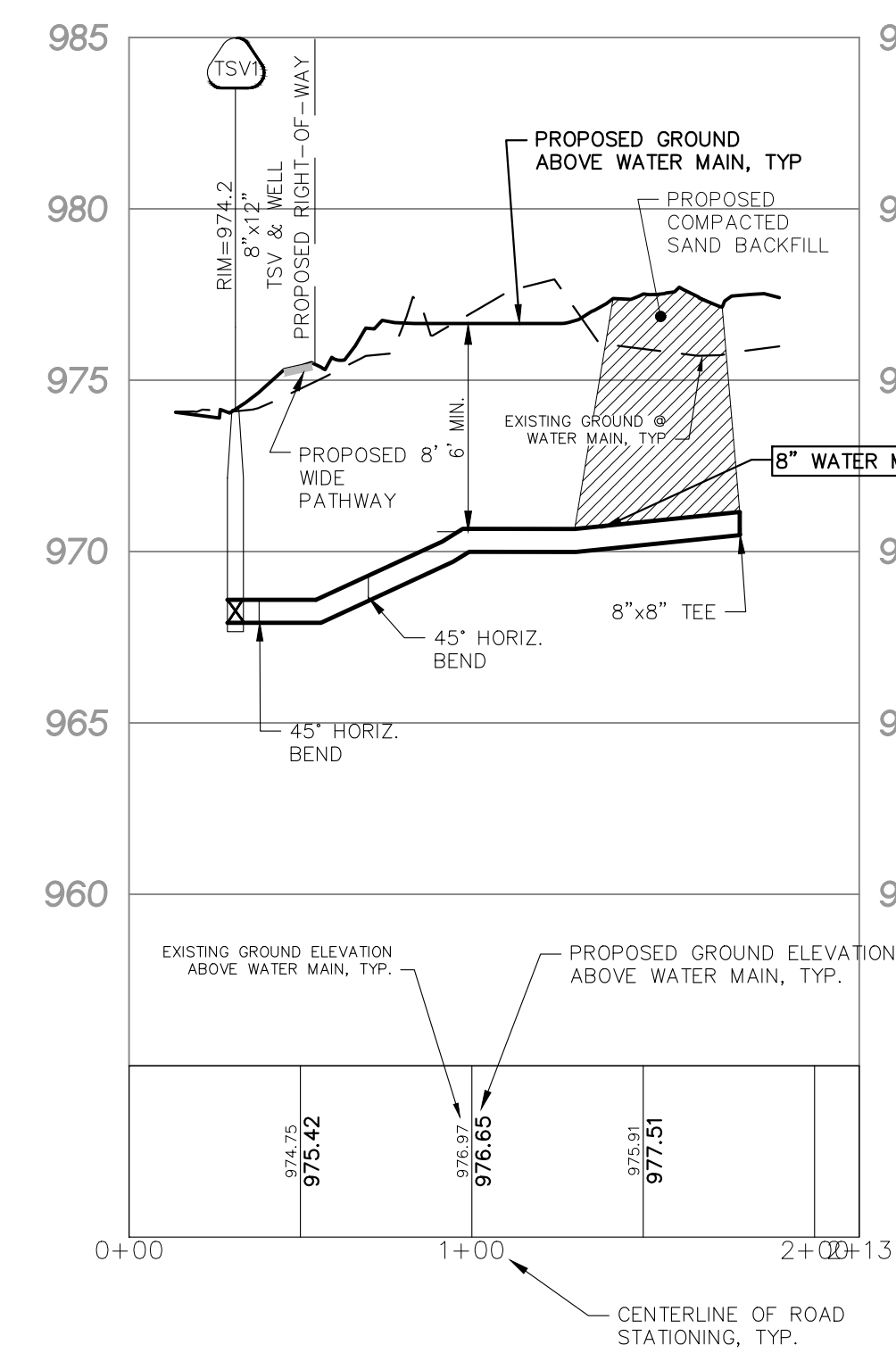
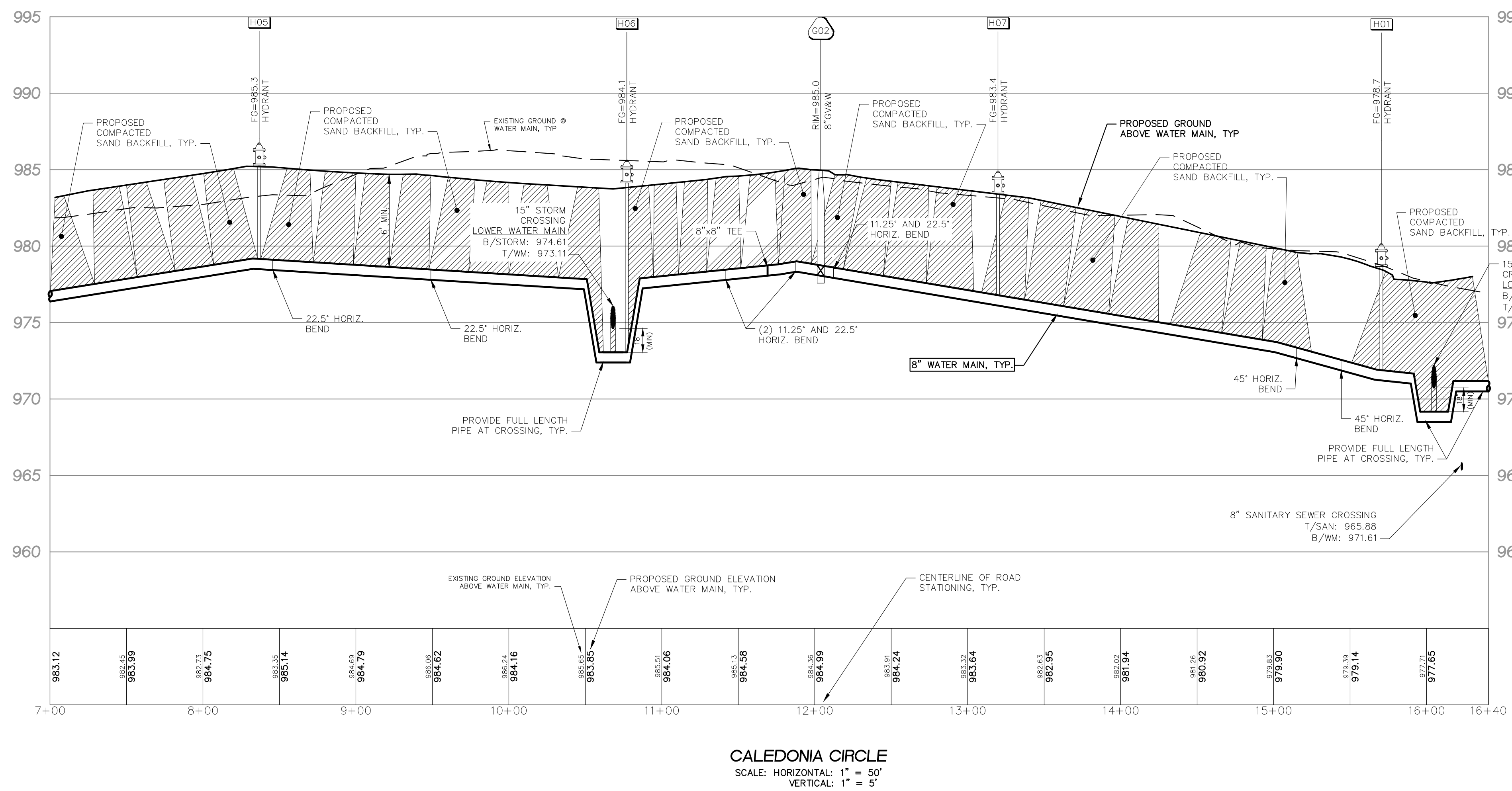
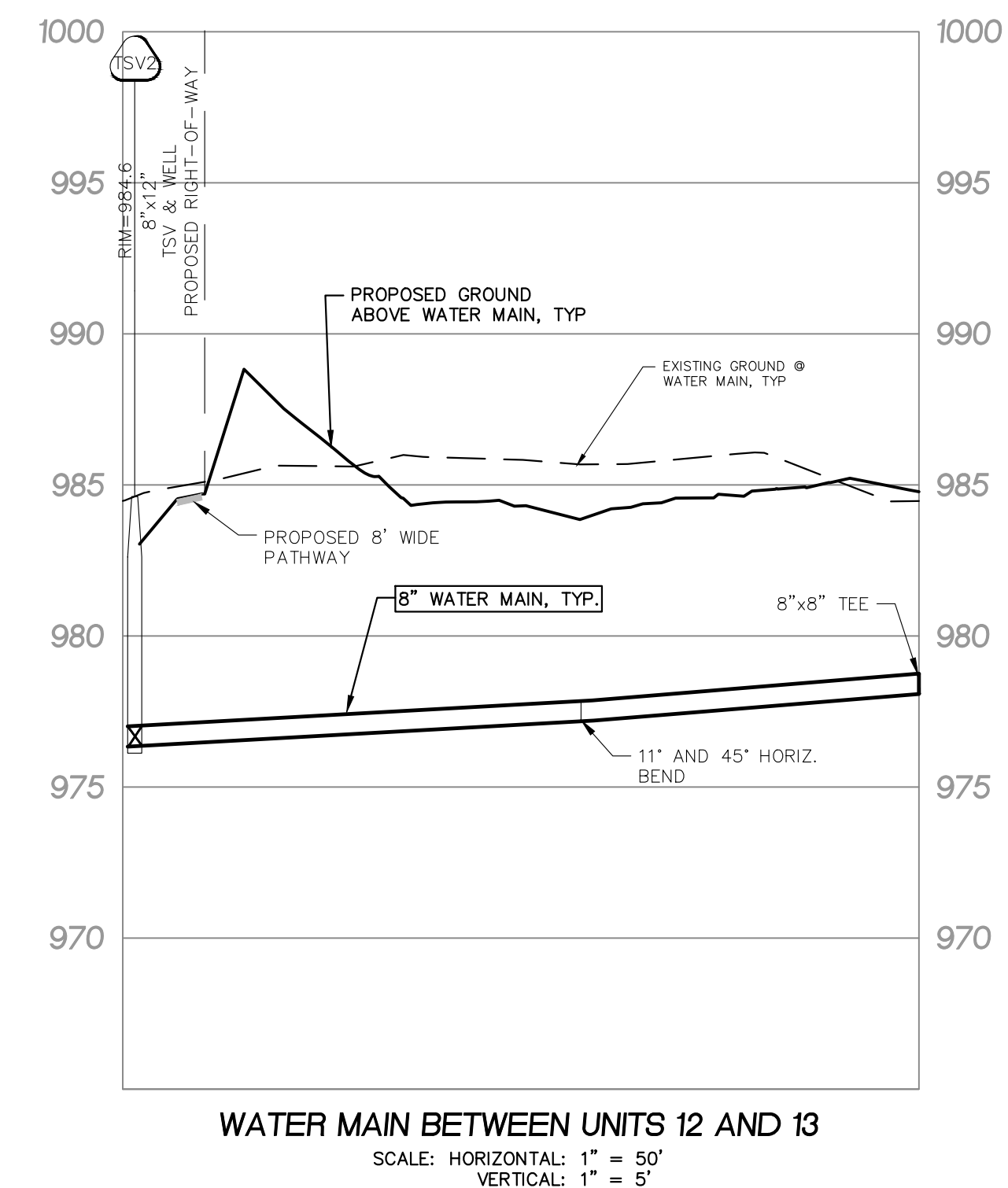
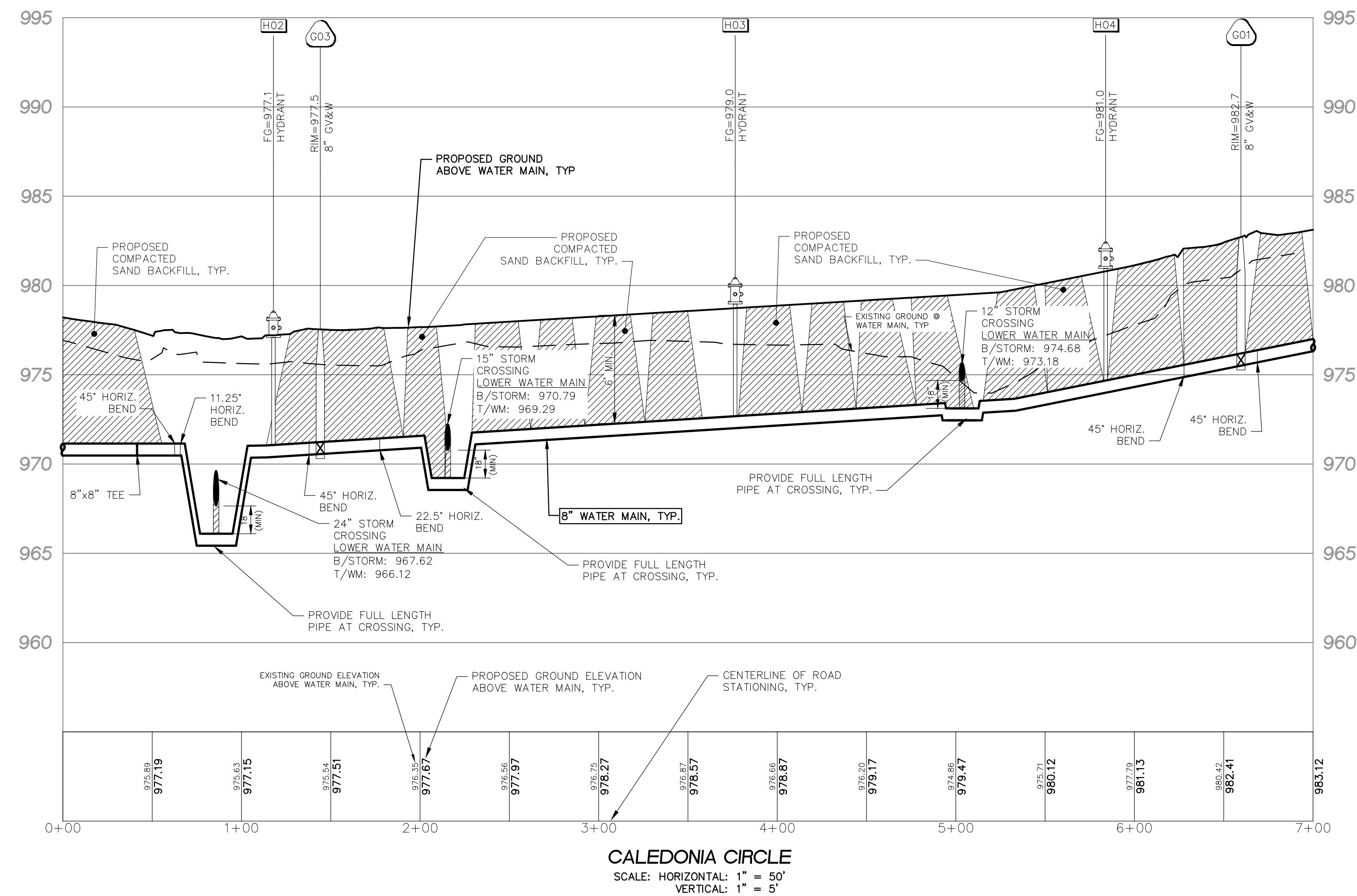
WATERMAIN PLAN

SKL SEIBER KEAST LEHNER ENGINEERING | SURVEYING

CLINTON TOWNSHIP OFFICE: 1700 NINETEEN MILE ROAD, SUITE 3 CLINTON TOWNSHIP, MI 48838 588.412.7050

PARMENTON HILLS OFFICE: 38206 COUNTRY CLUB DRIVE, SUITE C8 PARMENTON HILLS, MI 48381 248.308.3341

SHEET 10



LEGEND

EXISTING	PROPOSED	DESCRIPTION
[Symbol]	[Symbol]	PAVEMENT (ASPHALT)
[Symbol]	[Symbol]	SIDE WALK (CONCRETE)
[Symbol]	[Symbol]	CONCRETE CURB AND GUTTER
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[Symbol]	[Symbol]	LIMIT OF DISTURBANCE

LAKE POINTE
SECTION 36, TOWN 3 NORTH, RANGE 8 EAST
WHITE LAKE TWP., OAKLAND COUNTY, MICHIGAN

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3.	REV PER 11-20-20 WL TWP LETTER	02-02-21
4.	REVISE PER WHITE LAKE TWP	03-03-21
5.	ADD WATER MAIN PROFILES PER E.G.L.E	04-07-21
6.	REVISED PER TOWNSHIP	04-25-23
7.	REVISED PER TOWNSHIP	7-27-23
8.	REVISE PER AGENCIES	02-13-24

UTILITY WARNING
UNDERGROUND UTILITY LOCATIONS AS SHOWN ON THE PLAN, WERE OBTAINED FROM UTILITY OWNER AND NOT FIELD LOCATED.

811 Know what's below. Call before you dig.

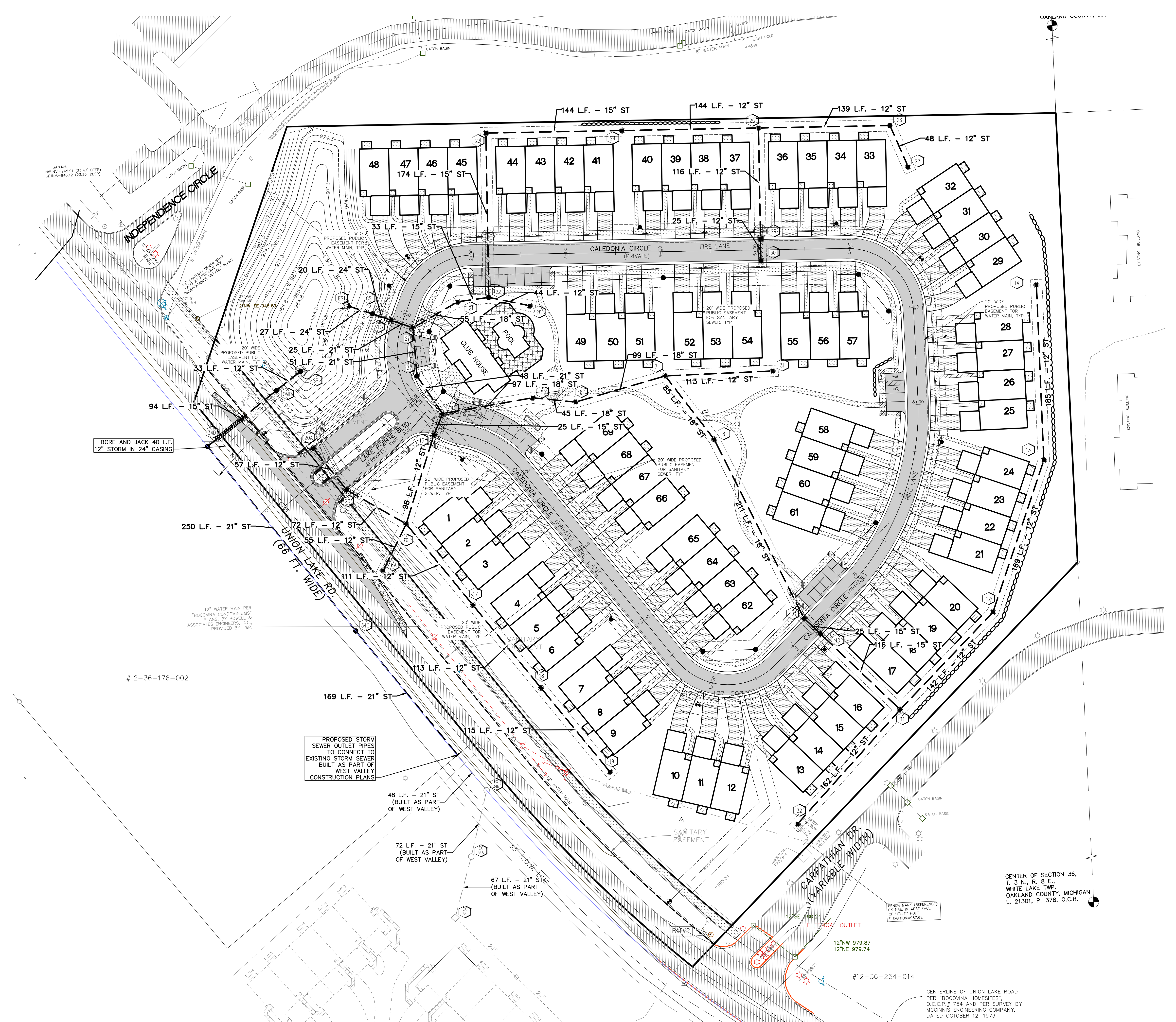
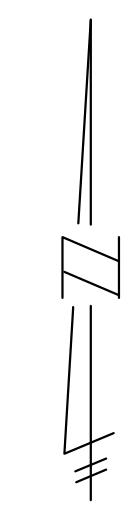
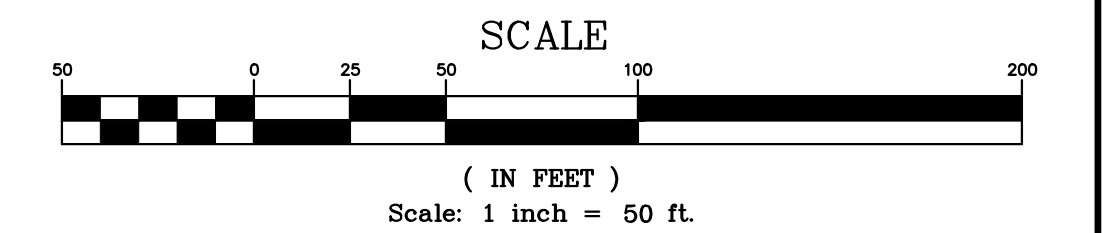
DATE: 04-08-2020 DESIGNED BY: A.A. JOB NUMBER: 19-039
CHECKED BY: J.E. DRAWING FILE: 19039WM.dwg

WATER MAIN PROFILES

SKL SEIBER KEAST LEHNER ENGINEERING | SURVEYING

CLINTON TOWNSHIP OFFICE: 1700 NINETEEN MILE ROAD, SUITE 3 CLINTON TOWNSHIP, MI 48038 588.412.7050
PARRINGTON HILLS OFFICE: 38205 COUNTRY CLUB DRIVE, SUITE C8 PARRINGTON HILLS, MI 48381 248.308.3311

SHEET 10A



LOWER WATER MAIN AS NECESSARY TO MAINTAIN 18" MINIMUM VERTICAL SEPARATION BETWEEN UTILITIES.

COMPACTED SAND BACKFILL UNDER THE INFLUENCE OF ROADS. MATERIAL COMPACTED TO 95% MAXIMUM UNIT DENSITY.

LEGEND

EXISTING	PROPOSED	
		PAYEMENT (ASPHALT)
		SIDE WALK (CONCRETE)
		CONCRETE CURB AND GUTTER
		STORM SEWER
		SANITARY SEWER
		WATER MAIN
		MANHOLE
		CATCH BASIN W/INLET FILTER (ST-38)
		CURB INLET W/SILT SAC (ST-4A)
		END SECTION W/rip-RAP
		GATE VALVE
		HYDRANT
		FLOOD PLAIN
		CONTOURS
		SPOT ELEVATION
		SURFACE DRAINAGE
		OVERFLOW ROUTE
		TREE FENCE
		SILT FENCE
		PROPOSED DRIVEWAY LOCATION
		LIMIT OF DISTURBANCE

LAKE POINTE

SECTION 36, TOWN 3 NORTH, RANGE 8 EAST
WHITE LAKE TWP., OAKLAND COUNTY, MICHIGAN

REVISIONS		UTILITY WARNING
NO.	ITEM	DATE
1.	REVISE PER OWNER	6-3-20
2.	REVISE GRADES ON UNITS 2 AND 6	11-9-20
3.	REV PER 11-20-20 WL TWP LETTER	02-02-21
4.	REVISE PER WHITE LAKE TWP	03-03-21
6.	REVISED PER TOWNSHIP	04-25-23
7.	REVISED PER TOWNSHIP	7-27-23
8.	REVISE PER AGENCIES	02-13-24

UNDERGROUND UTILITY LOCATIONS AS SHOWN ON THE PLAN, WERE OBTAINED FROM UTILITY OWNER AND NOT FIELD LOCATED.

811 Know what's below. Call before you dig.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF AND/OR RELOCATION OF ALL UTILITIES THAT MAY INTERFERE WITH CONSTRUCTION.

DATE: 04-08-2020 DESIGNED BY: A.A. JOB NUMBER: 19-039
CHECKED BY: J.E. DRAWING FILE: 19039ST.dwg

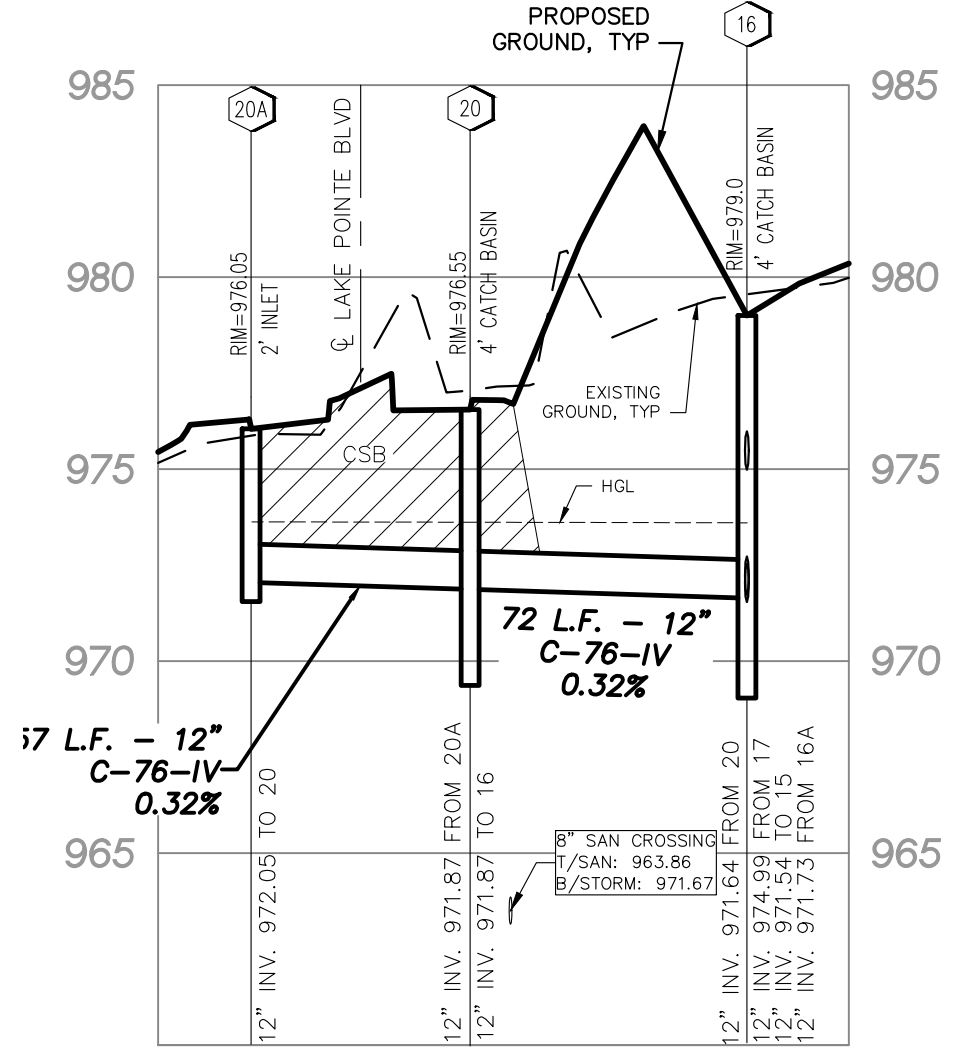
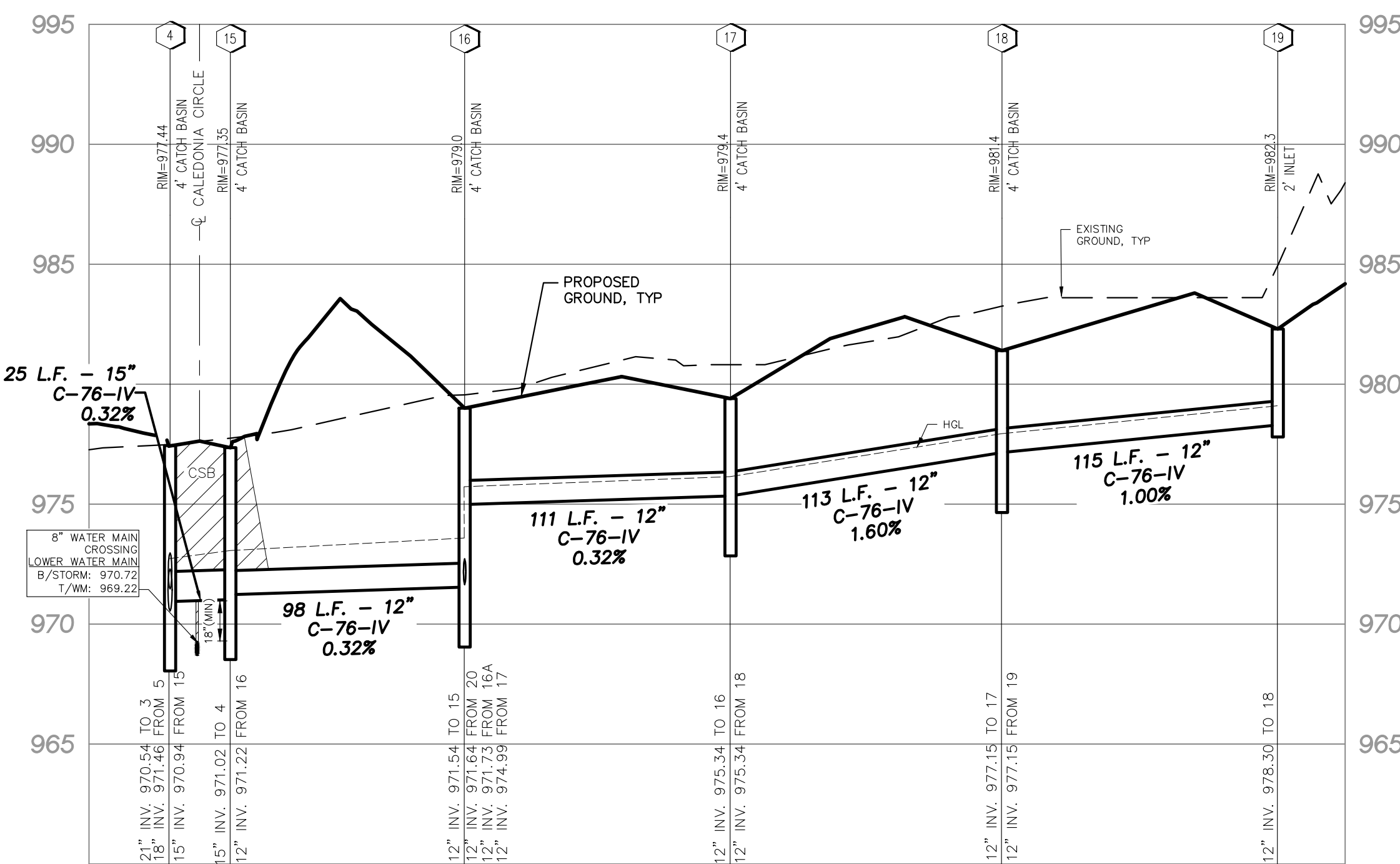
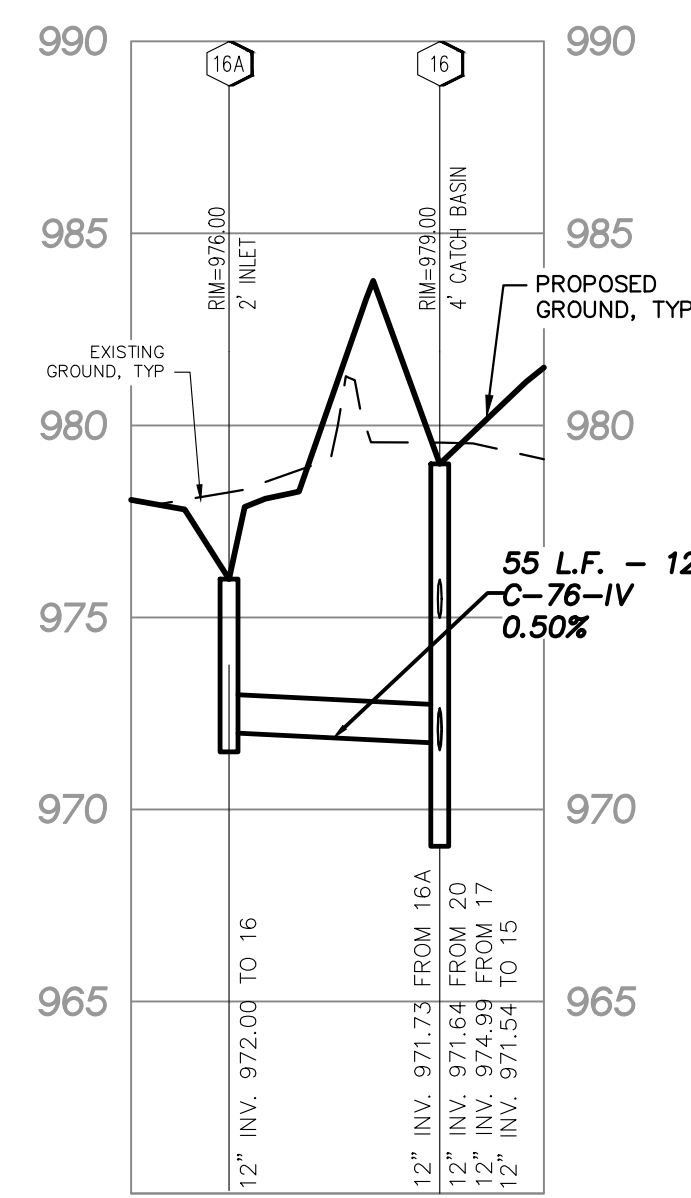
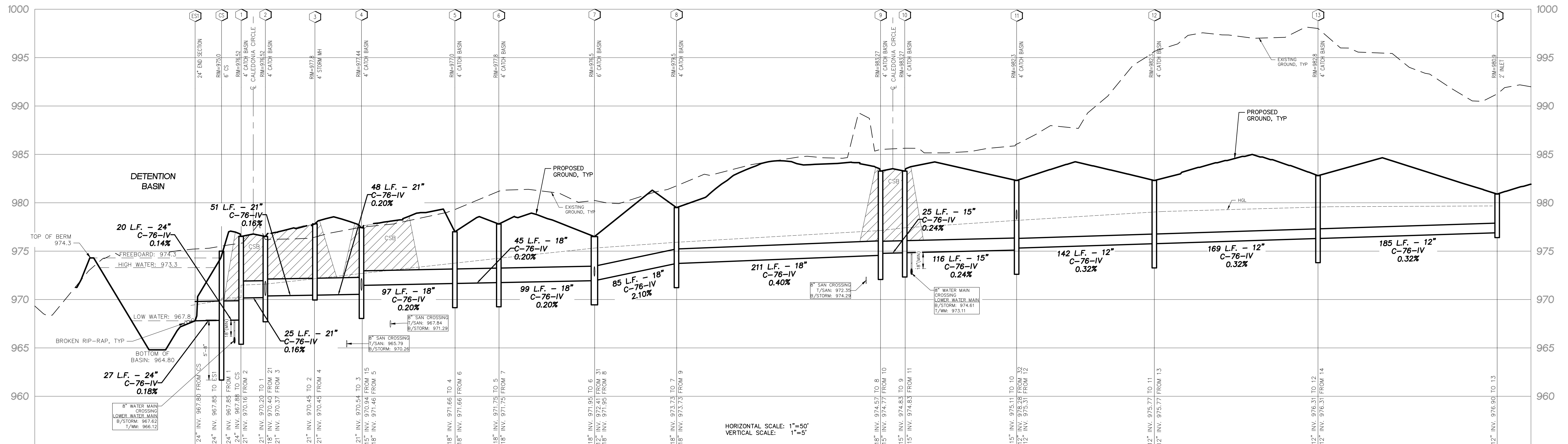
STORM SEWER PLAN

SEIBER KEAST LEHNER
ENGINEERING | SURVEYING

CLINTON TOWNSHIP OFFICE: 1700 NINETEEN MILE ROAD, SUITE 3 CLINTON TOWNSHIP, MI 48038 588.412.7050

FARMINGTON HILLS OFFICE: 38205 COUNTRY CLUB DRIVE, SUITE C8 FARMINGTON HILLS, MI 48331 248.308.3341

SHEET 11



LAKE POINTE

SECTION 36, TOWN 3 NORTH, RANGE 8 EAST
WHITE LAKE TWP., OAKLAND COUNTY, MICHIGAN

REVISIONS		UTILITY WARNING
NO.	ITEM	DATE
1	REVISE PER OWNER	6-3-20
2	REVISE GRADES ON UNITS 2 AND 6	11-9-20
3	REV PER 11-20-20 W.L. TWP LETTER	02-02-21
4	REVISE PER WHITE LAKE TWP	03-03-21
6	REVISED PER TOWNSHIP	04-25-23
7	REVISED PER TOWNSHIP	7-27-23
8	REVISED PER AGENCIES	02-13-24

DATE: 04-08-2020 DESIGNED BY: A.A. JOB NUMBER: 19-039
CHECKED BY: J.E. DRAWING FILE: 19039ST.dwg

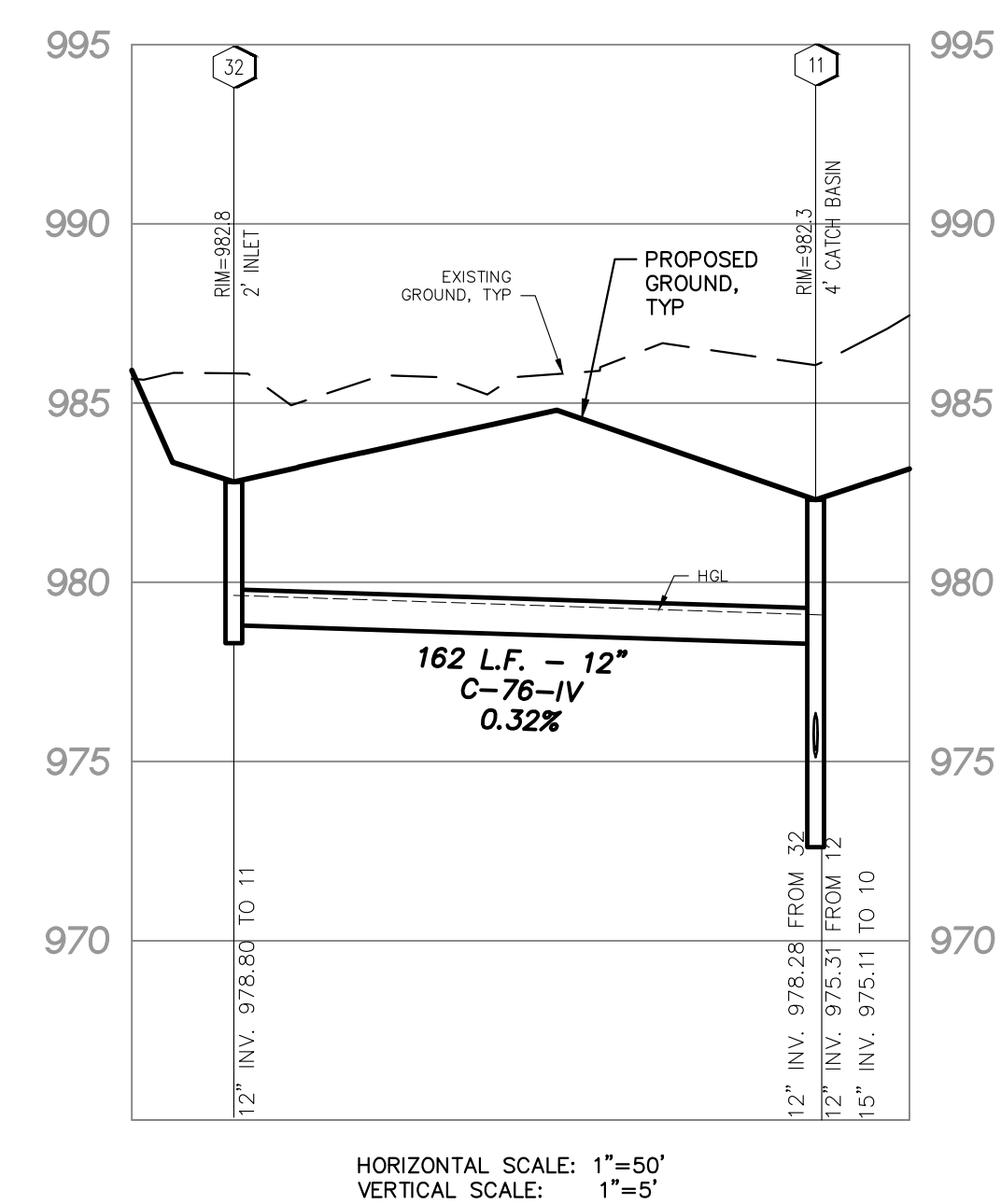
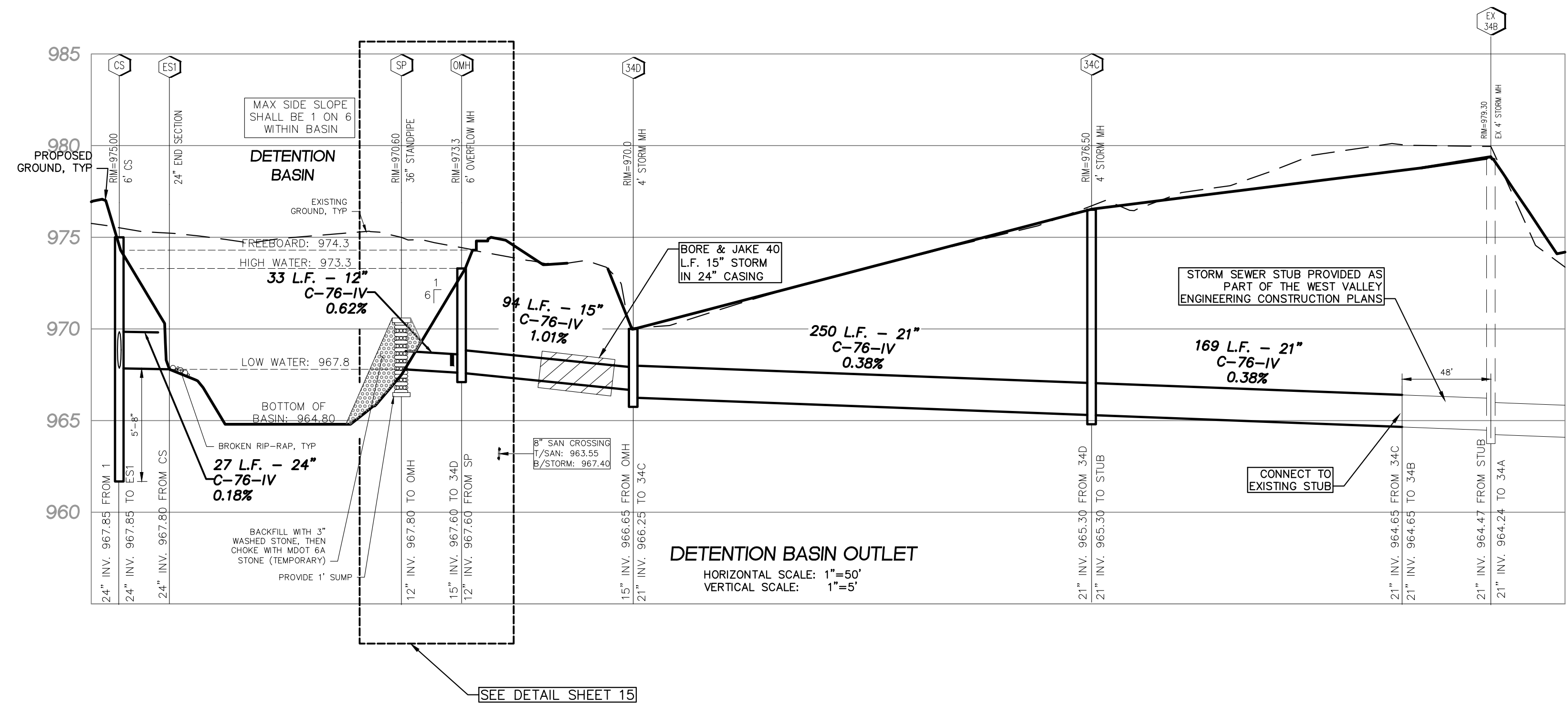
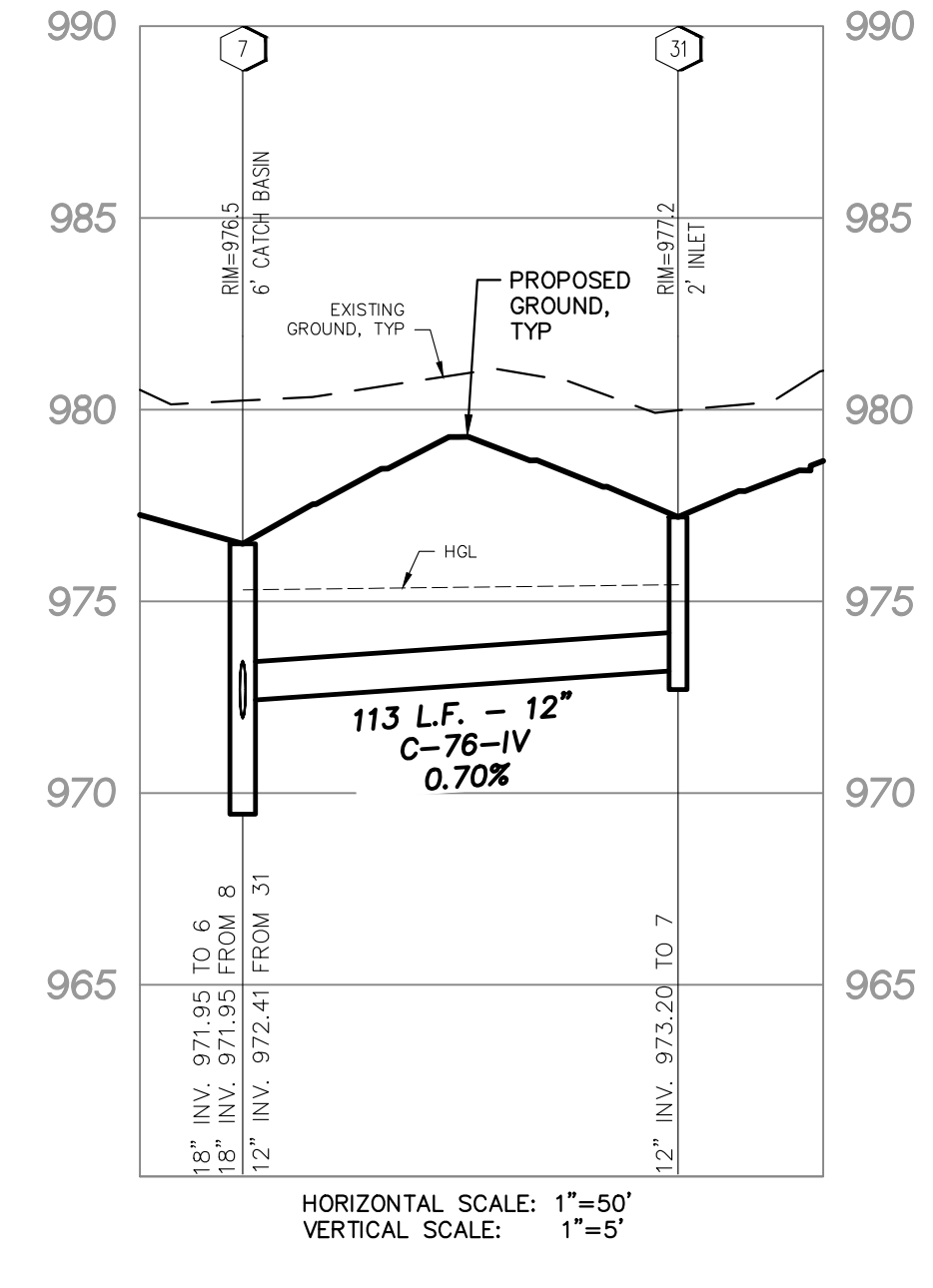
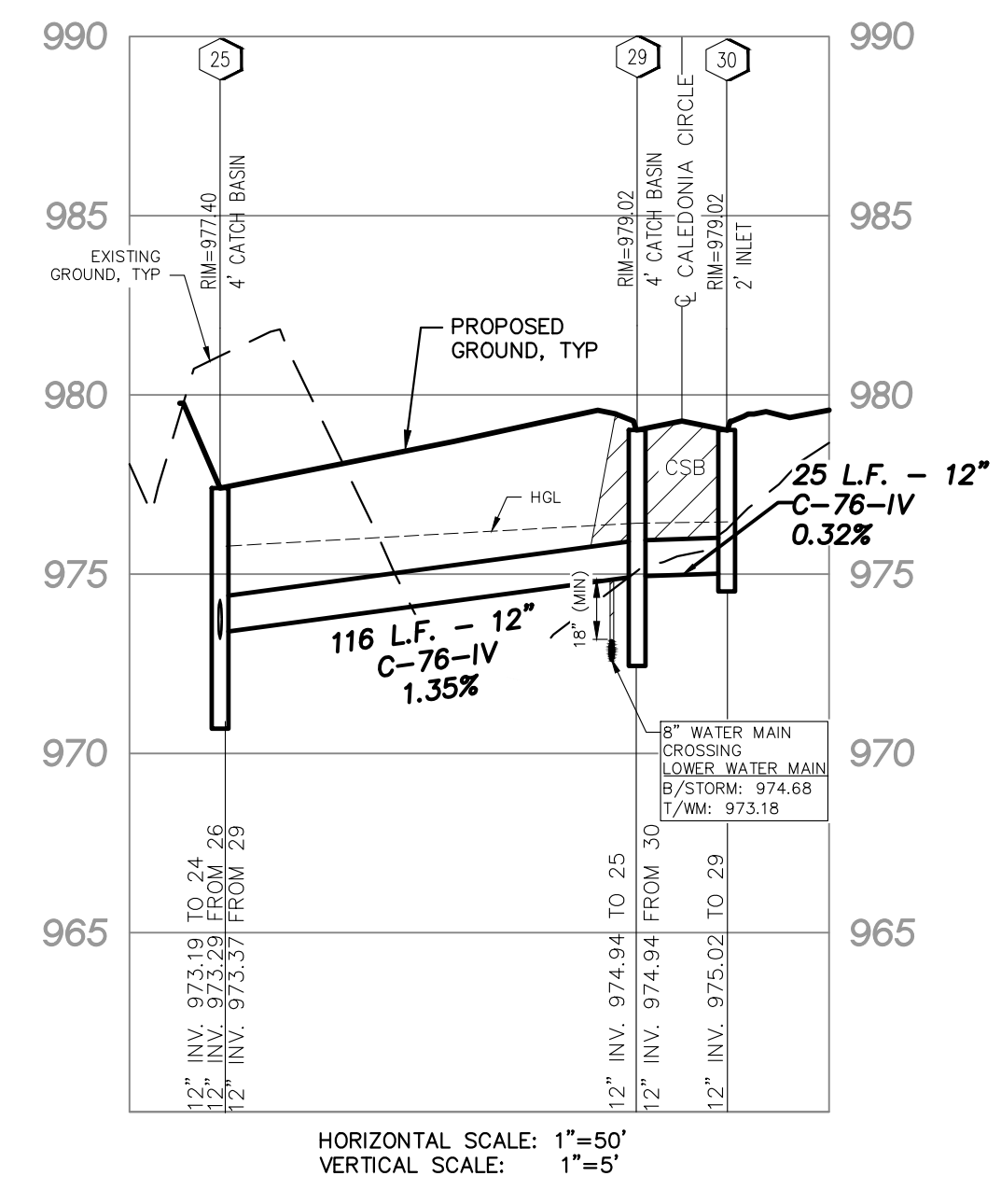
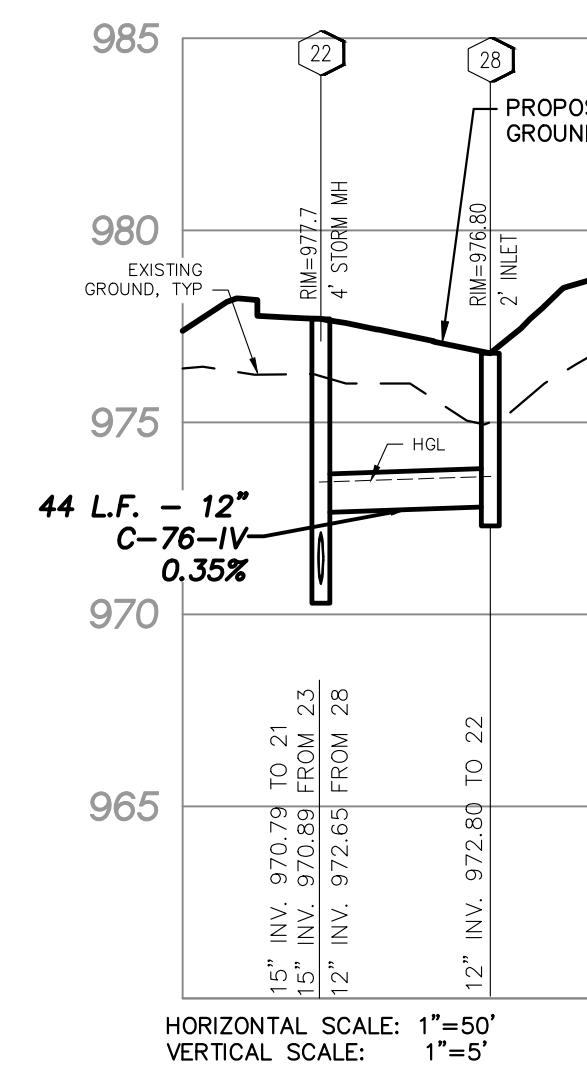
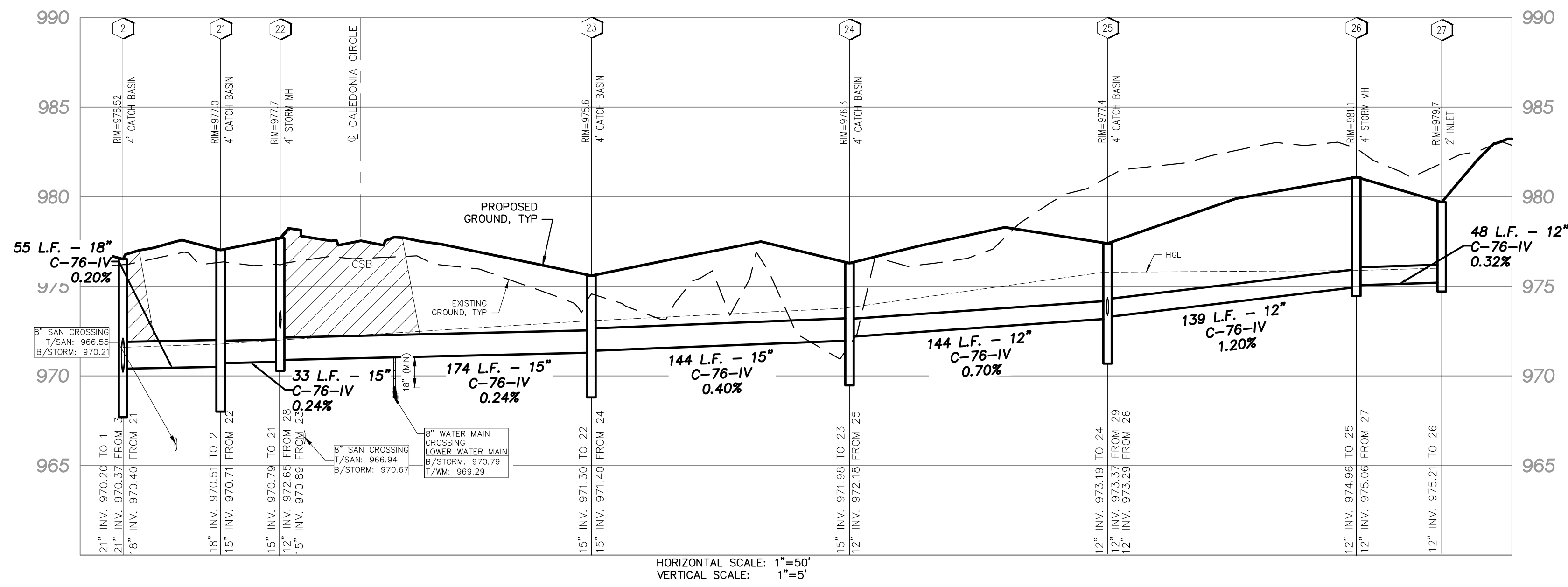
STORM SEWER PROFILES

SEIBER KEAST LEHNER
ENGINEERING | SURVEYING

CLINTON TOWNSHIP OFFICE: 1700 NINETEEN MILE ROAD, SUITE 3
CLINTON TOWNSHIP, MI 48831
588.412.7060

PARRAMONT HILLS OFFICE: 38205 COUNTRY CLUB DRIVE, SUITE C8
PARRAMONT HILLS, MI 48831
248.308.3331

SHEET
12



LAKE POINTE
SECTION 36, TOWN 3 NORTH, RANGE 8 EAST
WHITE LAKE TWP., OAKLAND COUNTY, MICHIGAN

REVISIONS			UTILITY WARNING
NO.	ITEM	DATE	UNDERGROUND UTILITY LOCATIONS AS SHOWN ON THE PLAN, WERE OBTAINED FROM UTILITY OWNER AND NOT FIELD LOCATED. Know what's below. Call before you dig. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF AND/OR RELOCATION OF ALL UTILITIES THAT MAY INTERFERE WITH CONSTRUCTION.
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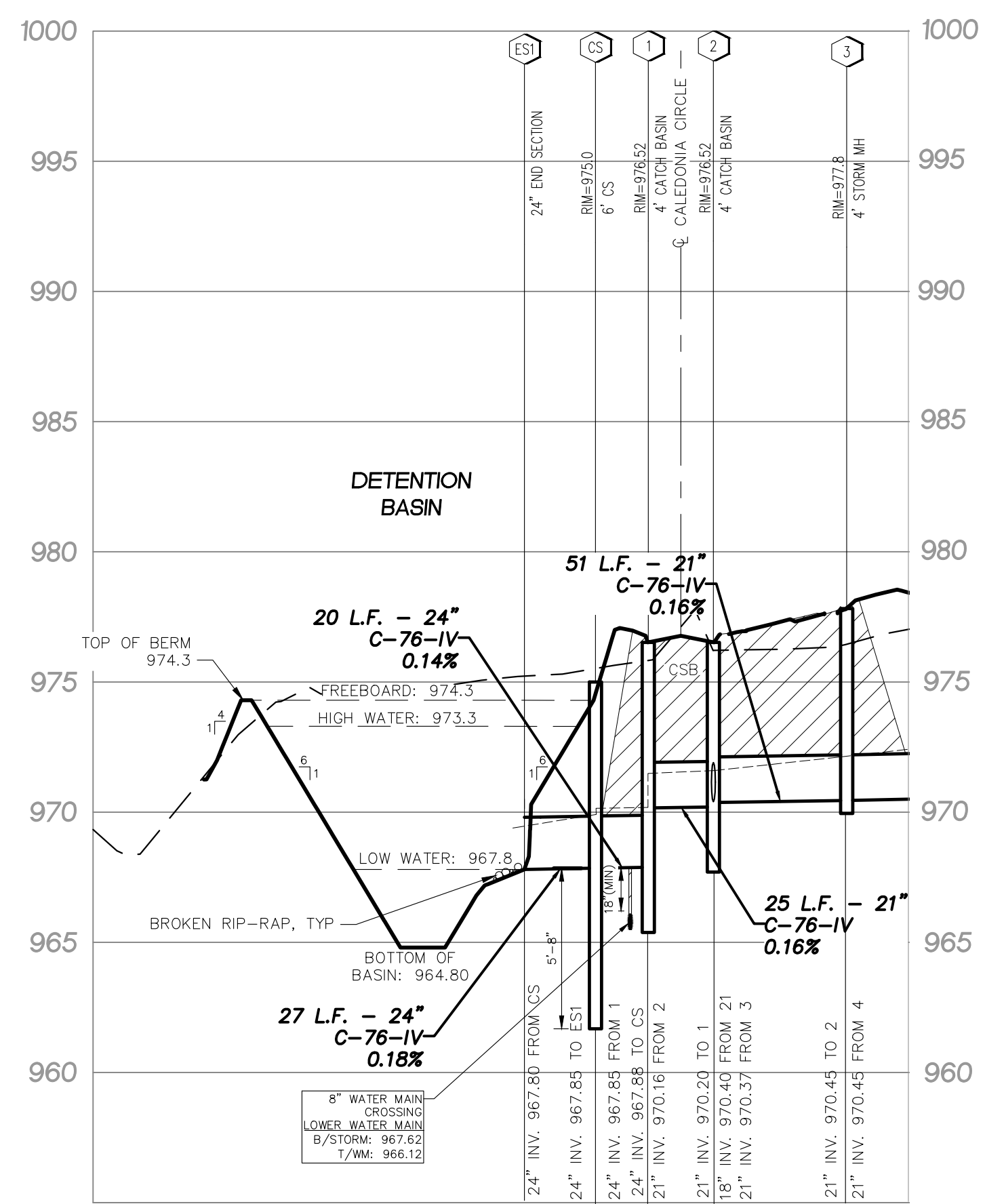
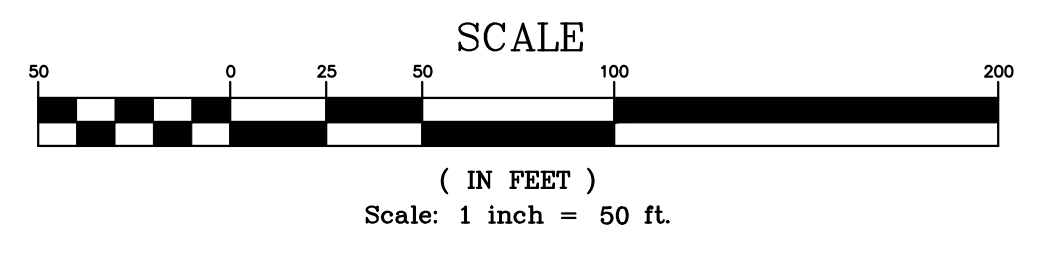
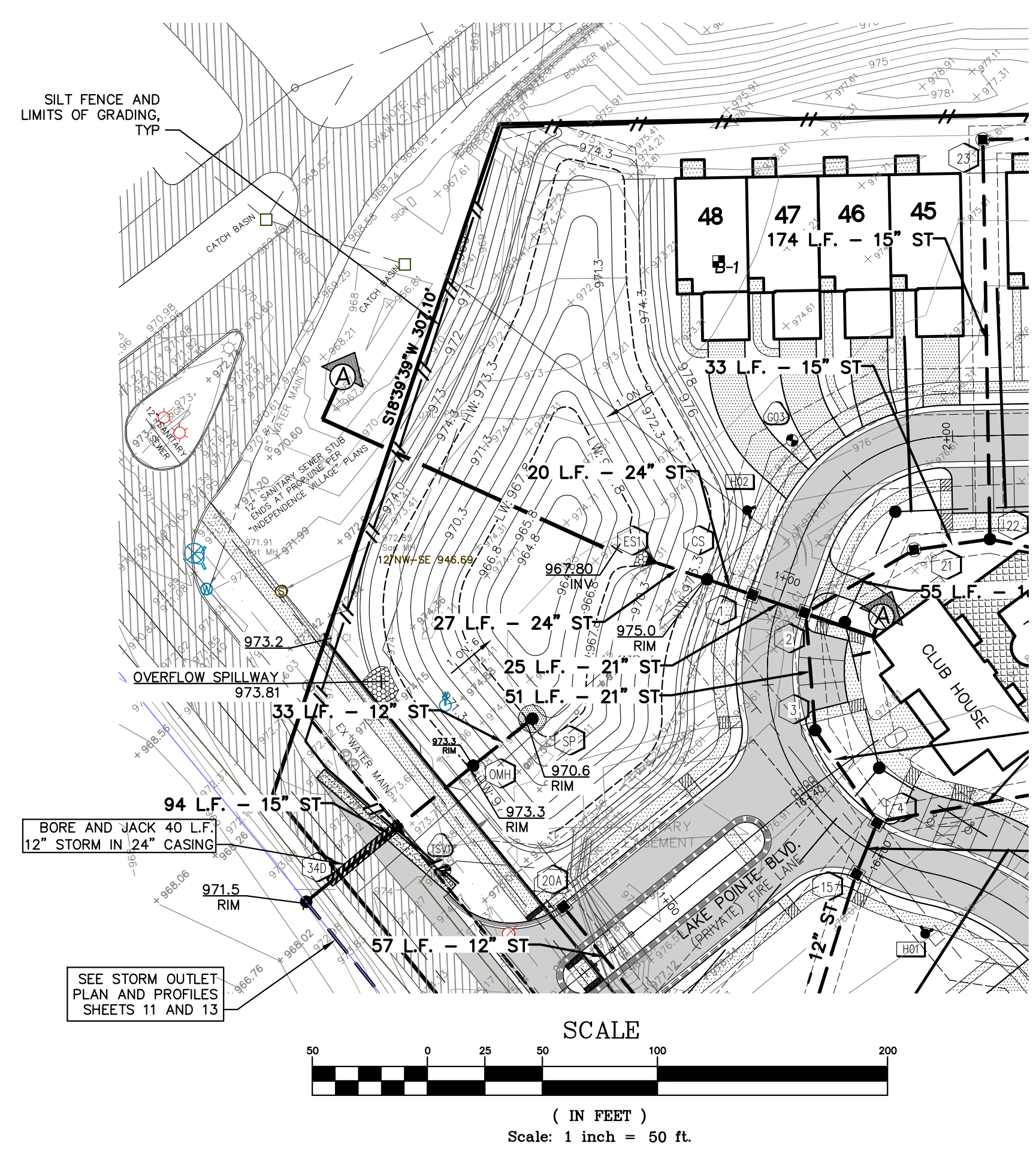
DATE: 04-08-2020 DESIGNED BY: A.A. JOB NUMBER: 19-039
CHECKED BY: J.E. DRAWING FILE: 19039SST.dwg

STORM SEWER PROFILES

SEIBER KEAST LEHNER
ENGINEERING | SURVEYING

CLINTON TOWNSHIP OFFICE: 1700 NINETEEN MILE ROAD, SUITE 3 CLINTON TOWNSHIP, MI 48038 588.412.7060

SHEET
13



Detention Basin Calculations

DETERMINE DETENTION VOLUME REQUIREMENTS (100-YEAR STORM)

Ac =	11.64	Ac	Developed ON-SITE area tributary to the Detention Basin
Q _{all} =	2.33	cfs	Allowable Outflow (Total Area x 0.2 cfs/Ac.)
C =	0.53		
Q ₀ = Q _{all} / (Ac * C) =		0.38	cfs/Ac. Imp
T = -25 + sqrt(10312.5/Q ₀) =		139.88	min
Vs = (16500*T)/(T+25) - 40*Q ₀ *T =		11876	cf/Ac. Imp
Vt = Vs * Ac * C =		72,880	ft ³ req'd

DETERMINE DETENTION VOLUME REQUIREMENTS (1-YEAR STORM)

OCWRC Volume (1-yr Storm)

Vr = 4320 * C * A = **26,511** ft³

DETERMINE VOLUME PROVIDED FOR 1 YEAR AND 100-YEAR STORMS

	Elevation	Area	Vol (ft ³)	
Low Water	967.8	6,248		
	968.3	7,336	3,396	
	969.3	9,785	11,957	1 Year Storm EL. =
	970.3	12,665	23,182	970.60 ft
	971.3	16,238	37,633	Volume provided =
	972.3	20,112	55,808	100 Year Storm EL. =
	973.3	24,135	77,932	973.30 ft
				Volume provided =
				77,932 ft ³

DETERMINE OUTLET SIZE TO DEWATER 1 YEAR STORM IN 48 HOURS

Volume of Storage =	27,517	ft ³
Median Surface Area =	9,827	ft ²
Orifice Area Required =	0.038	
Area of 1" diameter hole =	0.00545	
Number of holes required =	6.96	
Therefore use	7	1" Diameter Holes

DETERMINE 100-YEAR DETENTION BASIN OUTLET SIZE

Orifice Formula, Q = 0.625*A*sqrt(64.4*H)	
Q _{all} =	2.33 cfs
Outlet Size =	6.000 in
Invert Elevation =	967.80 ft
Springline EL. =	968.05 ft
H =	5.25 ft
Area Req'd = A =	0.2026 sf
Area of Outlet Used =	0.1963 sf
Diameter Req'd =	6.000 in
USE	6.000 in Dia Outlet
Q Discharge =	2.26 cfs

SIZE PRIMARY OVERFLOW STRUCTURE (OMH)

Size of Overflow MH =	6 ft
% of MH that can be used as a Weir =	50 %
Calculated Length of Weir = L =	9.42 ft
Average Tributary to Overflow (onsite + offsite) =	12.58 Ac
Composite Runoff Coefficient =	0.53

(From Pipe Flow Calculations)

Longest Time of Flow to Basin =	21.19 min
Sum of all Flow into the Basin =	23.74 cfs
Volume of Basin (Det Calcs) =	77,932 ft ³
Storage Elevation =	973.30 ft
Freeboard Elevation =	974.30 ft
Time to Fill Basin Vprov / Flow into Basin =	54.71 min.
l = 175 / (T+25) =	1.73 in / hr
Qexp = C ¹ *A =	11.50 cfs
Qweir = 3.33*(l) ^{3/2}	

Calculate how high the water will rise above the Overflow Structure to pass the expected flow.

h =	0.51 ft
Rim Overflow MH =	973.30 ft
Elevation of Water during Overflow Conditions =	973.81 ft
Elevation of Water during Overflow Condition is Less than	

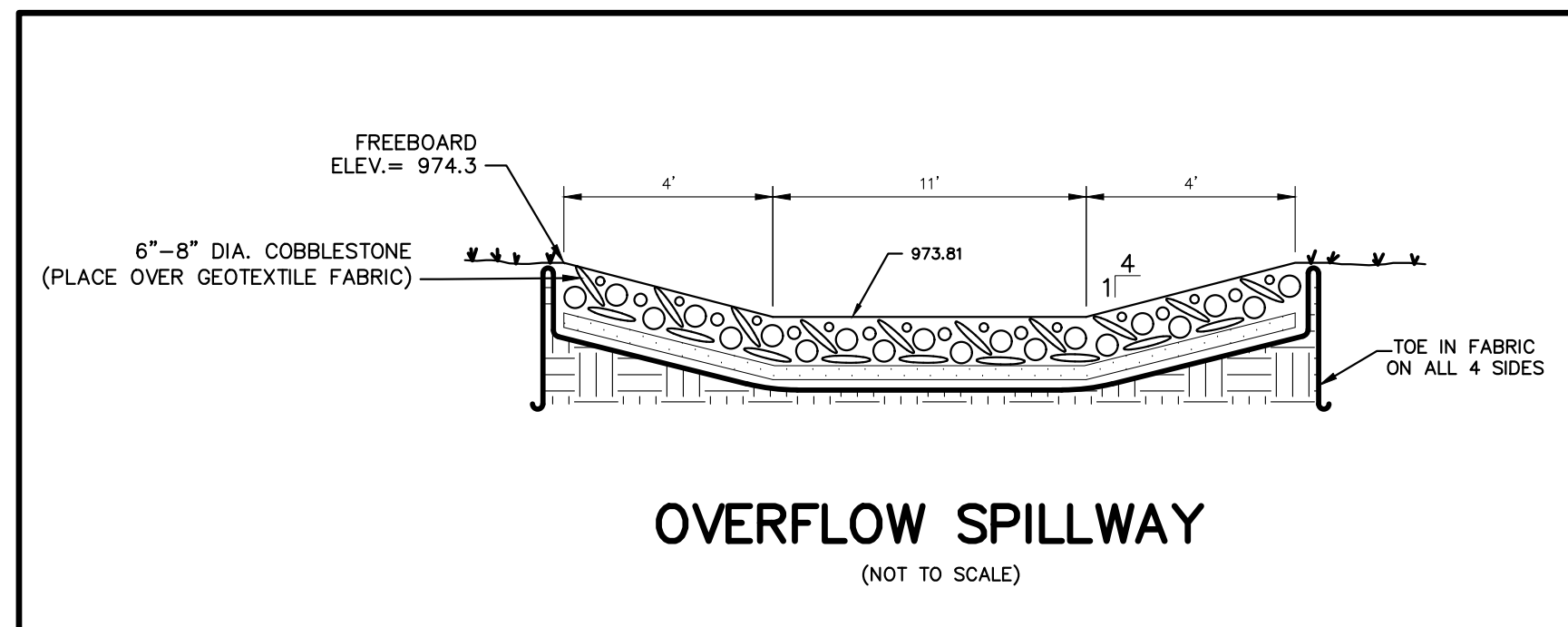
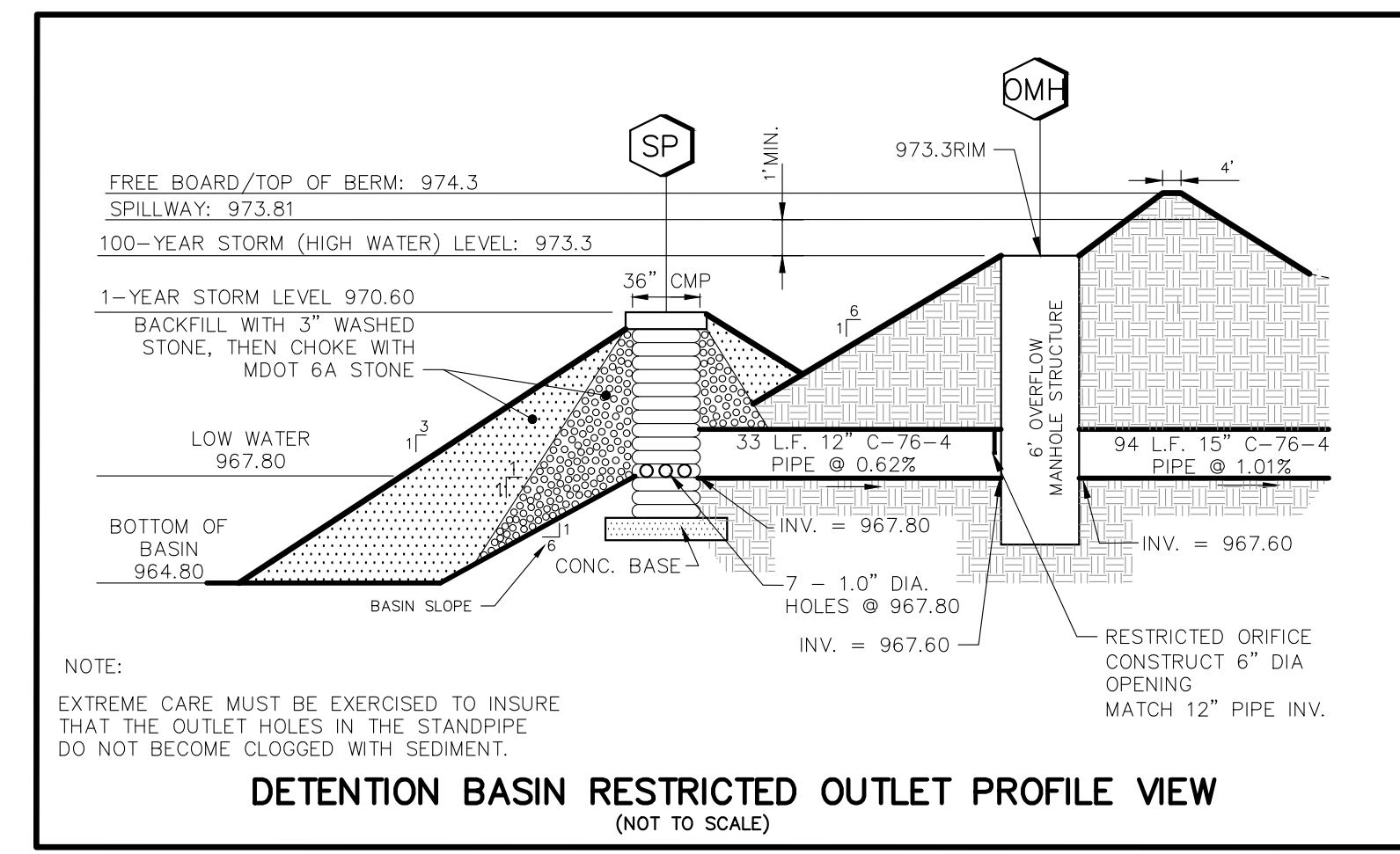
Determine "C" Factor for Detention Basin

DETERMINE "C" FACTOR	Area	C	Area * C
AREA TRIBUTARY TO ON-SITE STORM SEWER	10.95 Ac.		
AREA TRIBUTARY TO CB 16A	0.94 Ac.		
AREA OF DETENTION BASIN	0.69 Ac.		
TOTAL AREA TRIBUTARY TO DETENTION BASIN	= 12.58 Ac		
DETENTION BASIN LOW WATER	= 0.17 Ac	@ 1.00	= 0.17
PAVING AREA (WALKS, DRIVE, ROAD)	= 3.14 Ac	@ 0.80	= 2.51
BUILDING AREA	= 3.19 Ac	@ 0.90	= 2.87
LAWN AREA INCLUDING DETENTION BASIN AREA	= 6.25 Ac	@ 0.20	= 1.25
TOTAL AREA	= 12.58 Ac	@	6.63

Cavg = A * C / TOTAL ACRES = **0.53**

Determine On-Site Area to be Detained for in Detention Basin Calculations
(Note: Exclude ROW Area Tributary to CB 16A)

TOTAL AREA TRIBUTARY TO DETENTION BASIN	= 12.58 Ac
AREA TRIBUTARY TO CB 16A	= -0.94 Ac
ON-SITE AREA TRIBUTARY TO DETENTION BASIN	= 11.64 Ac



NOTES:

- ALL TRENCHES WITHIN 1 ON 1 SLOPE FROM TOP OF CURBS SHALL BE BACKFILLED WITH GRANULAR MATERIAL CLASS II AND COMPACTED TO 95% OF MAXIMUM UNIT WEIGHT.
- ALL END SECTIONS SHALL BE CONSTRUCTED ACCORDING TO THE "END SECTION AND BAR SCREEN DETAIL" ON SHEET ND.

LEGEND

EXISTING	PROPOSED	
[Symbol]	[Symbol]	PAVEMENT (ASPHALT)
[Symbol]	[Symbol]	SIDE WALK (CONCRETE)
[Symbol]	[Symbol]	CONCRETE CURB AND GUTTER
[Symbol]	[Symbol]	STORM SEWER
[Symbol]	[Symbol]	SANITARY SEWER
[Symbol]	[Symbol]	WATER MAIN
[Symbol]	[Symbol]	MANHOLE
[Symbol]	[Symbol]	CATCH BASIN W/INLET FILTER (ST-38)
[Symbol]	[Symbol]	CURB INLET W/SILT SAC (ST-4A)
[Symbol]	[Symbol]	END SECTION W/RIP-RAP
[Symbol]	[Symbol]	GATE VALVE
[Symbol]	[Symbol]	HYDRANT
[Symbol]	[Symbol]	FLOOD PLAIN
[Symbol]	[Symbol]	CONTOURS
[Symbol]	[Symbol]	SPOT ELEVATION
[Symbol]	[Symbol]	SURFACE DRAINAGE
[Symbol]	[Symbol]	OVERFLOW ROUTE
[Symbol]	[Symbol]	TREE FENCE
[Symbol]	[Symbol]	SILT FENCE
[Symbol]	[Symbol]	PROPOSED DRIVEWAY LOCATION
[Symbol]	[Symbol]	LIMIT OF DISTURBANCE

LAKE POINTE

SECTION 36, TOWN 3 NORTH, RANGE 8 EAST
WHITE LAKE TWP., OAKLAND COUNTY, MICHIGAN

REVISIONS			UTILITY WARNING
NO.	ITEM	DATE	UNDERGROUND UTILITY LOCATIONS AS SHOWN ON THE PLAN, WERE OBTAINED FROM UTILITY OWNER AND NOT FIELD LOCATED. 811 Know what's below. Call before you dig. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL AND/OR RELOCATION OF ALL UTILITIES THAT MAY INTERFERE WITH CONSTRUCTION.
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DATE: 04-08-2020 DESIGNED BY: A.A. JOB NUMBER: 19-039
CHECKED BY: J.E. DRAWING FILE: 19039DB.dwg

DETENTION BASIN PLAN, CALCULATIONS AND PROFILE

SKL SEIBER KEAST LEHNER ENGINEERING | SURVEYING

CLINTON TOWNSHIP OFFICE: 1700 NINETEEN MILE ROAD, SUITE 3 CLINTON TOWNSHIP, MI 48831 588.412.7060

FARMINGTON HILLS OFFICE: 38205 COUNTRY CLUB DRIVE, SUITE C8 FARMINGTON HILLS, MI 48331 248.308.3331

SHEET 15

SOIL EROSION CONTROL NOTES

- 1. SACK TYPE FILTERS SHALL BE INSTALLED ON ALL CATCH BASINS AND INLETS.
2. DEWATERING OF ANY KIND MUST BE FILTERED THROUGH VEGETATION, STONE OR "FILTER BAG".
3. IT IS THE DEVELOPER'S RESPONSIBILITY TO INSURE THE PROJECT STREETS AND ADJACENT ROADS ARE CLEAN & SWEEPED THROUGHOUT THE ENTIRE CONSTRUCTION PERIOD.
4. IT IS THE DEVELOPER'S RESPONSIBILITY TO GRADE AND STABILIZE DISTURBANCES DUE TO INSTALLATION OF PUBLIC UTILITIES (I.E. PHONE, GAS, ELECTRIC, CABLE, ETC.)
5. THE DEVELOPER IS RESPONSIBLE FOR DUST CONTROL THROUGHOUT ALL PERIODS OF CONSTRUCTION. WATERING TANKS WILL BE AVAILABLE AT ALL TIMES TO BE USED ON ANY AREA WHERE DUST BECOMES A PROBLEM.
6. PARKING OF VEHICLES, EQUIPMENT, OR STOCKPIILING OF MATERIALS IS STRICTLY PROHIBITED ALONG OR WITHIN THE UNION LAKE ROAD RIGHT OF WAY AREA.
7. ALL CULVERT END SECTIONS MUST CONTAIN GROUTED RIP-RAP IN ACCORDANCE WITH ORDINANCE SPECIFICATIONS.
8. THE SOIL EROSION CONTROLS WILL BE MAINTAINED WEEKLY AND AFTER EVERY STORM EVENT BY THE DEVELOPER.

RIP-RAP

INSPECTIONS SHOULD BE MADE OF ALL RIP-RAPPED SITES IMMEDIATELY AFTER THE FIRST RAINFALL FOLLOWING INSTALLATION. THIS IS PARTICULARLY IMPORTANT IN AREAS WHERE RIP-RAP THAT IS DISPLACED DURING THE STORM WOULD IMPACT CULVERTS. THEREFORE, RIP-RAP SITES SHOULD BE CHECKED FOLLOWING STORMS, ESPECIALLY THOSE WHICH ARE NEAR OR EXCEED STORM FREQUENCY USED IN THE DESIGN. DISPLACED RIP-RAP SHOULD BE REMOVED FROM ITS DOWNSTREAM LOCATION AND NEW RIP-RAP PLACE ACCORDING TO THE ENGINEERED SPECIFICATIONS.

STORMWATER CONVEYANCE CHANNEL

AT MINIMUM, CHECK ALL CONSTRUCTED CHANNELS AFTER EACH STORM WHICH MEETS OR EXCEEDS THE DESIGN STORM. ON RIP-RAP LINED WATERWAYS, CHECK FOR SCOURING BELOW THE RIP-RAP LAYER, AND BE SURE THE STONES HAVE NOT BEEN DISPLACED BY THE FLOW. PARTICULAR ATTENTION SHOULD BE PAID TO THE OUTLET OF THE CHANNEL. IF EROSION IS OCCURRING, APPROPRIATE ENERGY DISSIPATION MEASURES SHOULD BE TAKEN. SEDIMENT SHOULD BE REMOVED FROM RIP-RAP LINED CHANNELS IF IT REDUCES THE CAPACITY OF THE CHANNEL.

SPOIL PILES

WHEN VEGETATION STABILIZATION IS PROMPTLY AND EFFECTIVELY APPLIED, VERY LITTLE MAINTENANCE IS REQUIRED. THE GUIDELINES BELOW SHOULD BE FOLLOWED ON ALL SITES: (1) PERIODIC INSPECTIONS SHOULD BE DONE TO ENSURE EXCESSIVE EROSION HASN'T OCCURRED. IF RUN OFF OR WIND EROSION HAS OCCURRED, REDUCE THE SIDE OF SLOPES OF THE SPOIL PILE, OR STABILIZE THE SPOIL PILE WITH PIECES OF SOIL LAID PERPENDICULAR TO THE SLOPE, AND STAKED. (2) WHEN FILTER FENCING IS USED AROUND A SPOIL PILE, PERIODIC CHECKS SHOULD BE MADE TO ENSURE THAT PIPING HAS NOT OCCURRED UNDER FENCING, AND TO ENSURE THE FENCE HAS NOT COLLAPSED DUE TO SOIL SLIPPING OR ACCESS BY CONSTRUCTION EQUIPMENT. REPAIR ANY DAMAGED FENCING IMMEDIATELY. (3) BERMS AT THE BASE OF THE SPOIL PILE WHICH BECOME DAMAGED SHOULD BE REPLACED.

S.E.S.C. SEQUENCE OF CONSTRUCTION

- 1. INSTALL ALL SOIL EROSION AND TREE PROTECTION FENCING AS PER APPROVED PLANS. CLEAR WHATEVER IS NECESSARY TO INSTALL FENCING.
2. STRIP AND STOCKPILE TOPSOIL IN A LOCATION APPROVED BY THE OWNER/ENGINEER. PLACEMENT OF ADDITIONAL CONTROL MEASURES MUST BE INSTALLED ON AND AROUND THE STOCKPILE.
3. CONSTRUCT DETENTION BASIN ALONG WITH APPLICABLE STORM SEWER (END-SECTIONS, SHORT STORM SEWER LENGTHS, STANDPIPE OUTLET FILTER). GRADE TO FINAL ELEVATIONS, DISTRIBUTE TOPSOIL, SEED AND STAKE STRAW MULCH BLANKETS ON THE SLOPES OF THE BASIN.
4. INSTALL UTILITIES (WATER MAIN, STORM SEWER, SANITARY SEWER) COMPLETE.
5. INSTALL, AS PER APPROVED PLANS, THE CATCH BASIN INLET FILTERS. INSPECT AND MAINTAIN FILTERS AS DIRECTED TO PREVENT CLOGGING AND UNNECESSARY FLOODING.
6. GRADE ROADWAY LIMITS AND INSTALL PAVEMENT COMPLETE.
7. BEGIN BUILDING CONSTRUCTION
8. INSTALL ALL PUBLIC UTILITIES (GAS, ELECTRIC, TELEPHONE, CABLE) COMPLETE.
9. STABILIZE TEMPORARILY OR PERMANENTLY ALL DISTURBED AREAS WITHIN FIVE (5) DAYS OF FINAL GRADE.
10. INSPECT AND MAINTAIN ALL SOIL EROSION AND SEDIMENTATION CONTROL MEASURES WEEKLY AND AFTER EVERY STORM EVENT THROUGHOUT THE CONSTRUCTION OF THE PROJECT. REMOVAL OF CONTROL MEASURES MAY ONLY TAKE PLACE ONCE THE ENTIRE SITE IS FULLY STABILIZED. UPON FULL STABILIZATION IS COMPLETE, REMOVE THE STAND PIPE AND GRAVEL FILTER. THE DEVELOPER IS RESPONSIBLE FOR ALL SOIL EROSION CONTROL MEASURES.
11. VEGETATION MUST BE ACCEPTABLY ESTABLISHED PRIOR TO FINAL RELEASE OF THE CONSTRUCTION DEPOSIT BY THE ROAD COMMISSION FOR UNION LAKE ROAD.

SOIL EROSION CONTROL VIOLATIONS/CITATIONS

- 1. ROUTINE INSPECTIONS WILL BE PERFORMED BY THE OAKLAND COUNTY WATER RESOURCE COMMISSION (O.C.W.R.C.) OR ITS AGENT ONCE A WEEK.
2. UPON COMPLETION OF INSPECTION, IF THE SITE IS FOUND NOT TO BE IN COMPLIANCE WITH O.C.W.R.C.'S SOIL EROSION AND SEDIMENTATION CONTROL ORDINANCE, THEN THE PERMIT HOLDER/SIGNER WILL BE ISSUED, BY HAND, MAIL OR EMAIL, A "NOTICE OF EROSION CONTROL DEFICIENCY" LETTER, THAT WILL INCLUDE ALL CURRENT AND PERTINENT NON-COMPLIANCE ITEMS. THE SITE AND/OR DEVELOPMENT WILL HAVE A PRE-DETERMINED AMOUNT OF TIME, FROM THE DATE OF THE "NOTICE" TO RECTIFY THESE ITEMS.
3. IF ALL OF THE ITEMS HAVE NOT BEEN ADDRESSED AFTER THE ELAPSED TIME SPECIFIED, THE PERMIT HOLDER/SIGNER WILL RECEIVE A "NON-COMPLIANCE" LETTER, WHICH WILL INCLUDE A "NOTICE TO SHOW CAUSE".
4. UPON RECEIPT OF THE "NON-COMPLIANCE" LETTER AND THE "NOTICE TO SHOW CAUSE", THE PERMIT HOLDER/SIGNER WILL ATTEND A SHOW CAUSE HEARING AS WELL AS PAY A RE-INSPECTION FEE IN THE AMOUNT OF \$250.00 TO THE O.C.W.R.C. FOR ADDITIONAL INSPECTIONS, HEARINGS AND REPORT FOLLOW UP. BEFORE MENTIONED ACTIVITIES MUST TAKE PLACE WITHIN 24 HOURS UPON RECEIPT OF THE LETTER. AFTER THE HEARING, THE PROJECT, DEVELOPMENT MAY BE ISSUED A "STOP WORK" ORDER.
5. IF A CITATION IS ISSUED TO THE PERMIT HOLDER/SIGNER AFTER THE SHOW CAUSE HEARING, AN ADDITIONAL \$400.00 WILL BE PAID TO THEN O.C.W.R.C. FOR FOLLOW-UP INSPECTIONS, MEETINGS AND OTHER EXPENSES INCURRED.

DETENTION BASIN MAINTENANCE SCHEDULE :

THE PROPERTY OWNER IS RESPONSIBLE FOR THE MAINTENANCE OF THE SEDIMENT STRUCTURES. MAINTENANCE SHOULD BE PERFORMED FOLLOWING ANY STORM AND SHOULD INCLUDE:

- 1. CHECKING THE DEPTH OF SEDIMENT DEPOSIT TO ENSURE THE CAPACITY OF THE SEDIMENT STRUCTURES IS ADEQUATE FOR STORM WATER AND SEDIMENT DEPOSITION, AND FOR THE REMOVING OF SEDIMENT.
2. CHECKING THE BASIN FOR PIPING, SEEPAGE, OR OTHER MECHANICAL DAMAGE.
3. CHECKING FOR THE PRESENCE OF ANY SOIL CAKING, WHICH WOULD PREVENT PROPER DRAINAGE FROM THE BASIN.
4. ANY PROBLEM DISCOVERED DURING THE MAINTENANCE CHECKS SHOULD BE ADDRESSED IMMEDIATELY.
5. SEDIMENT REMOVED DURING CLEANING SHOULD BE PLACED AT AN UPLAND AREA AND STABILIZED SO THAT IT DOES NOT RE-ENTER THE DRAINAGE COURSE.

GROUND WATER NOTES

- 1. IF THE STATIC GROUNDWATER LEVEL IS HIGHER THAN THE ELEVATION AT WHICH PROPOSED CONSTRUCTION WORK WILL TAKE PLACE, WHETHER DETERMINED BY INITIAL SOIL BORINGS OR DURING CONSTRUCTION, SO THAT IT WILL BE NECESSARY TO DEWATER AN AREA TO CONTINUE CONSTRUCTION, THEN THE WHITE LAKE TOWNSHIP WILL REQUIRE A WRITTEN DEWATERING PROCEDURE PROVIDED BY THE APPLICANT'S ENGINEER, PRIOR TO COMMENCEMENT OF THE DEWATERING OPERATION.
2. IF GROUNDWATER IS ENCOUNTERED DURING CONSTRUCTION, THE CONTRACTOR MUST CONTACT WHITE LAKE DPS IN WRITING SHOWING NEED TO DEWATER PRIOR TO ANY FURTHER CONSTRUCTION.
3. IF PROCEDURES ARE NOT SUBMITTED OR, ONCE APPROVED, ARE NOT ADHERED TO, THEN WHITE LAKE TOWNSHIP MAY TAKE ACTION TO SUSPEND DEWATERING ACTIVITIES AT THE PROJECT TO REQUIRE THE ADHERENCE TO PROCEDURES.

INSPECTION & MAINTENANCE SCHEDULE FOR SOIL EROSION CONTROL

GRADE STABILIZATION STRUCTURES SUCH AS: DROP CONTROL STRUCTURES; SIDE DRAINS (ENCLOSED); DROP INLET SPILLWAYS; DROP PIPES; STRAIGHT PIPES; TOEWALLS; DROP BOXES; CHUTES OR FLUMES (DOP, ROCK CONCRETE); EARTH EMBANKMENT STRUCTURES; DOWNDRAINS; SPILLWAYS SHALL BE MAINTAINED AS FOLLOWS:

BECAUSE GRADE STABILIZATION STRUCTURES ARE SUBJECT TO HIGH FLOW CONDITIONS, PERIODIC INSPECTIONS SHOULD BE PERFORMED TO ENSURE THAT EROSION IS NOT OCCURRING, AND THAT VEGETATION IS ADEQUATELY ESTABLISHED. THESE STRUCTURES SHOULD ALSO BE INSPECTED AFTER STORM EVENTS WHICH EXCEED THE DESIGN STORM.

THE DETENTION BASIN SHOULD BE INVESTIGATED TO ENSURE THAT THE CONCENTRATED FLOWS ARE NOT CAUSING EROSION INTO THE BOTTOM OF THE BASIN AND BLOCKING INFILTRATION. CHECK THE EMERGENCY BYPASS/OVERFLOW FOR EROSION. CHECK THE STRUCTURES ITSELF FOR CRACKED CONCRETE. UNEVEN OR EXCESSIVE SETTLING, PIPING AND PROPER DRAIN FUNCTIONING. REPAIR OR REPLACE FAILING STRUCTURES IMMEDIATELY. ADDRESS VEGETATION AND EROSION PROBLEMS AS SOON AS WEATHER PERMITS. OPEN STRUCTURES SHOULD BE SIGNED OR MARKED TO ALERT PEOPLE IN THE VICINITY ABOUT POTENTIAL DANGERS.

CATCH BASIN FILTERS

EFFECTIVE FILTERS WILL COLLECT SEDIMENT, PARTICULARLY WHEN THE SOIL IS SANDY. THESE FILTERS MUST BE CLEANED PERIODICALLY, SO THEY DON'T BECOME CLOGGED AND CAUSE FLOODING CONDITIONS, PIPING, OR OVERTOPPING OF THE CONTROL STRUCTURES. MAINTENANCE OF THESE ITEMS REQUIRES INSPECTION WEEKLY OR AFTER EACH RAIN EVENT. ALSO, THESE ITEMS ARE REUSABLE IF MAINTAINED CORRECTLY. THEY CAN BE REMOVED, EMPTIED, CLEANED AND REPLACED WITHOUT PURCHASING NEW ONES.

BUFFER/FILTER STRIPS

(25' ENVIRONMENTAL SETBACKS) PERIODIC INSPECTIONS SHOULD BE DONE TO ENSURE THAT CONCENTRATED FLOWS HAVE NOT DEVELOPED, AND TO MAKE SURE THE VEGETATIVE COVER IS MAINTAINING ITS EFFECTIVENESS. IF THE INTEGRITY OF THE BUFFER/FILTER STRIP IS JEOPARDIZED BY UPLAND EROSION, OR IF CONCENTRATED FLOWS ARE CREATING RILLS OR GULLIES UP-SLOPE OF THE STRIP, ADDITIONAL BMP'S MAY NEED TO BE INSTALLED. IF THE BUFFER STRIP IS BEING JEOPARDIZED BY STREAM BANK EROSION, THEN THE CAUSE OF THE BANK EROSION NEEDS TO BE INVESTIGATED AND ACTIONS TAKEN TO ADDRESS THE CAUSES. DAMAGED STRIPS SHOULD BE REPAIRED AS SOON AS POSSIBLE. STRIPS DAMAGED DUE TO CONSTRUCTION UP-SLOPE OF THE BUFFER/FILTER SHOULD BE REPLANTED, AS NECESSARY, AFTER THE CAUSE OF THE DAMAGE IS ASSESSED AND ANY OTHER BMP'S ARE NEEDED ARE IMPLEMENTED.

SILT FENCE

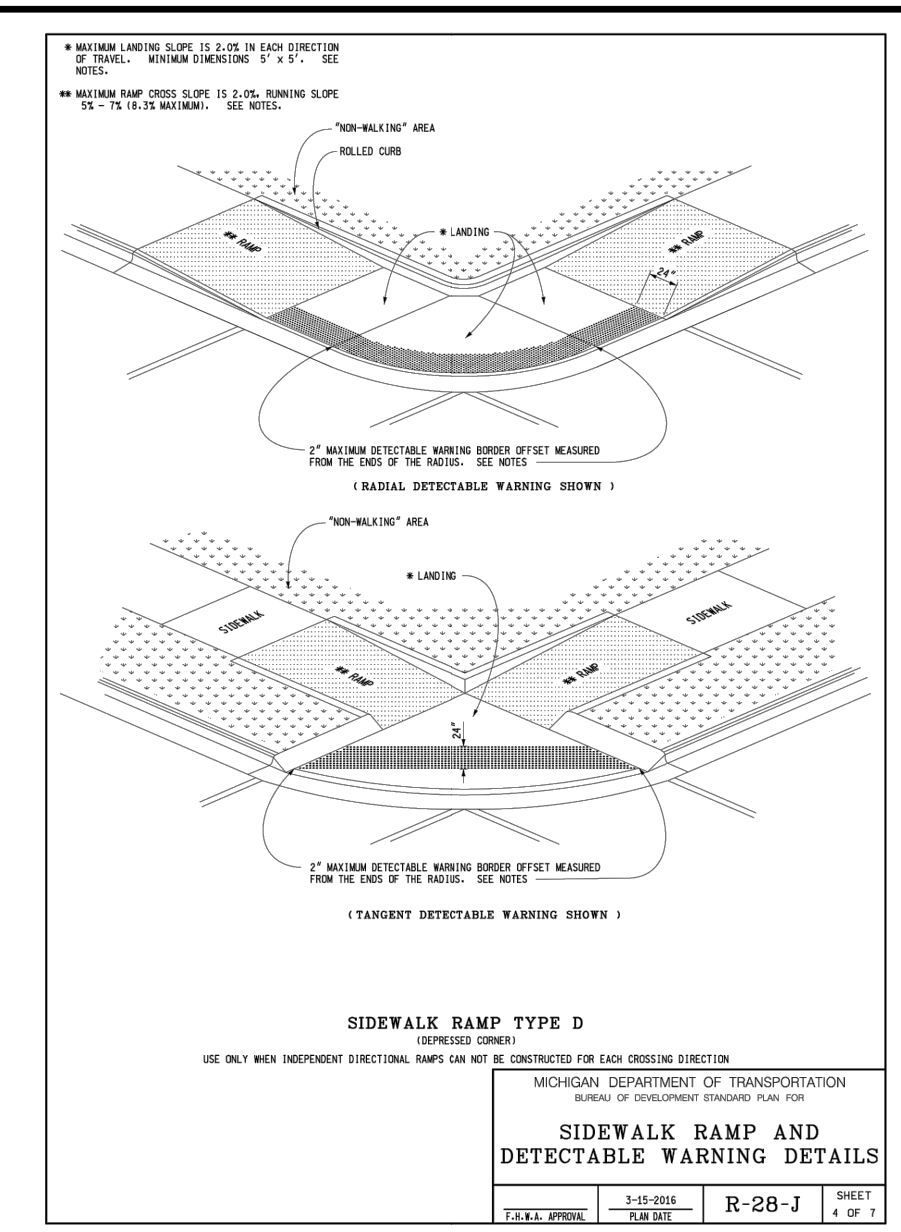
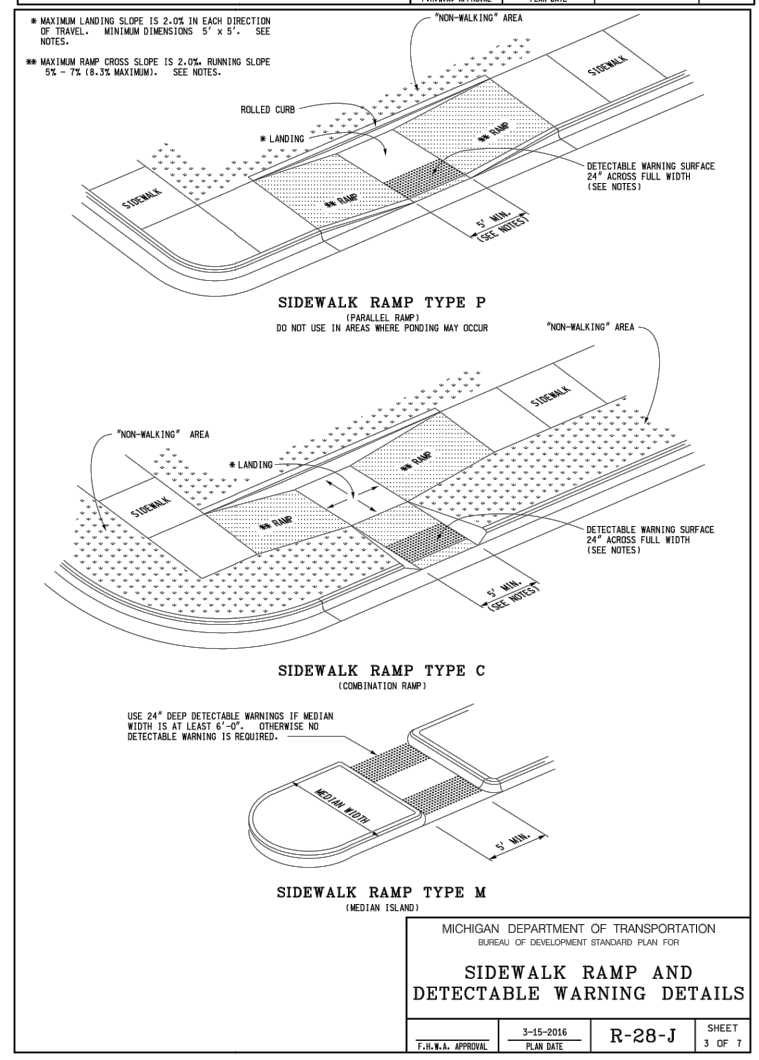
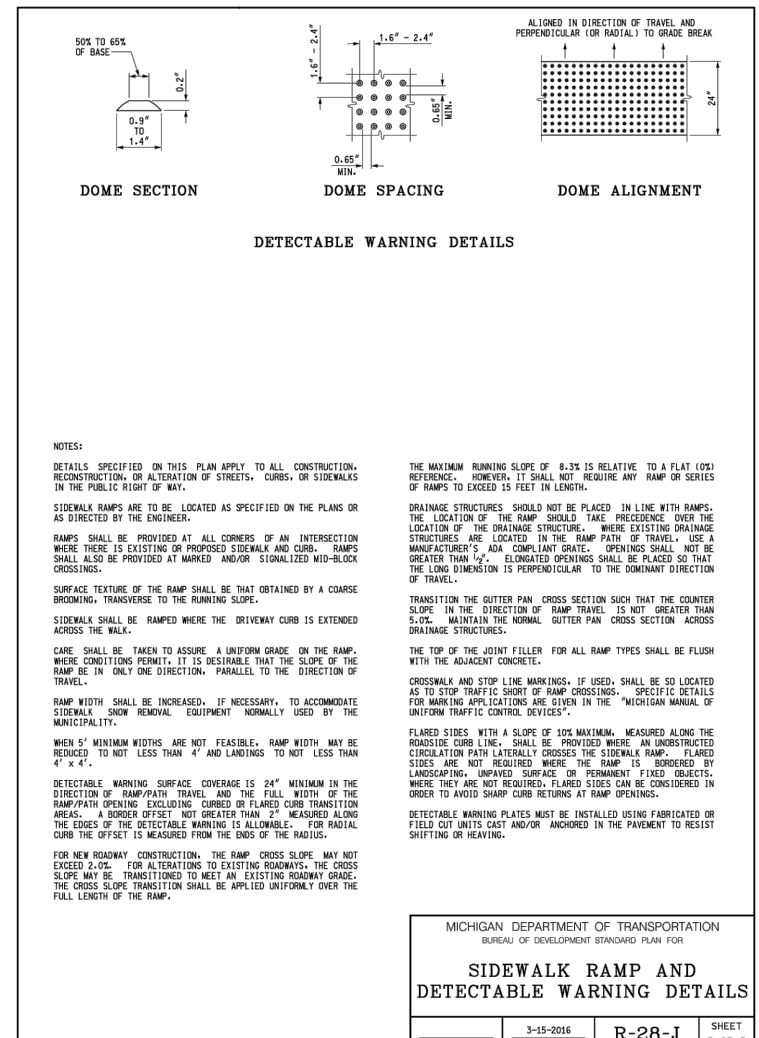
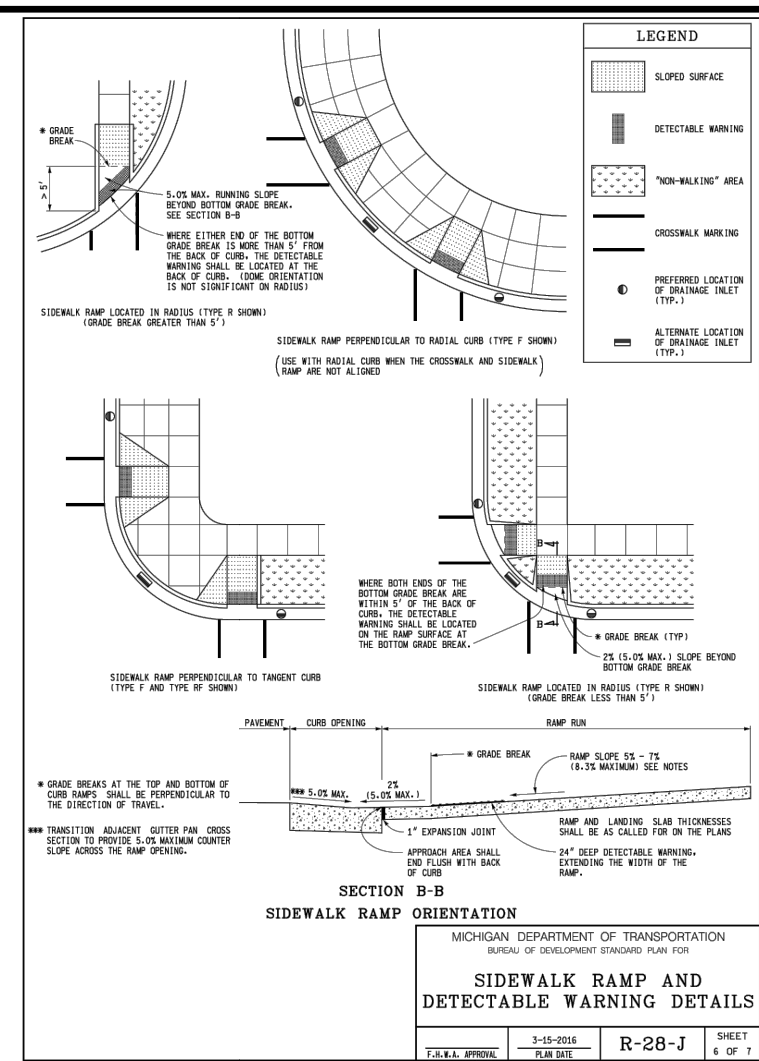
SILT FENCES SHOULD BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND SEVERAL TIMES DURING PROLONGED RAINFALLS. IF THE FENCE IS SAGGING OR THE SOIL HAS REACHED ONE HALF THE HEIGHT OF THE FABRIC, THE SOIL BEHIND THE FABRIC MUST BE REMOVED AND DISPOSED OF IN A STABLE UPLAND SITE. THE SOIL CAN BE ADDED TO THE SPOIL PILE. IF THE FABRIC IS BEING UNDERCUT (I.E. IF THE WATER IS SEEPING UNDER THE FENCE), THE FENCE SHOULD BE REMOVED AND REINSTALLED FOLLOWING THE GIVEN PROCEDURES. FABRIC WHICH DECOMPOSES OR OTHERWISE BECOMES INEFFECTIVE SHOULD BE REMOVED AND REPLACED WITH NEW FILTER FABRIC IMMEDIATELY. FILTER FENCES SHOULD BE REMOVED ONCE VEGETATION IS WELL ESTABLISHED AND THE UP-SLOPE AREA IS FULLY STABILIZED OR UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

SEEDING, SODDING & MULCHING

SEEDING, SODDED OR MULCHED AREAS SHOULD BE CHECKED FOLLOWING EACH RAIN TO ENSURE THE MATERIAL IS STAYING IN PLACE. ADDITIONAL TACKING MATERIALS OR NETTING MAY BE NEEDED TO BE APPLIED TO HOLD THE AFOREMENTIONED MATERIALS IN PLACE. MAINTENANCE PROCEDURES SHOULD ALSO BE FOLLOWED FOR THE BMP'S WHICH WERE IMPLEMENTED TO KEEP ERODED SOIL OR CONCENTRATED RUNOFF AWAY FROM THESE TARGET AREAS.

ACCESS ROAD (UNION LAKE ROAD)

PROPER MAINTENANCE INCLUDE ADDING ADDITIONAL LAYERS OF STONE WHEN THE ORIGINAL STONE BECOMES COVERED WITH MUD. AFTER EACH STORM EVENT, INSPECT THE ROAD FOR EROSION AND MAKE ANY NECESSARY REPAIRS. IT IS ALSO IMPORTANT TO CHECK AND MAINTAIN ANY BMP'S WHICH ARE USED IN CONJUNCTION WITH THIS BMP, ESPECIALLY THOSE FOR DRAINAGE. ALL SEDIMENT DROPPED OR ERODED ONTO PUBLIC RIGHT-OF-WAY SHOULD BE REMOVED IMMEDIATELY BY SWEEPING.



NOTE: DETECTABLE WARNING PLATES MUST BE CONCRETE-EMBEDDED DETECTABLE WARNING PLATES. STAMPED CONCRETE WILL NOT BE ACCEPTABLE.

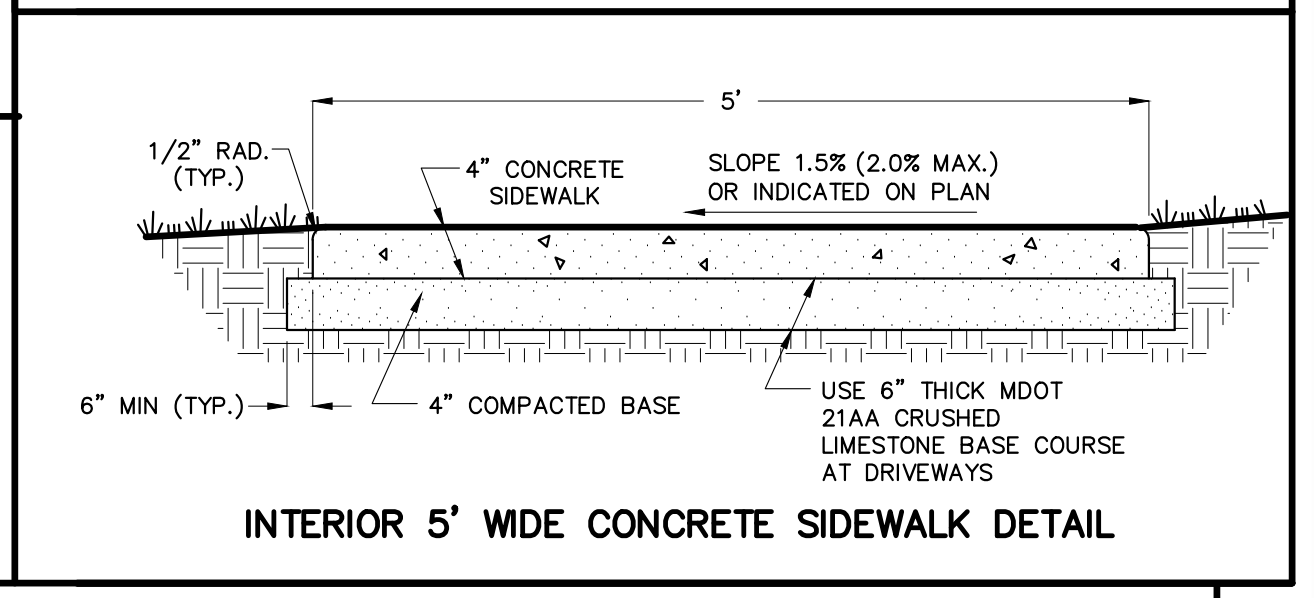
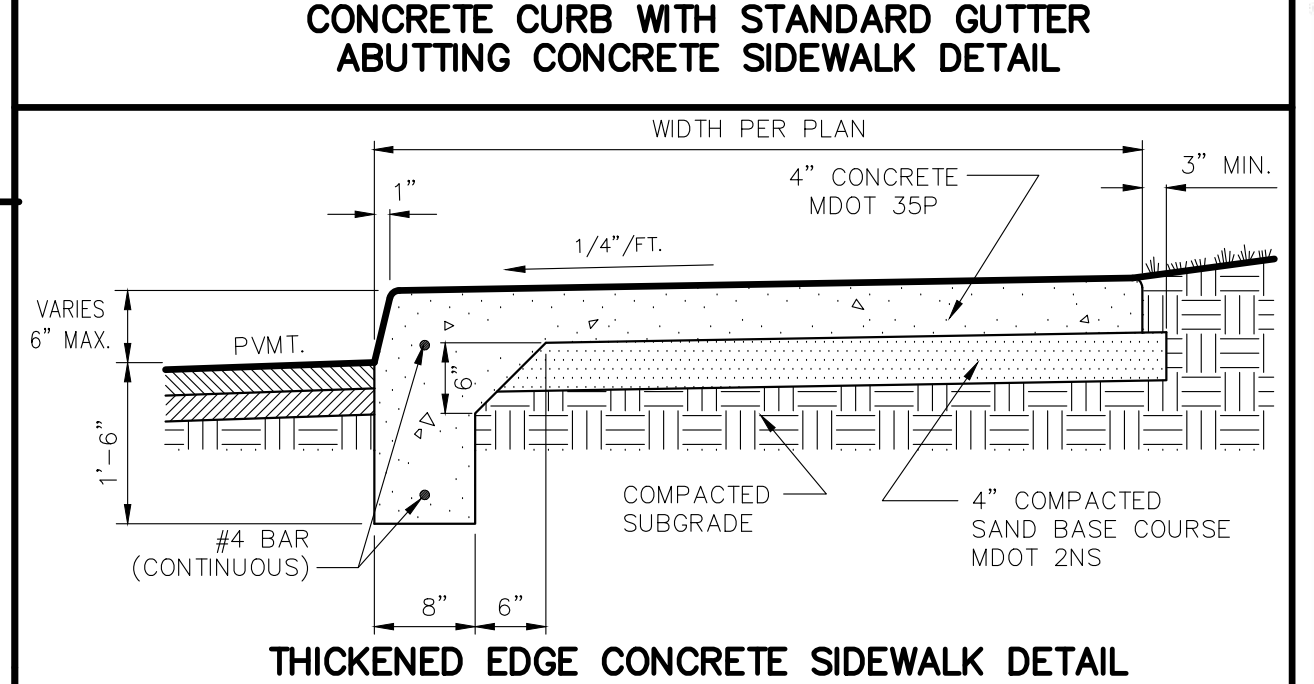
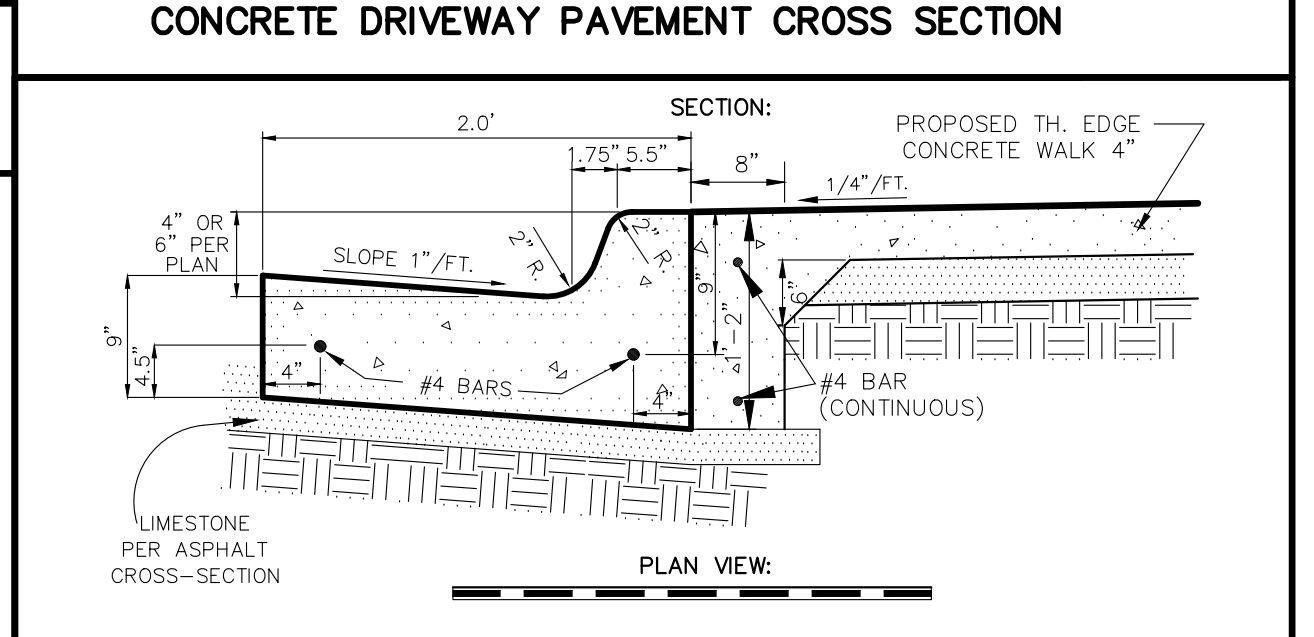
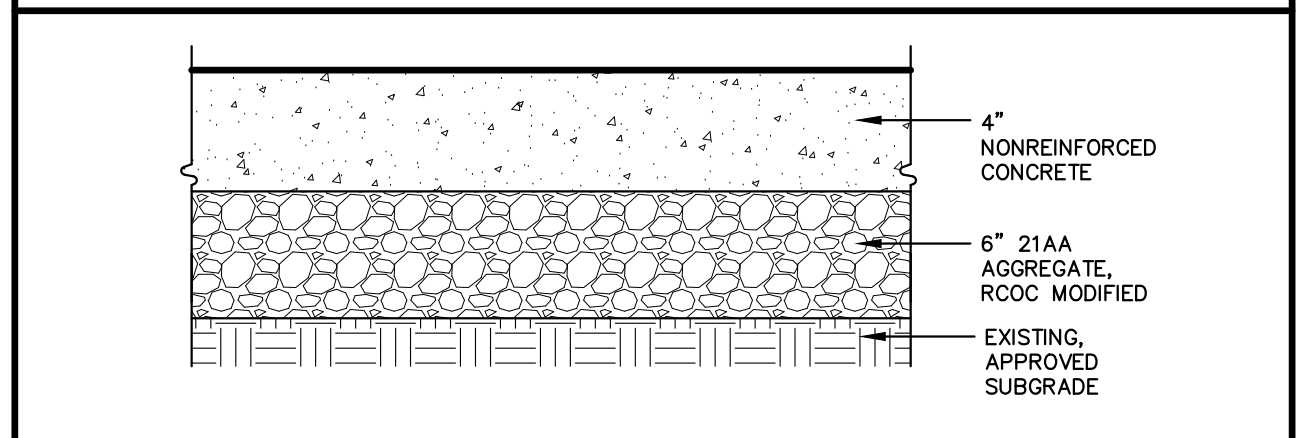
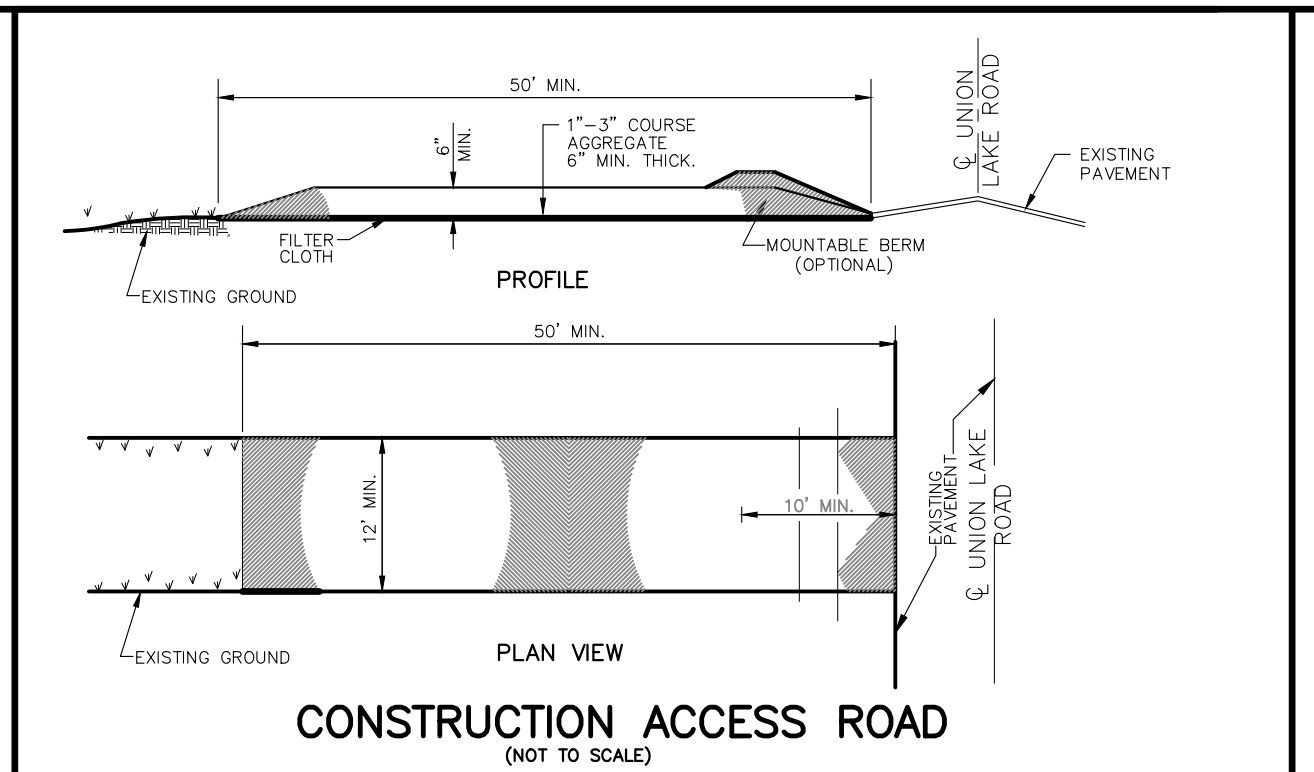
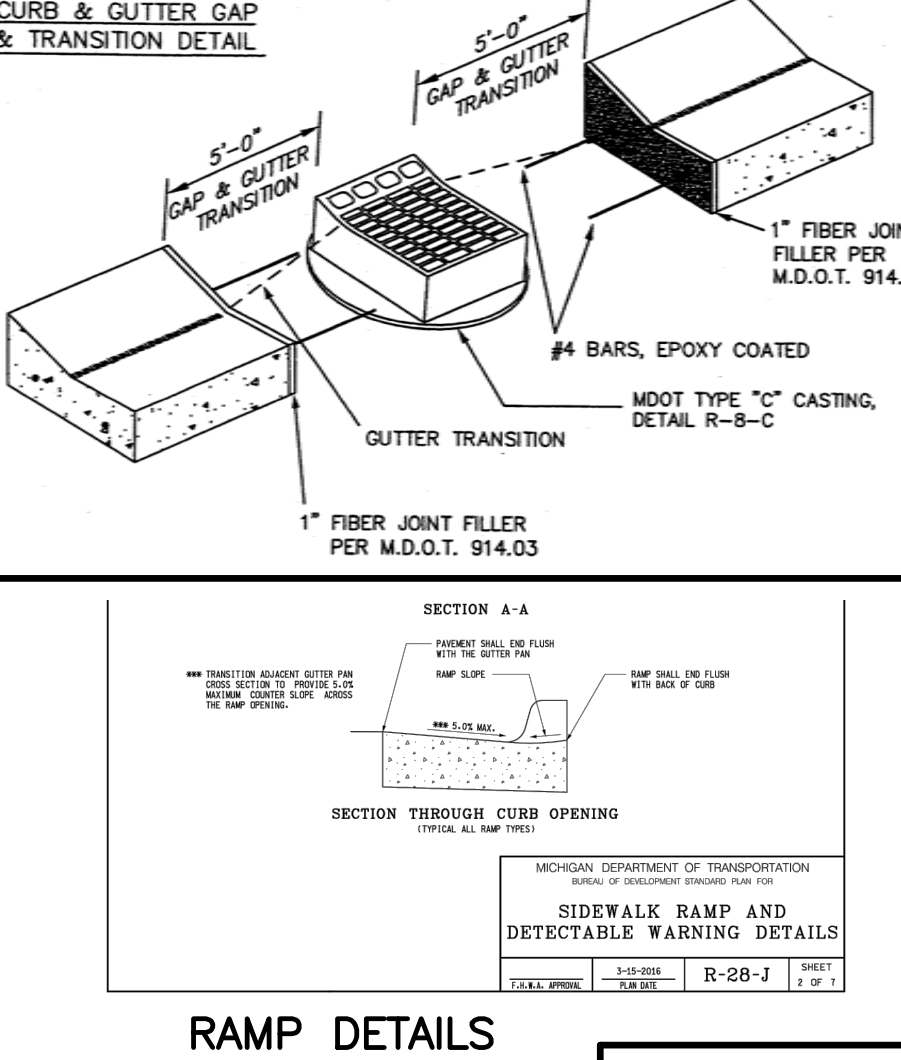
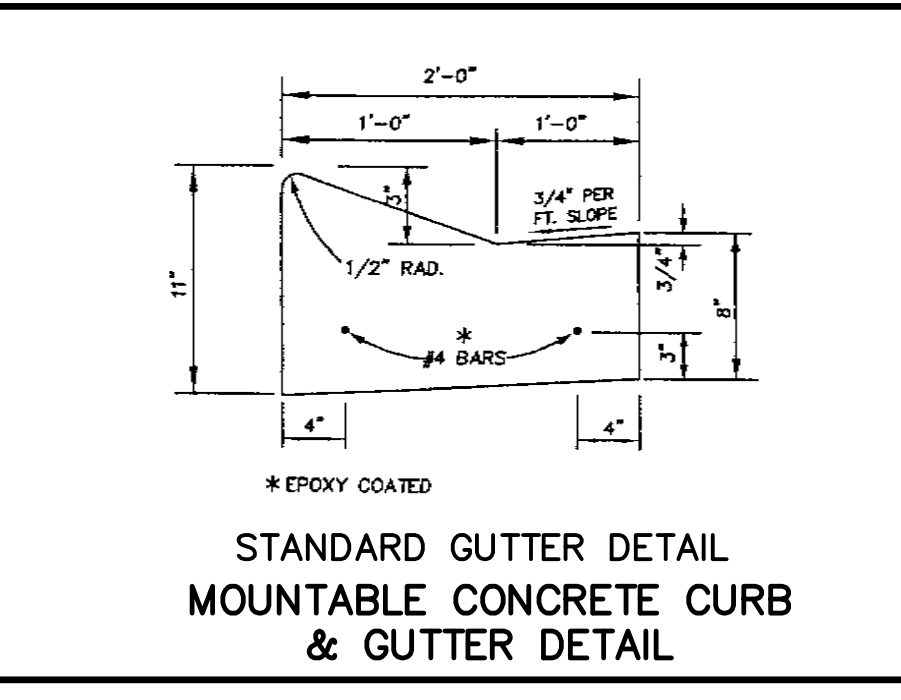
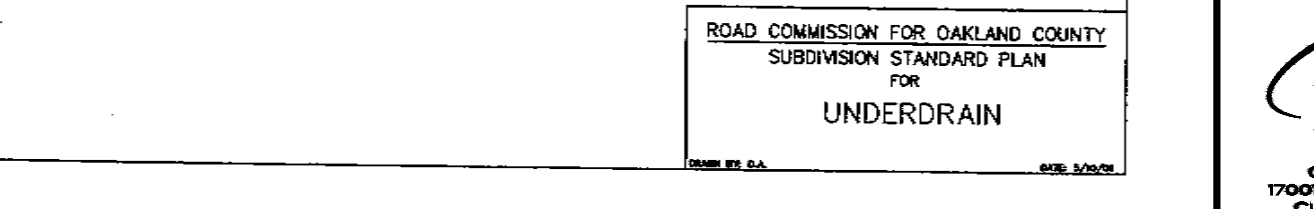
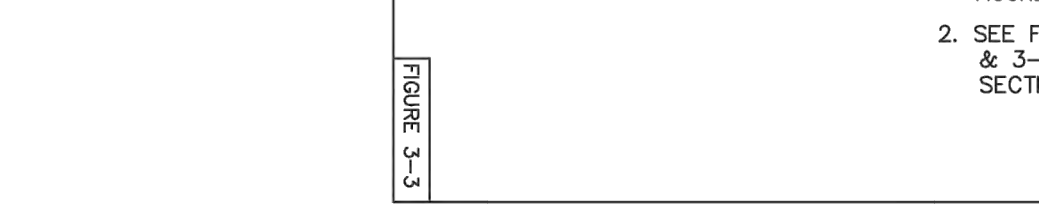
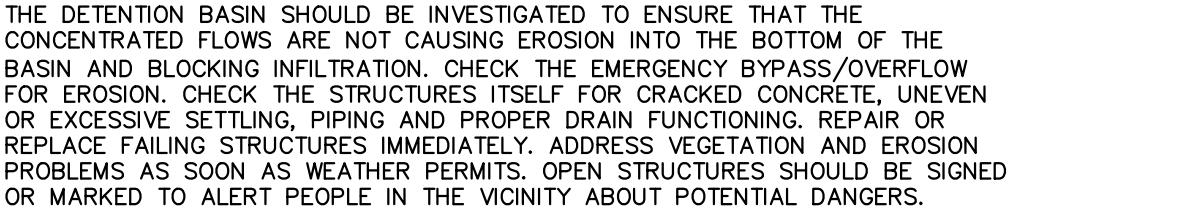
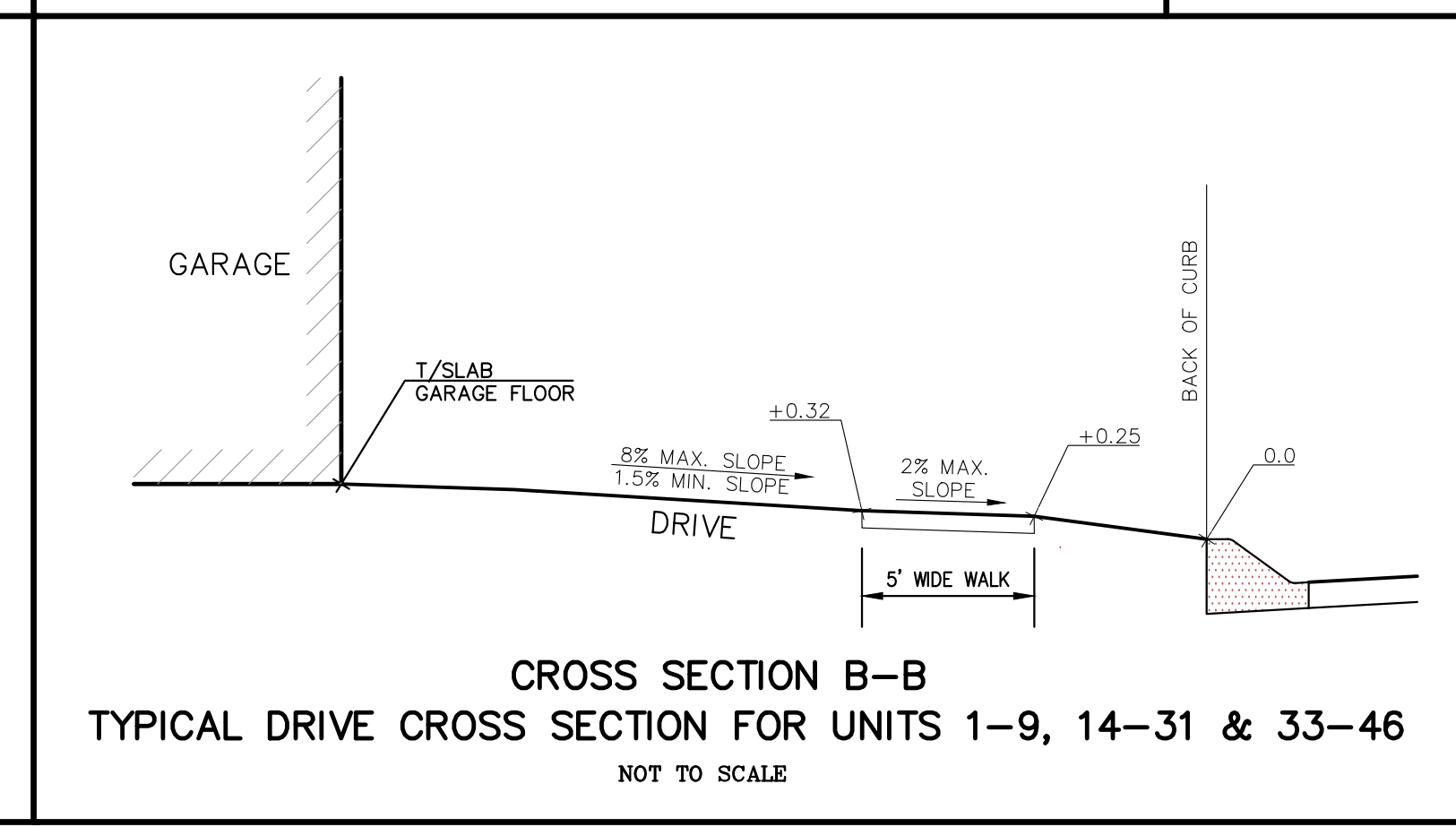
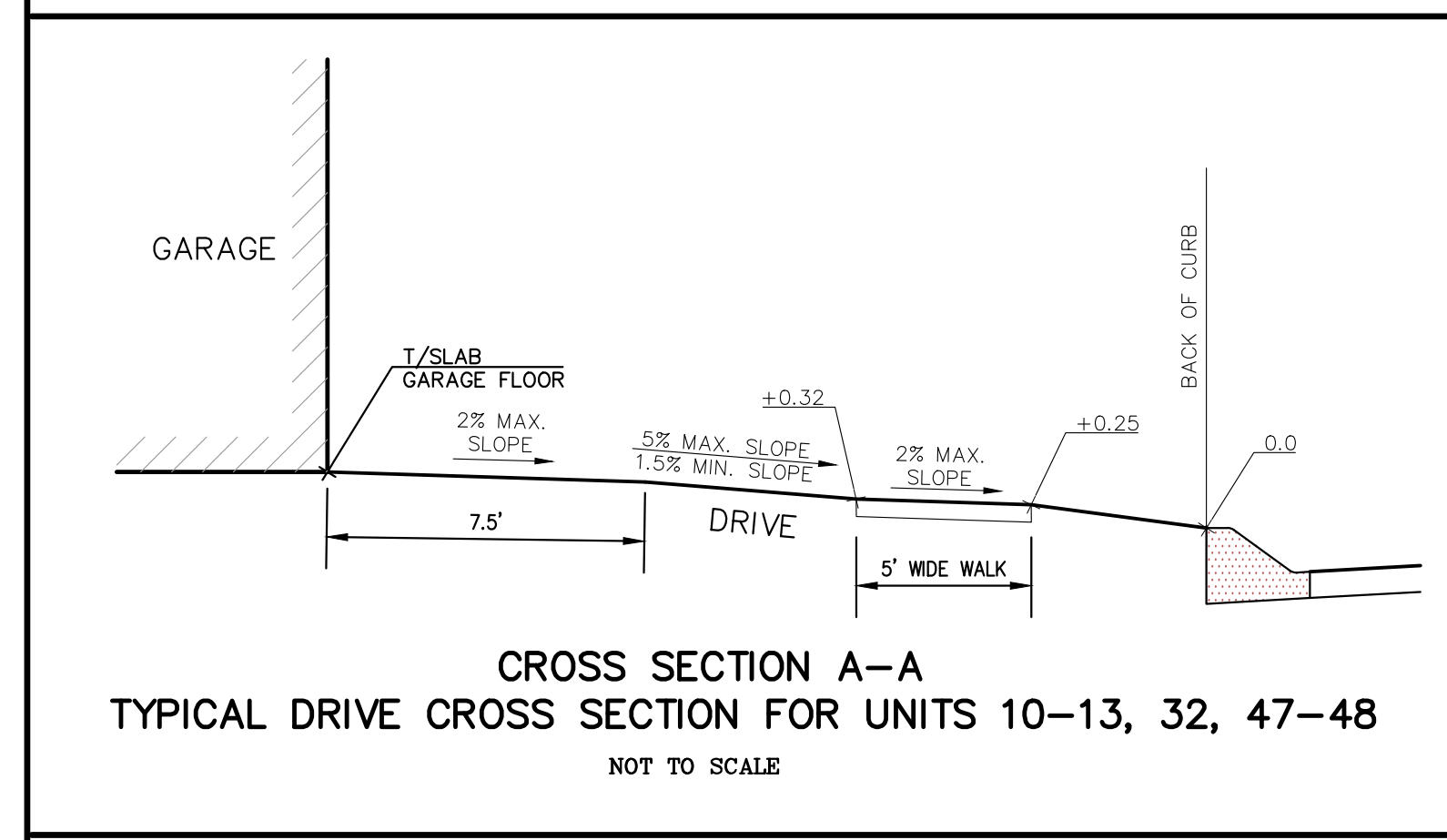
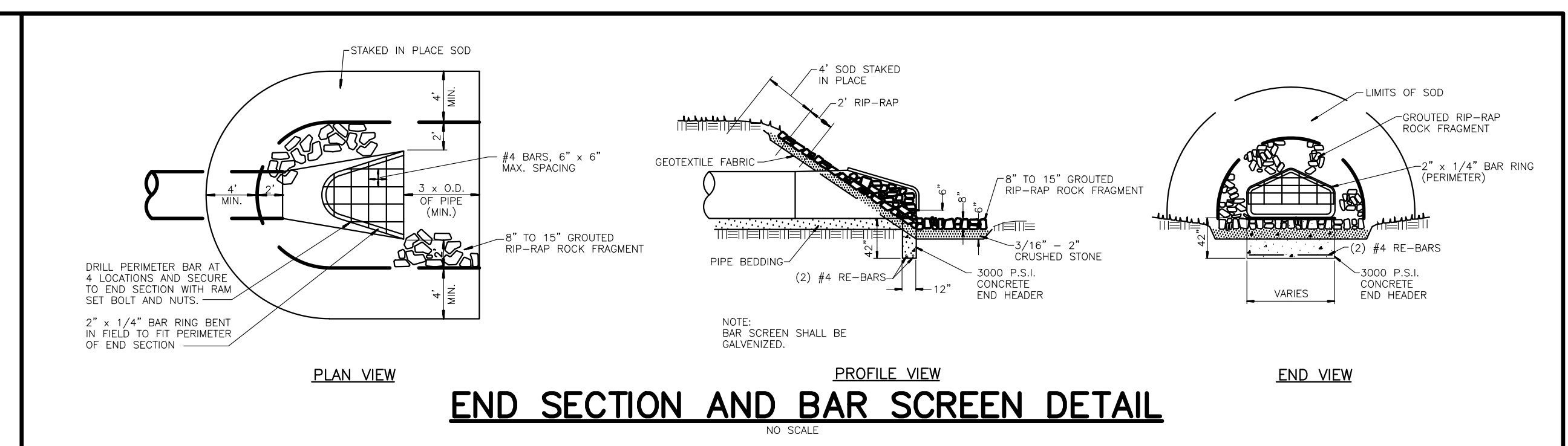
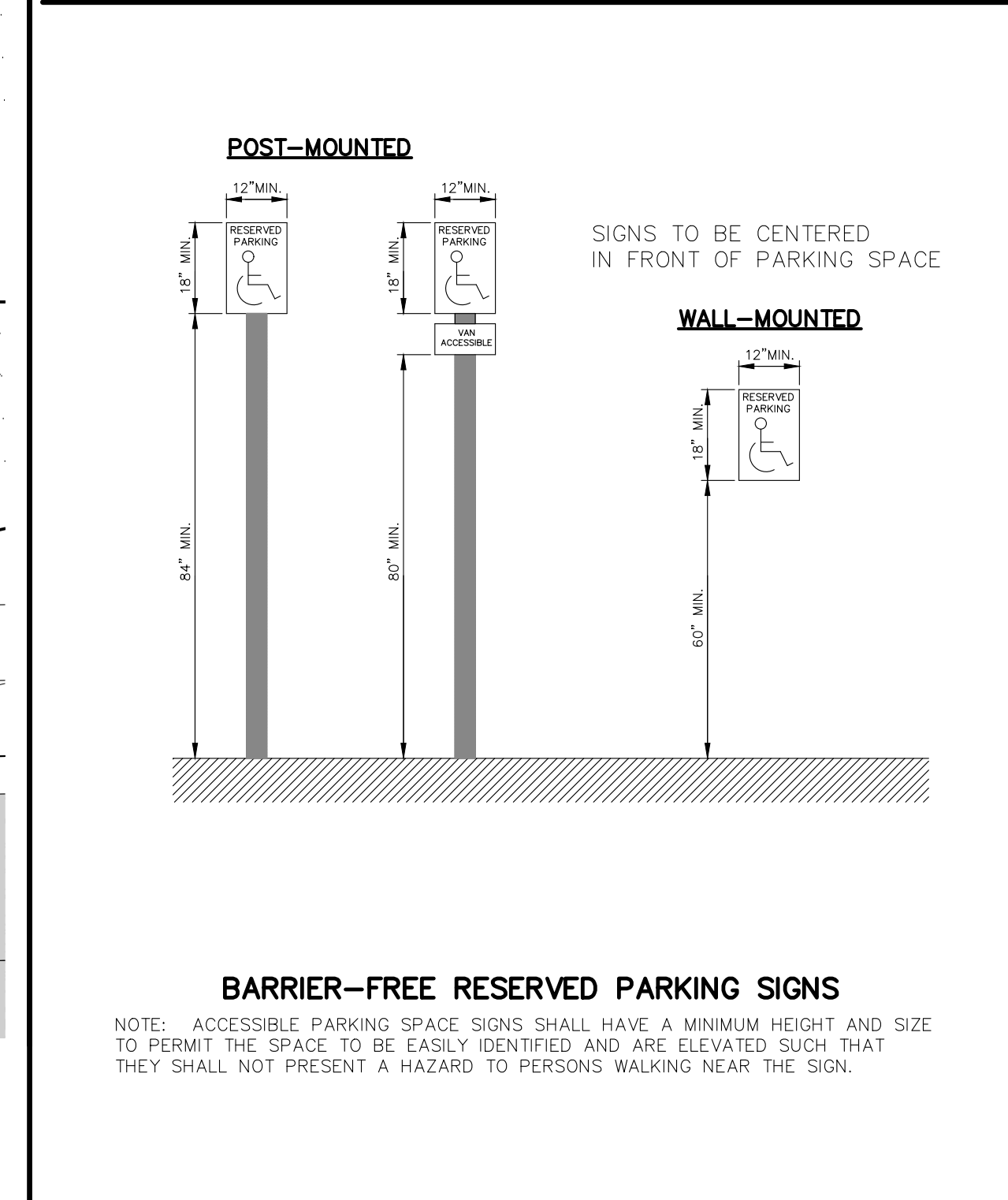
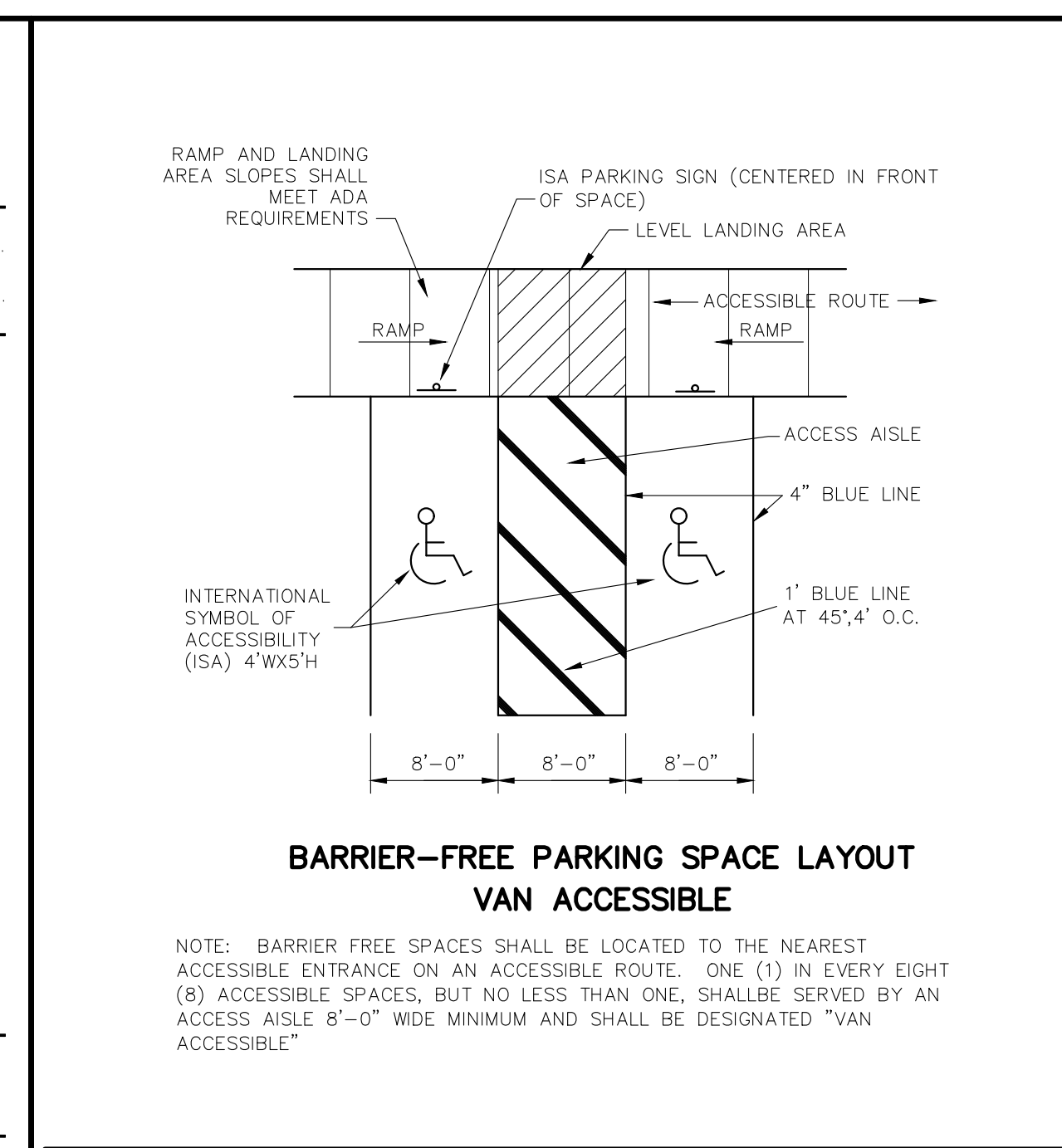
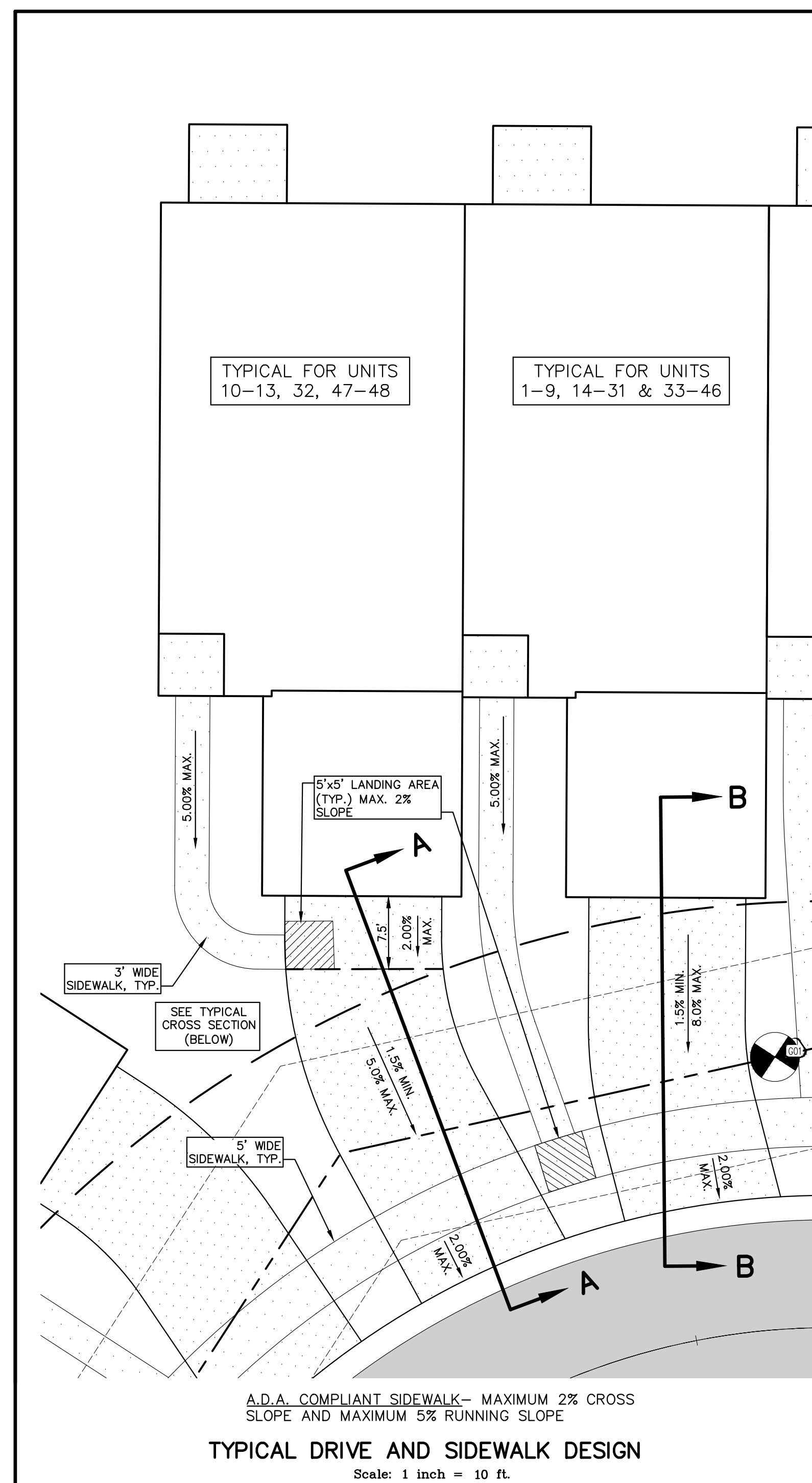


Table with 2 columns: HMA and CONCRETE. It lists pavement structures for single family residential subdivisions, industrial and commercial developments, and collector streets. It includes details like 1.5\"/>



LAKE POINTE SECTION 36, TOWN 3 NORTH, RANGE 8 EAST WHITE LAKE TWP., OAKLAND COUNTY, MICHIGAN. REVISIONS table with columns for NO., ITEM, DATE. UTILITY WARNING section with text and logo. NOTES AND DETAILS section. SHEET ND1.



LAKE POINTE
SECTION 36, TOWN 3 NORTH, RANGE 8 EAST
WHITE LAKE TWP., OAKLAND COUNTY, MICHIGAN

REVISIONS			UTILITY WARNING
NO.	ITEM	DATE	
1.	REVISE PER OWNER	6-3-20	UNDERGROUND UTILITY LOCATIONS AS SHOWN ON THE PLAN, WERE OBTAINED FROM UTILITY OWNER AND NOT FIELD LOCATED. Know what's below. Call before you dig. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF AND/OR RELOCATION OF ALL UTILITIES THAT MAY INTERFERE WITH CONSTRUCTION.
2.	REVISE GRADES ON UNITS 2 AND 6	11-9-20	
3.	REV PER 11-20-20 WL TWP LETTER	02-02-21	
4.	REVISE PER WHITE LAKE TWP	03-03-21	
6.	REVISED PER TOWNSHIP	04-25-23	
7.	REVISED PER TOWNSHIP	7-27-23	
8.	REVISED PER AGENCIES	02-13-24	

DATE: 04-08-2020 DESIGNED BY: A.A. JOB NUMBER: 19-030
CHECKED BY: J.E. DRAWING FILE: 19030ND.dwg

NOTES AND DETAILS

SEIBER KEAST LEHNER
ENGINEERING | SURVEYING

CLINTON TOWNSHIP OFFICE: 1700 NINETEEN MILE ROAD, SUITE 3 CLINTON TOWNSHIP, MI 48036 588.412.7060

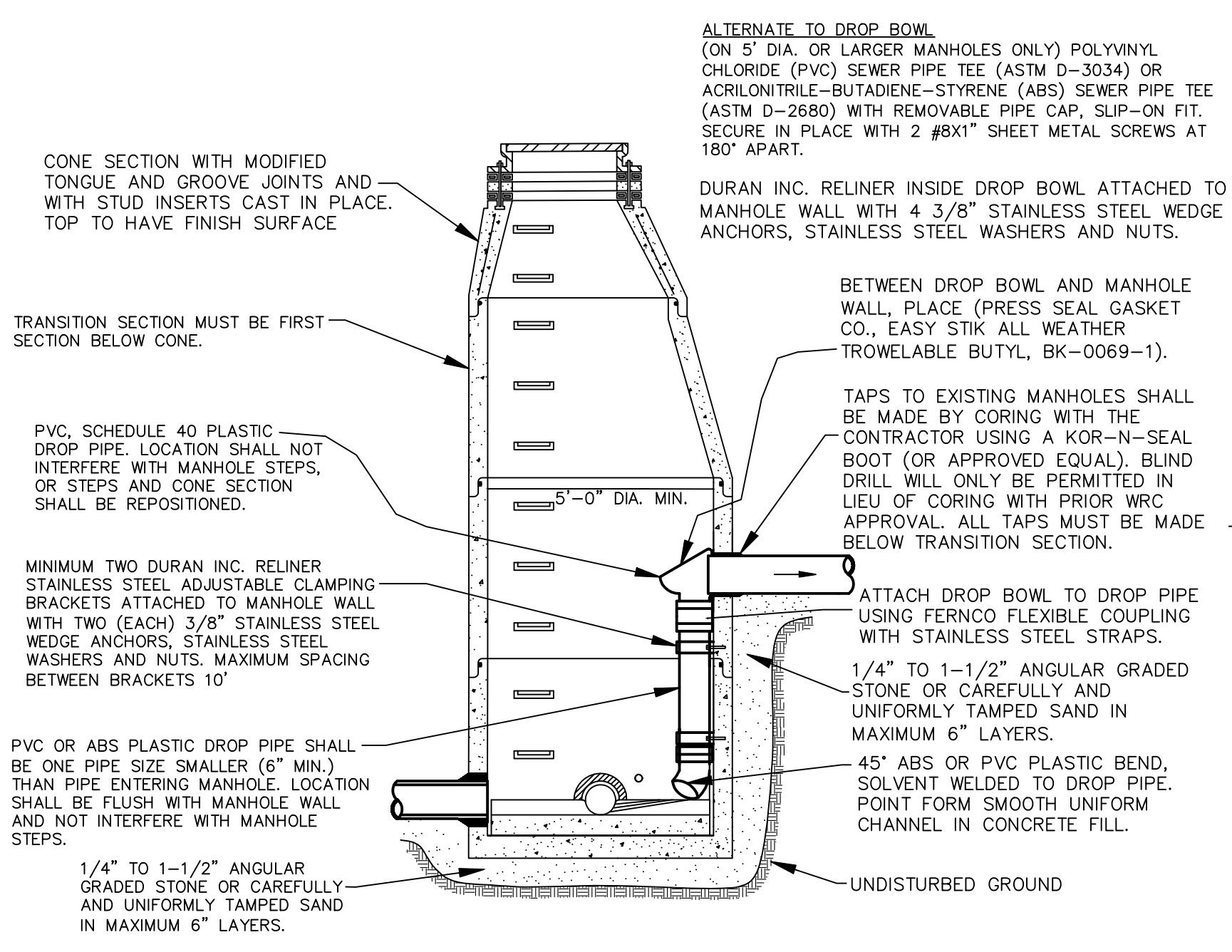
PARMINGTON HILLS OFFICE: 38205 COUNTRY CLUB DRIVE, SUITE C8 PARMINGTON HILLS, MI 48361 248.308.3331

SHEET ND2

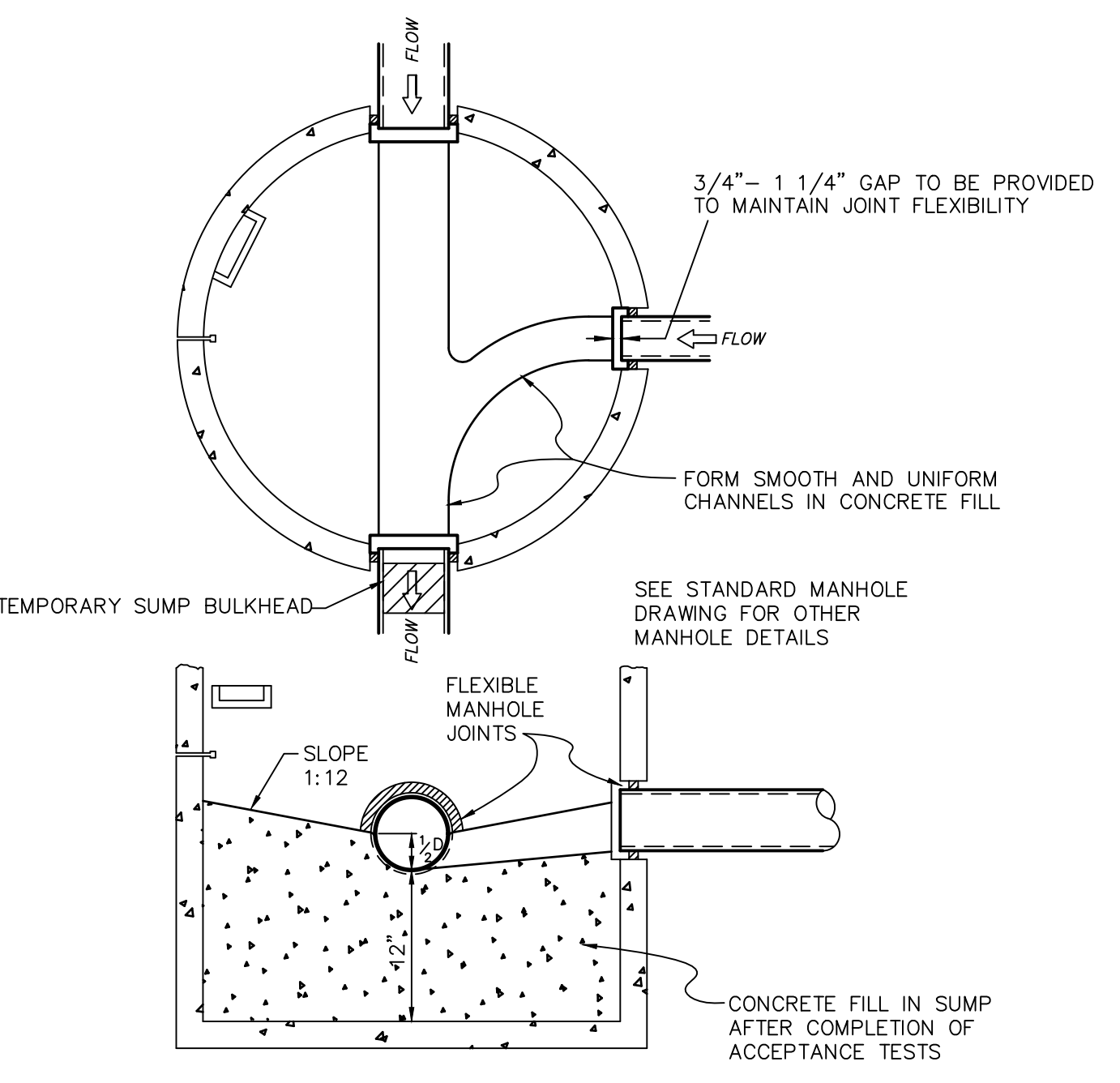
19-030-ND.dwg - 04/08/2020 10:00:00 AM - 10/25/2024 10:00:00 AM

SANITARY SEWER CONSTRUCTION NOTES

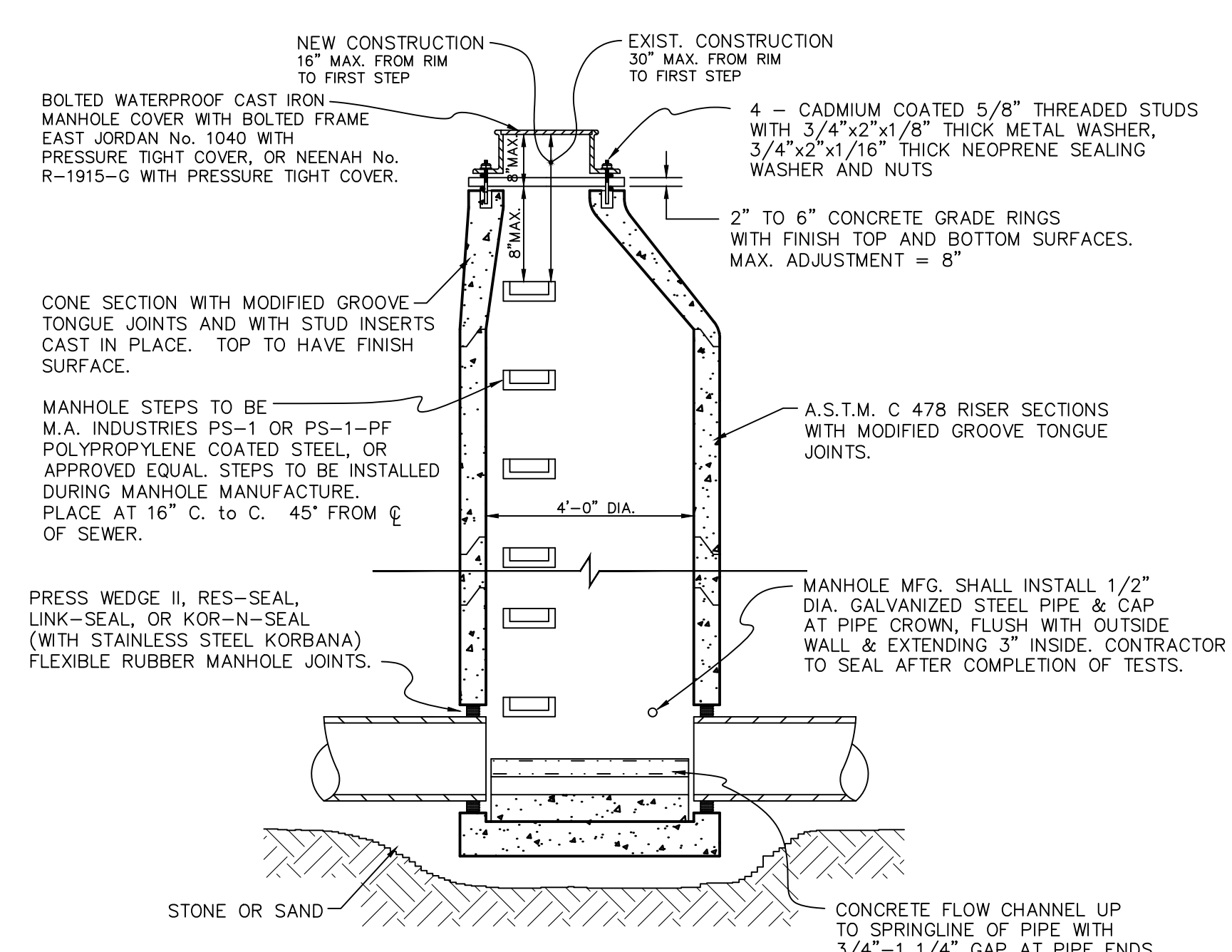
- All construction shall conform to the current standards and specifications of the local unit of government and the Oakland County Water Resources Commissioner (OCWRC). All sanitary sewer construction shall have full time inspection supervised by a professional engineer provided by or caused to be provided by the local unit of government.
- At all connections to Oakland County Water Resources Commissioner's sewers or extensions, and before start of construction, the Contractor must obtain a Sewer Inspection Permit issued by the OCWRC. Gravity sewer permit charges are \$250.00 for each connection plus \$25.00 for each manhole constructed. Pressure sewer permit charges are \$250.00 per 2460 L.F. of force main with a minimum permit fee of \$250.00. Failure to pass any test segment will result in an additional charge to the Contractor for each retest, in accordance with the above price schedule. The Contractor shall also have posted with the OCWRC a \$5,000.00 surety bond and \$500.00 cash deposit. The Contractor shall notify the local unit of government and the OCWRC (248-858-1110) 24 hours prior to the beginning of any construction. Final acceptance tests must be witnessed by County personnel and must be scheduled by Municipality or its consultant in advance with 24 hour notice at 248-858-1110.
- No sewer installation shall have an infiltration or exfiltration exceeding 100 gallons per inch diameter per mile of pipe in a 24 hour period, and no single run of sewer between manholes shall exceed 100 gallons per inch diameter per mile. Air tests in lieu of infiltration tests shall be as specified in the OCWRC "Acceptance Tests", dated September, 1972. Only pipe and pipe joints approved by the Oakland County Water Resources Commissioner may be used for sanitary sewer construction.
- Located in the first manhole upstream from the point of all connections to an existing OCWRC sewer, or extension thereto, a temporary 12-inch deep sump shall be provided in the first manhole above the connection which will be filled in after such successful completion of any acceptance test up to the standard fill provided for the flow channel. A watertight bulkhead shall be provided on the downstream of the sump manhole.
- All building leads and risers shall be 6-inch S.D.R. 23.5 ABS OR PVC pipe with chemically fused joints, or an approved equal pipe and joint. Sewer pipe wye shall contain factory installed premium joint material of an approved type compatible with that of the building lead pipe used. Building leads to be furnished with removable air tight and water-tight stoppers.
- All rigid sewer pipe shall be installed in Class "B" bedding or better. All flexible, semi-flexible or composite sewer pipe shall be installed in conformance to the Oakland County Water Resources Commissioner specifications.
- All new manholes shall have Oakland County Water Resources Commissioner approved flexible, water-tight seals where pipes pass through walls. Manholes shall be of precast sections with modified groove tongue and rubber gasket type joints. Precast manhole cone sections shall be Oakland County Water Resources Commissioner approved modified eccentric cone type. All manholes shall be provided with bolted, water-tight covers.
- At all connections to manholes on Oakland County Water Resources Commissioner's sewers or extensions thereto drop connections will be required when the difference in invert elevations exceeds 18-inches. Outside drop connections only will be approved.
- Taps to existing manholes shall be made by coring. The Contractor shall place a KOR-N-SEAL boot (or OCWRC approved equal) after coring is completed. Blind drilling will not be permitted in lieu of coring.
- New manholes constructed directly on Oakland County Water Resources Commissioner's sewers shall be provided with covers reading "Oakland County - Sanitary" in raised letters. New manholes built over an existing sanitary sewer shall have monolithic poured bottoms.
- No ground water, storm water, construction water, downspout drainage or weep tile drainage shall be allowed to enter any sanitary sewer installation.
- Prior to excavation, the Contractor shall telephone MISS DIG (647-7344) for the location of underground pipeline and cable facilities, and shall also notify representatives of other utilities located in the vicinity of the work.
- 18" minimum vertical separation and 10' minimum horizontal separation must be maintained between sanitary sewer and water main.
- Manhole frame and cover shall be as follows: East Jordan heavy manhole cover, base flange type #1040 or Neenah Foundry heavy duty #R-1642 manhole frame. Solid lid cover shall be non-rocking and marked "WHITE LAKE TOWNSHIP SEWER DEPARTMENT."



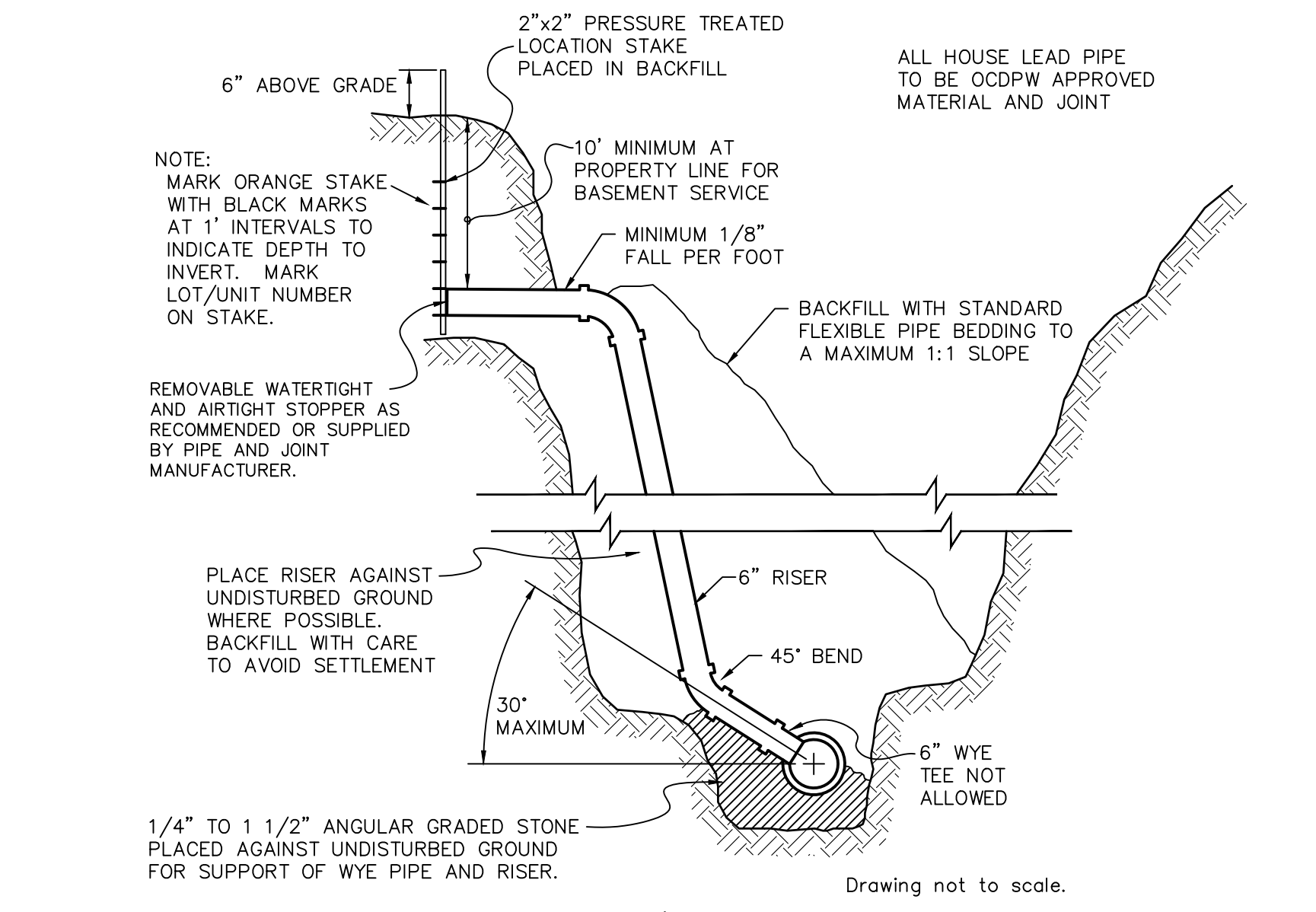
INTERIOR DROP CONNECTION



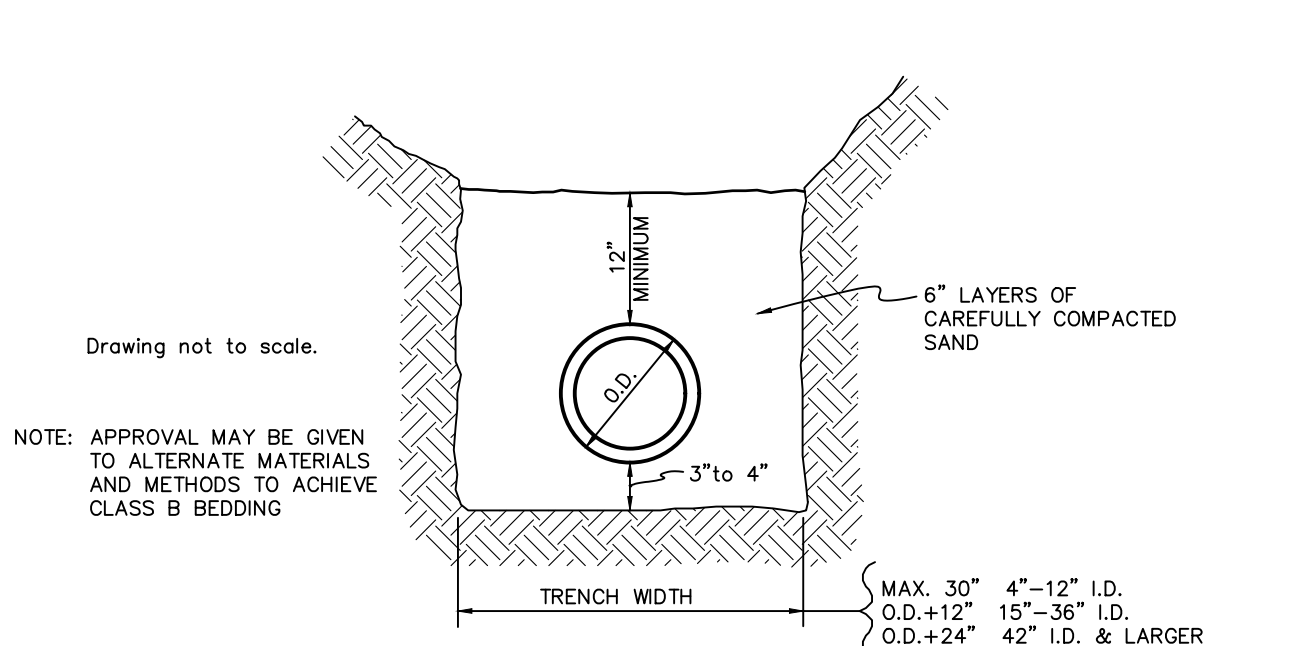
SUMP MANHOLE FOR TESTING, CLEANING, AND DEWATERING



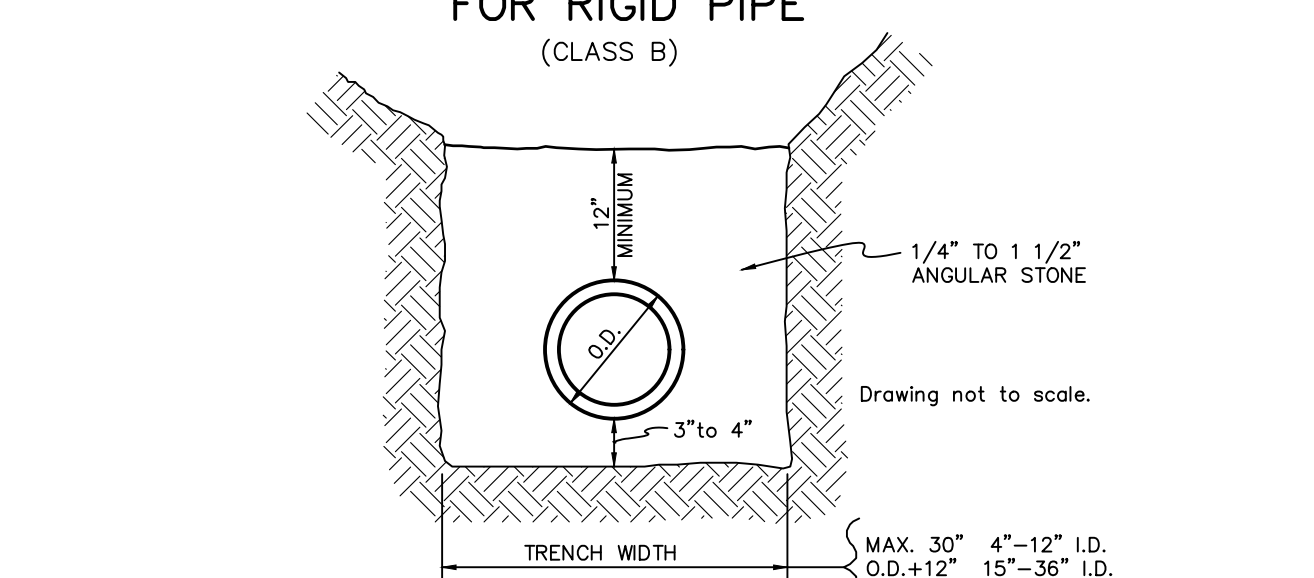
STANDARD MANHOLE ON 8" THROUGH 24" DIAMETER SEWERS



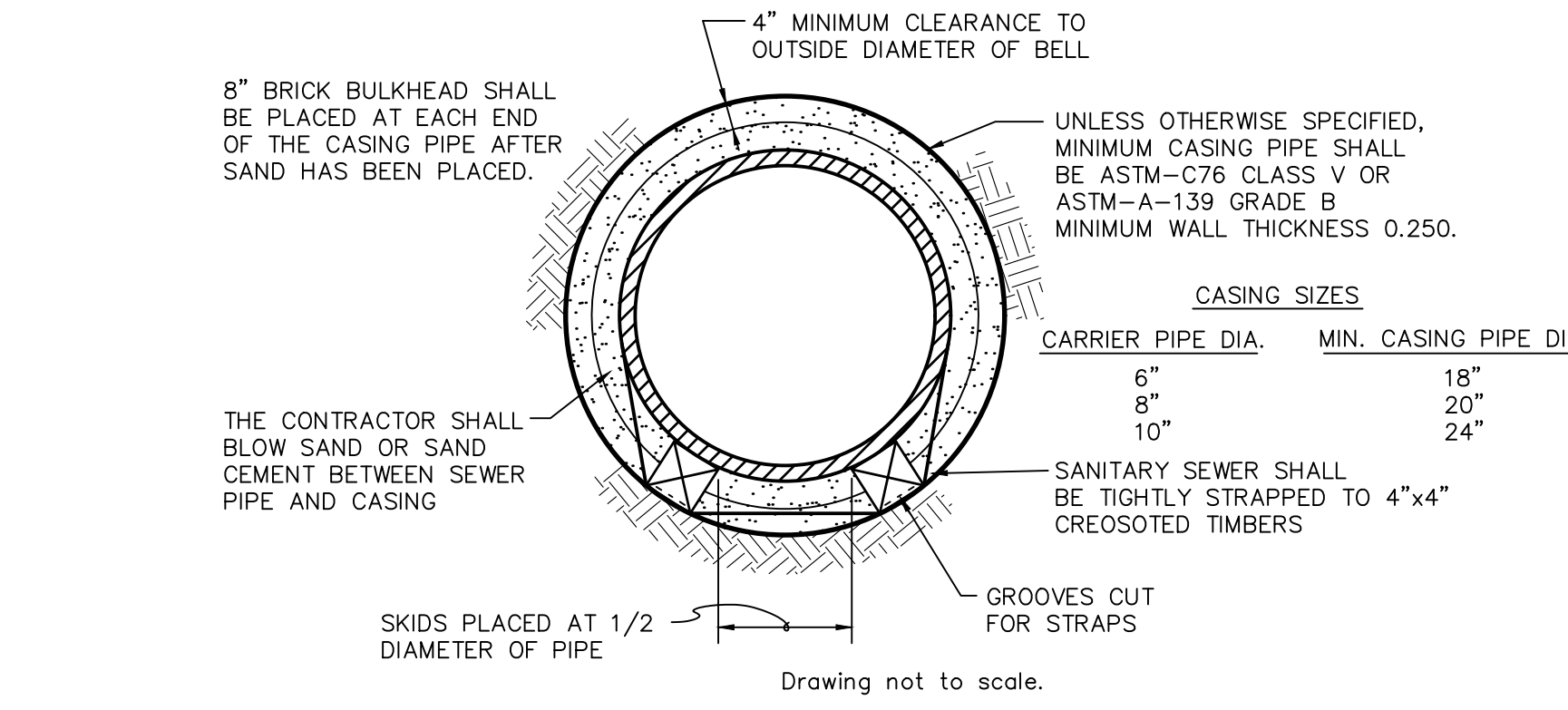
HOUSE/BUILDING LEAD DETAIL



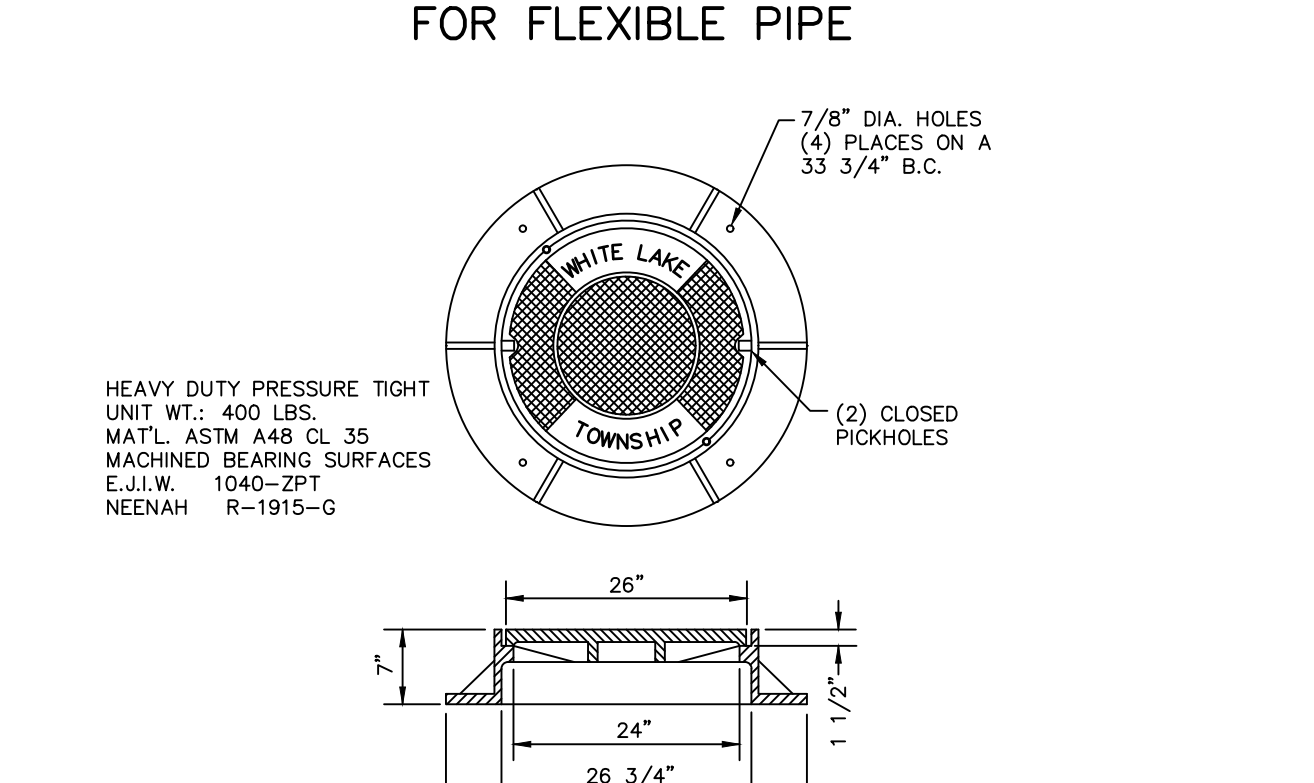
BEDDING DETAIL FOR RIGID PIPE (CLASS B)



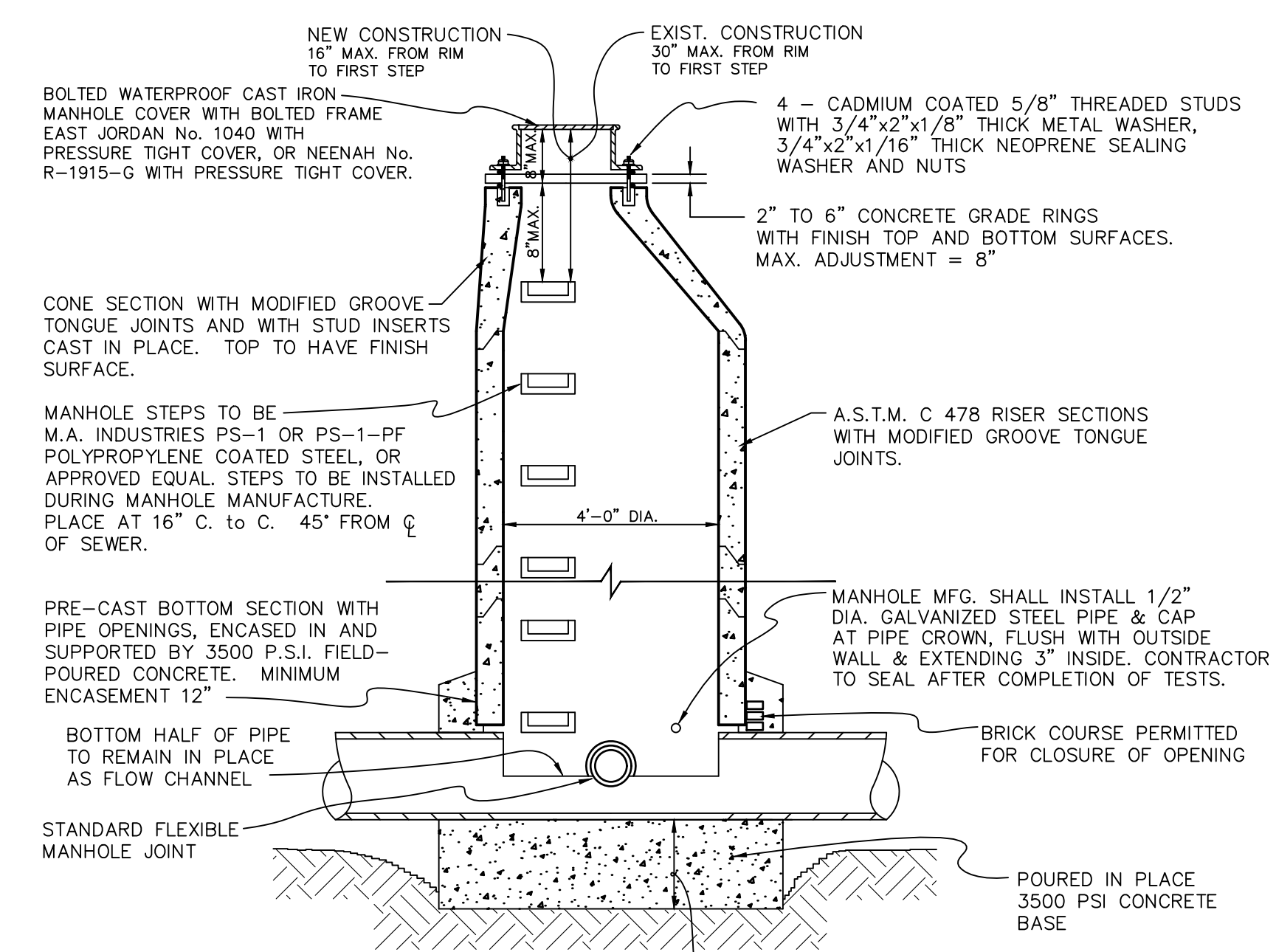
BEDDING DETAIL FOR FLEXIBLE PIPE



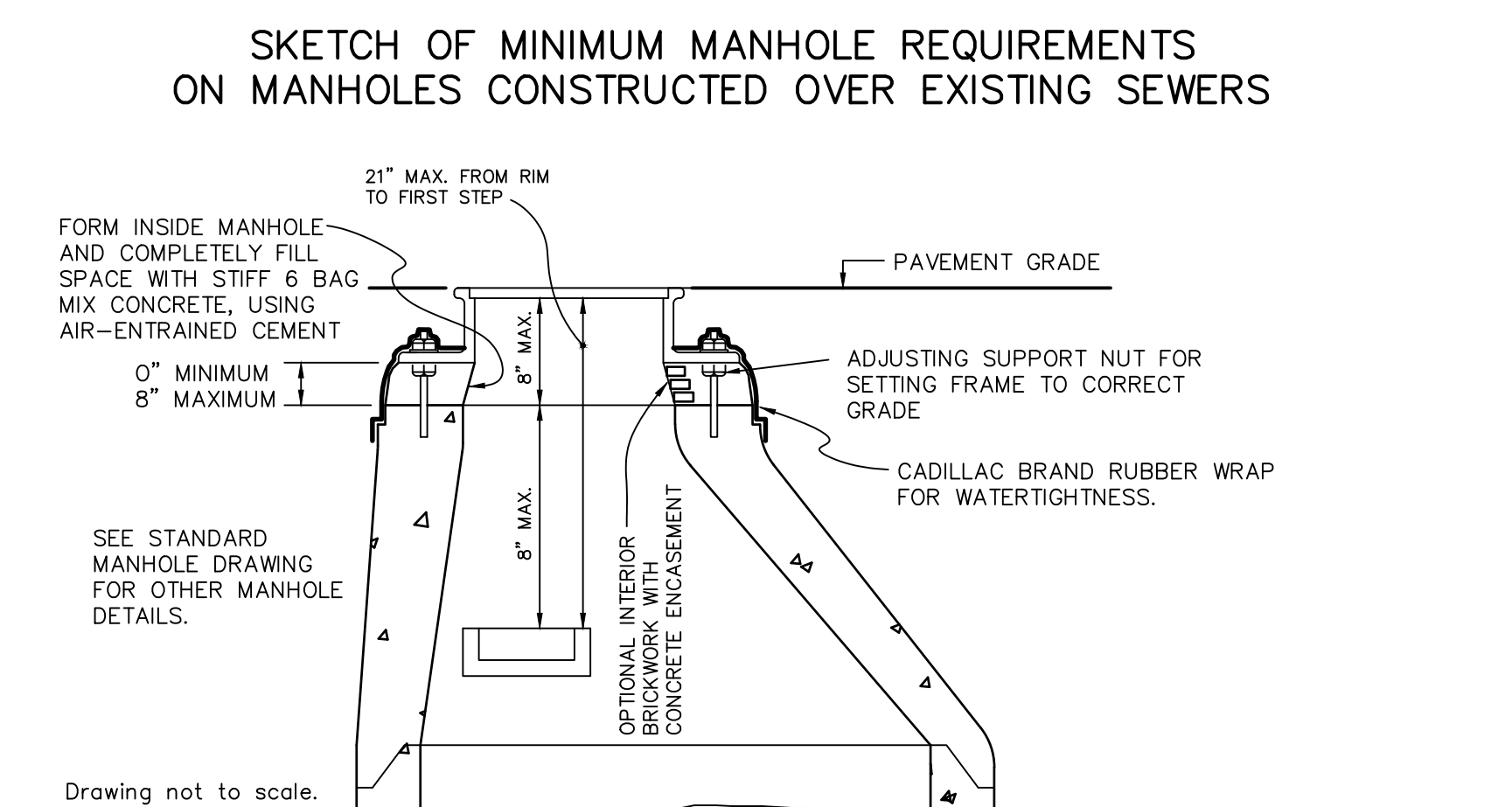
PIPE BARREL SUPPORT FOR SEWER



MANHOLE COVER & FRAME



OPTIONAL CONSTRUCTION DETAILS



SKETCH OF MINIMUM MANHOLE REQUIREMENTS ON MANHOLES CONSTRUCTED OVER EXISTING SEWERS

DRAWN: CAD
DESIGN: OA
CHECKED: --

SCALE: VERT. -
HORZ. AS NOTED

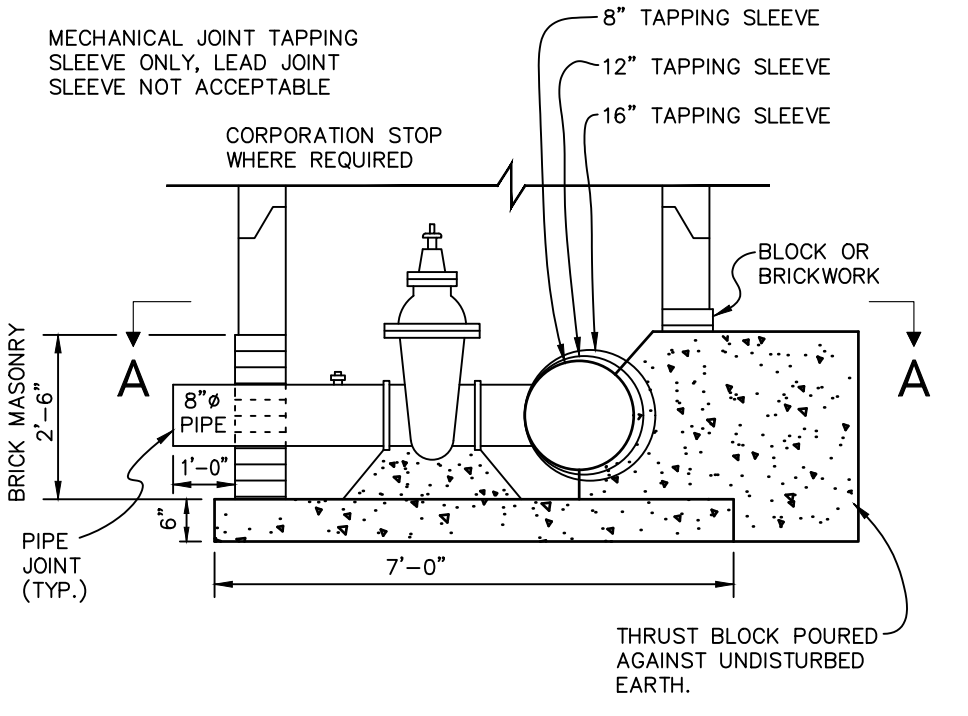
REVISIONS	MARK	ADDENDUM/CHANGE ORDER	DATE	MARK	ADDENDUM/CHANGE ORDER	DATE	MARK	ADDENDUM/CHANGE ORDER	DATE
		FIRST ISSUE	09/11/97		OCWRC COMMENTS	11/06/15			
		UPDATED TITLE BLOCK	04/30/13						
		UPDATED NOTES	02/17/15						

Johnson & Anderson
 4494 Elizabeth Lake Road Waterford, Michigan 48328 tel (248) 681-7800 fax (248) 681-2660
 1060 W. Norton Avenue, Suite 7 Muskegon, Michigan 49441 tel (231) 780-3100 fax (231) 780-3115
 2291 Water Street, Suite 6 Port Huron, Michigan 48060 tel (810) 987-7820 fax (810) 987-7895

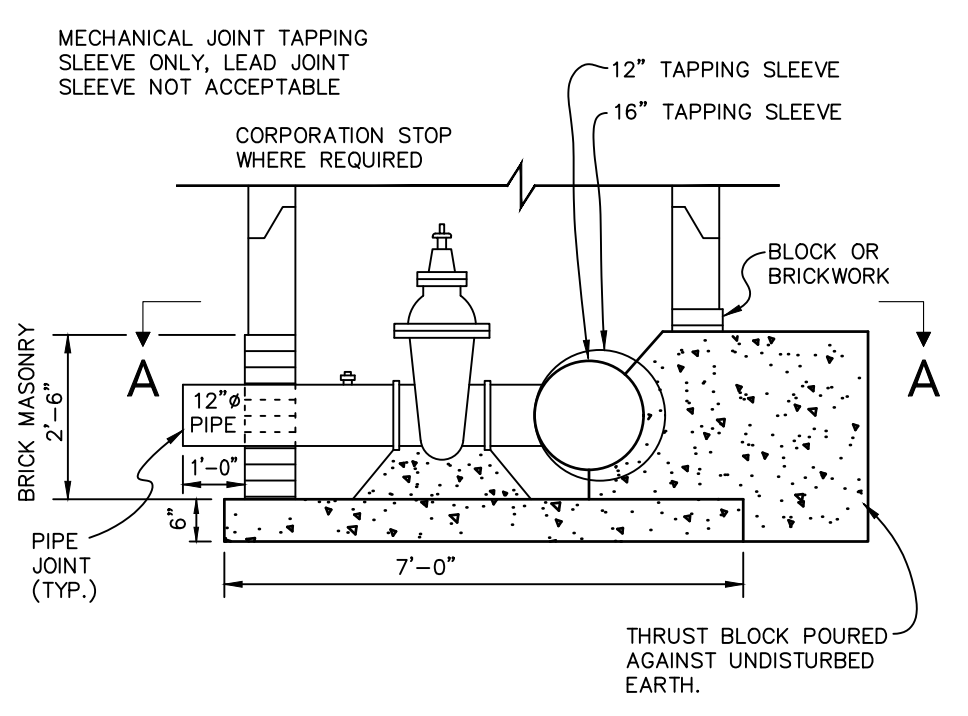
White Lake Township
 7525 Highland Road (M-59)
 White Lake, Michigan 48383
 248-698-3300

SANITARY SEWER STANDARD DETAILS

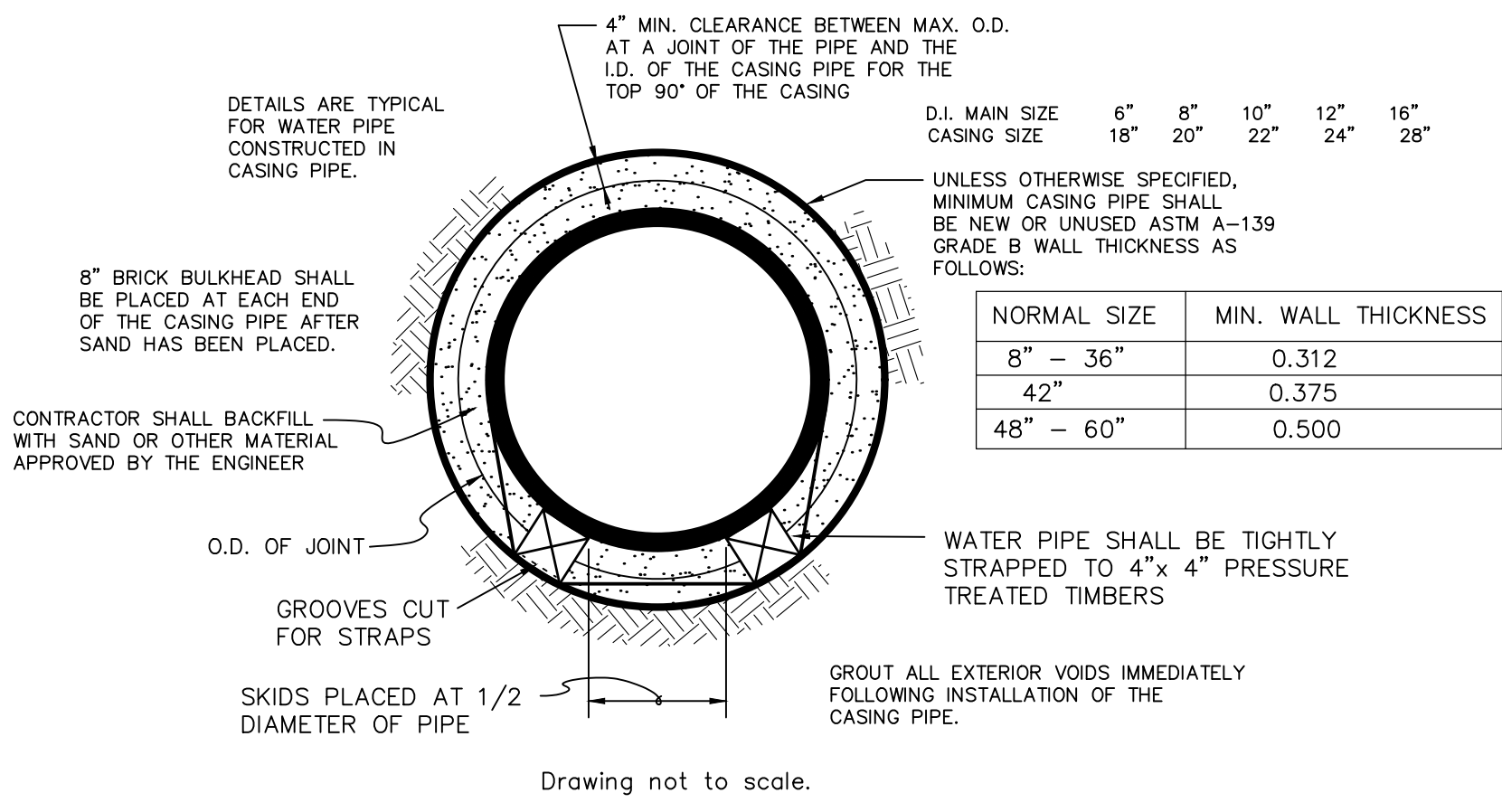
JOB NO. _____
 DATE ISSUED 09/11/97
 SHEET NO. _____



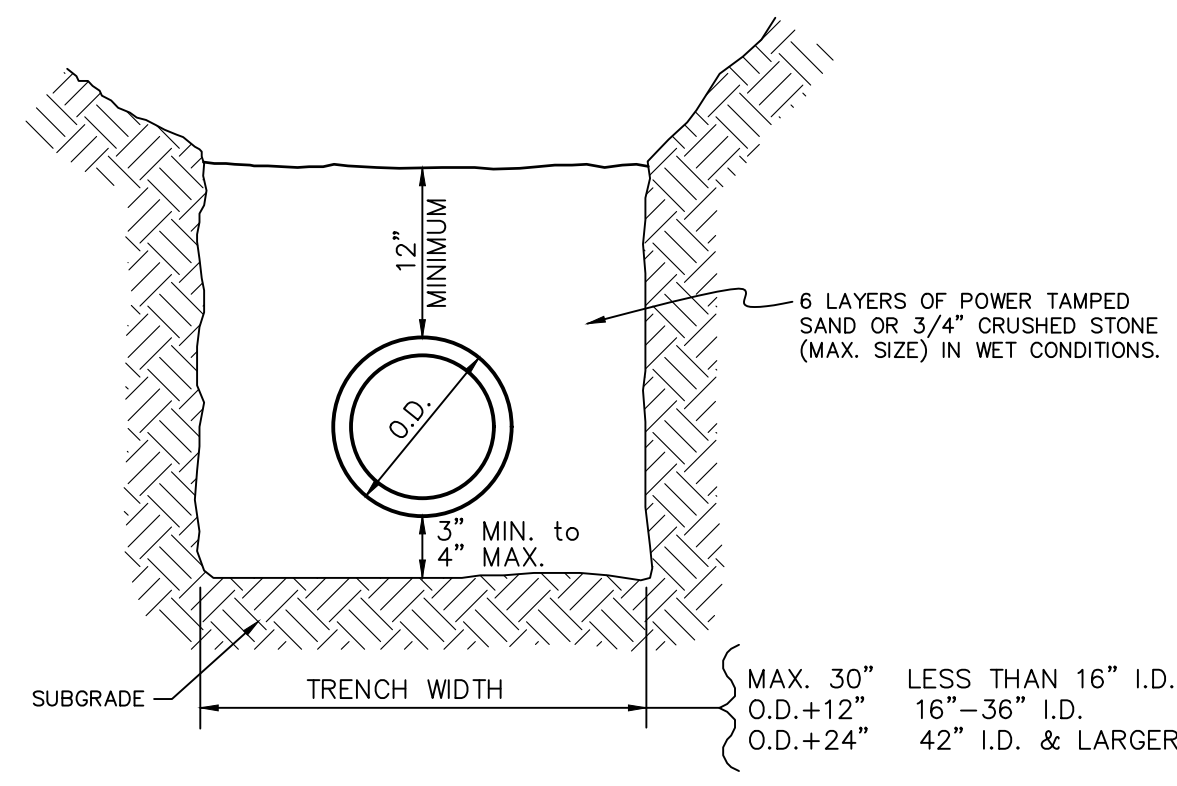
16" X 8", 12" X 8", 8" X 8" TAPPING SLEEVE, VALVE & WELL (B-B)



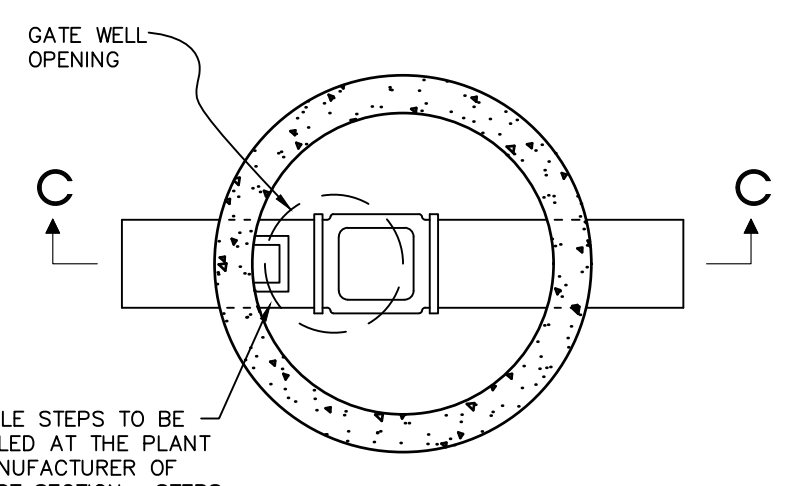
16" X 12", 12" X 12" TAPPING SLEEVE, VALVE & WELL (B-B)



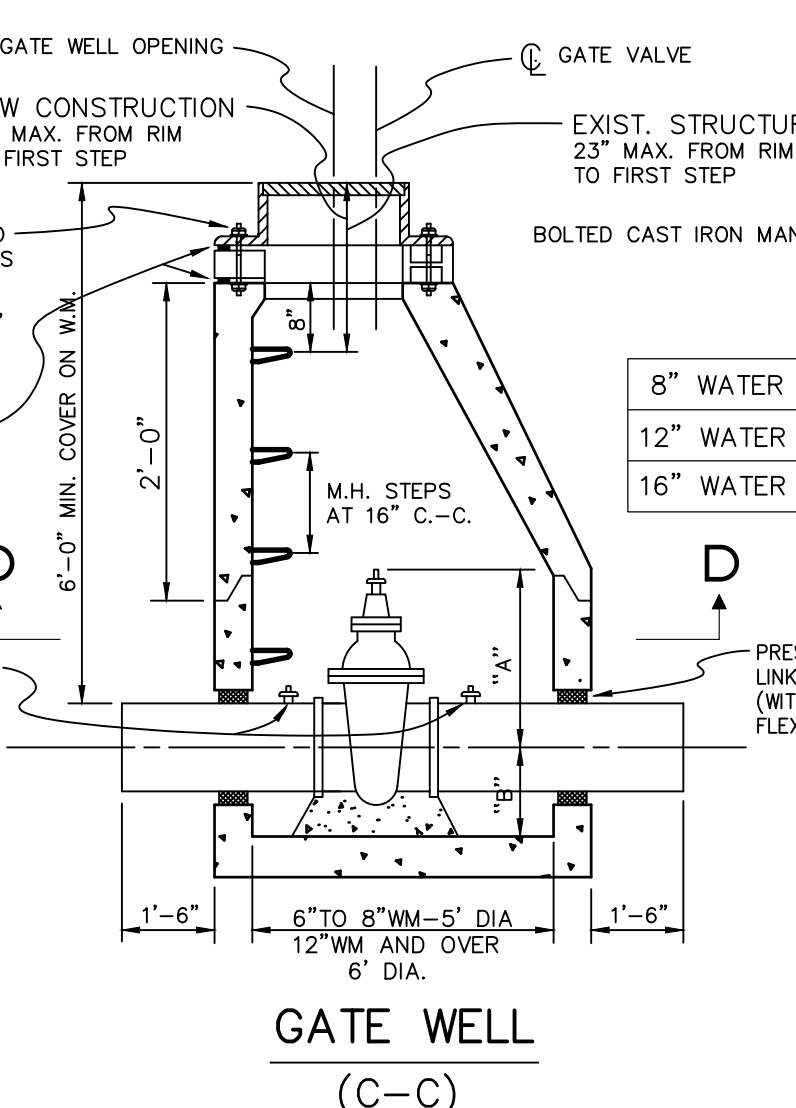
PIPE BARREL SUPPORT FOR WATER MAIN CONSTRUCTED IN CASING



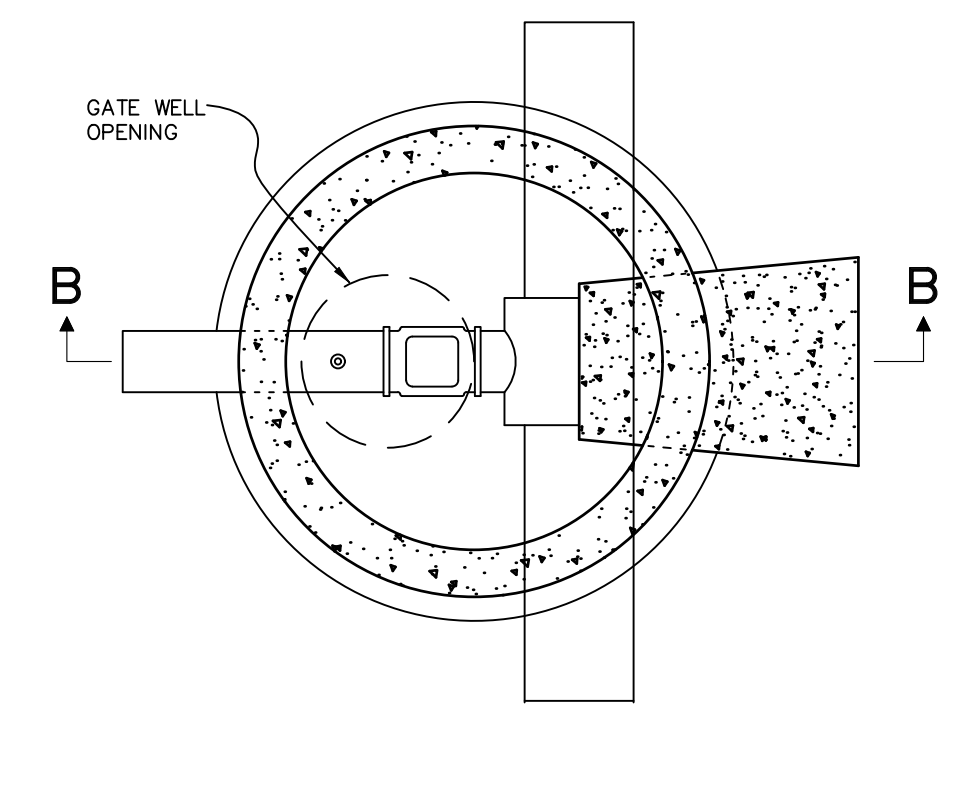
STANDARD BEDDING FOR WATER PIPE



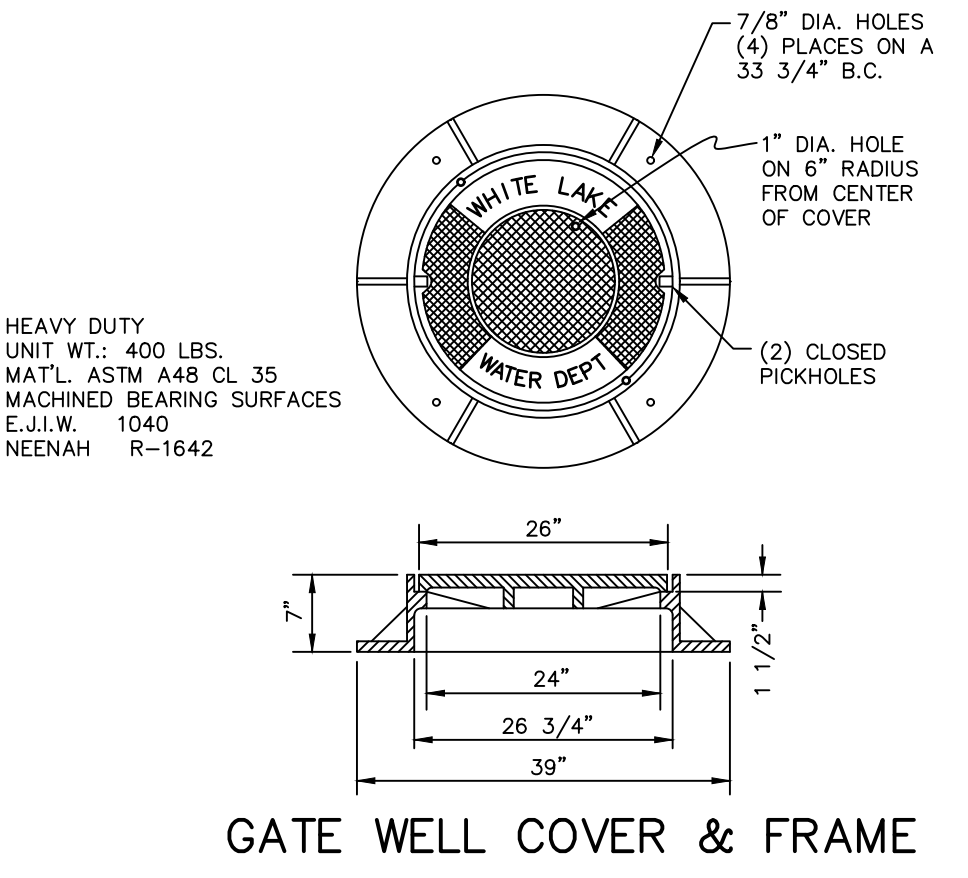
PLAN GATE WELL - TYPICAL (D-D)



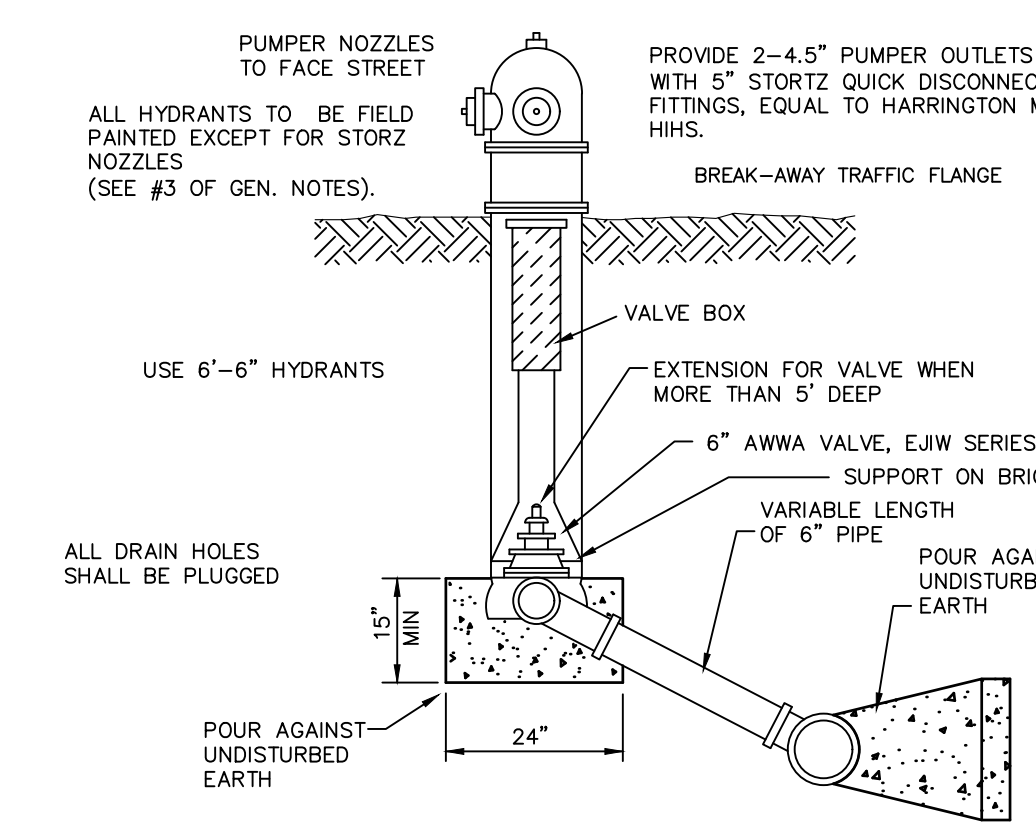
GATE WELL (C-C)



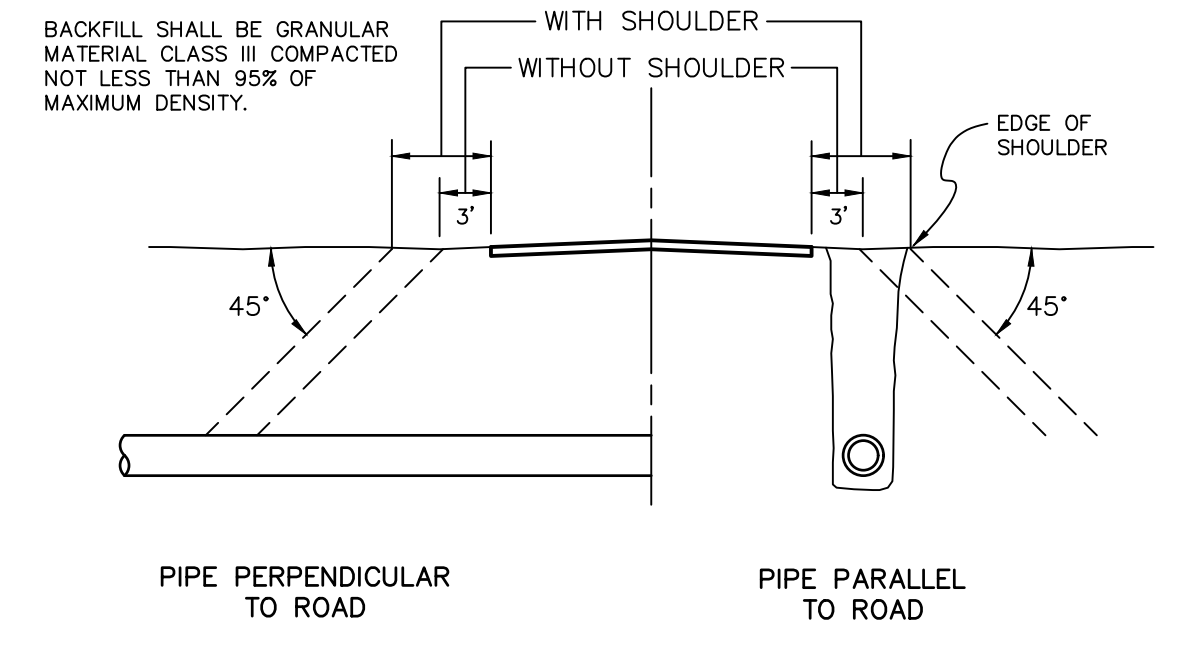
PLAN TAPPING SLEEVE, VALVE & WELL - TYPICAL (A-A)



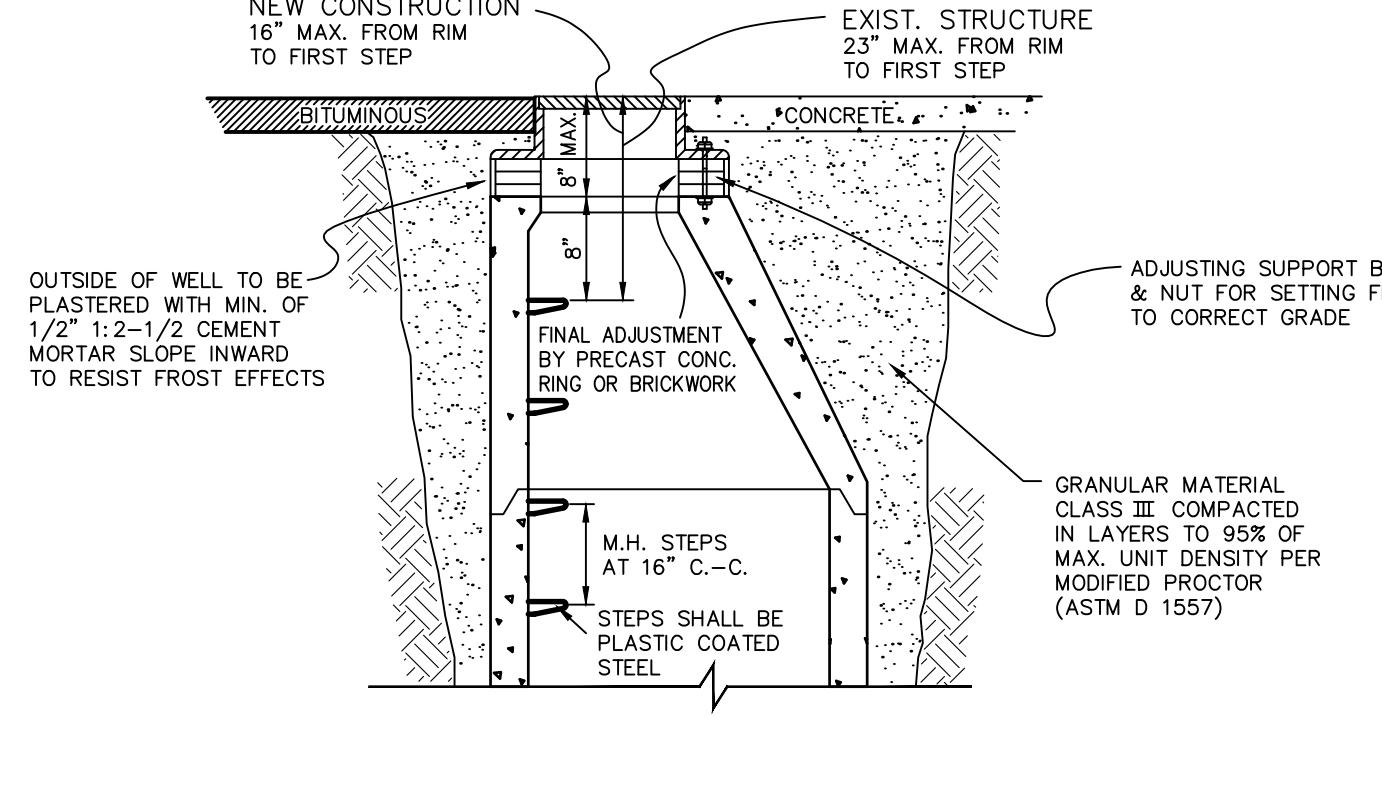
GATE WELL COVER & FRAME



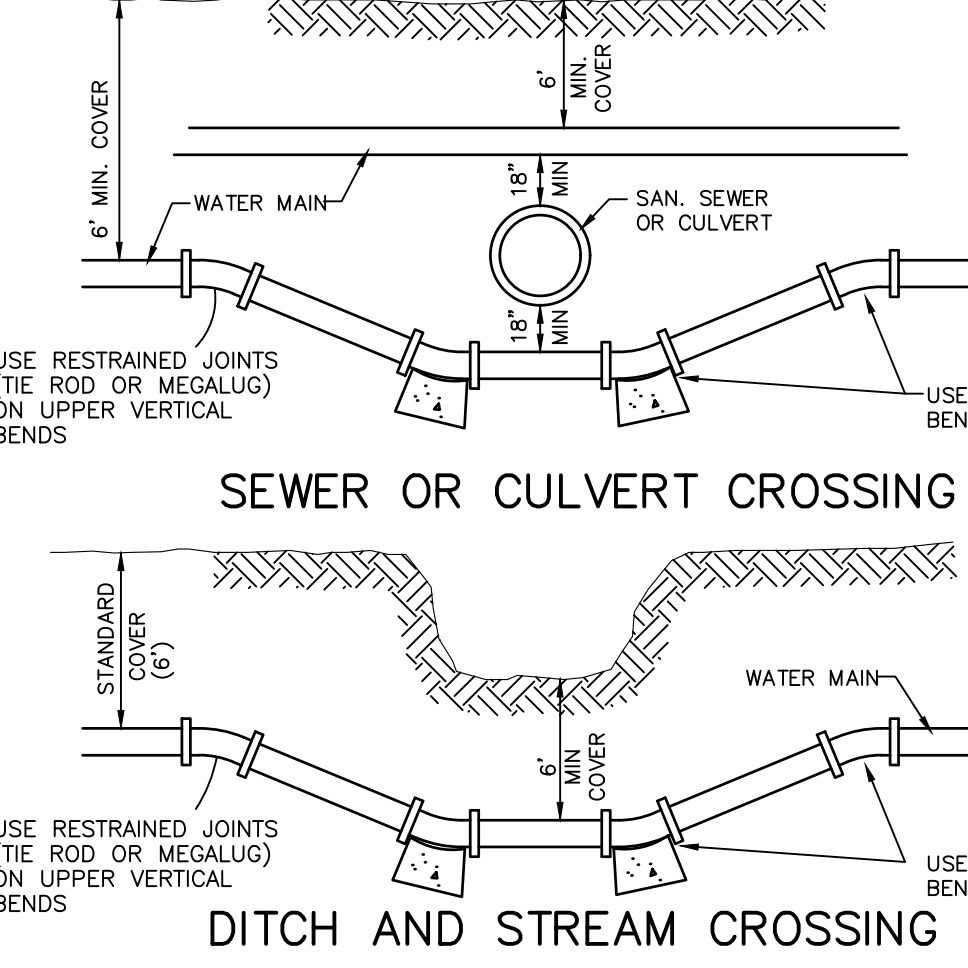
DETAIL OF HYDRANT SETTINGS



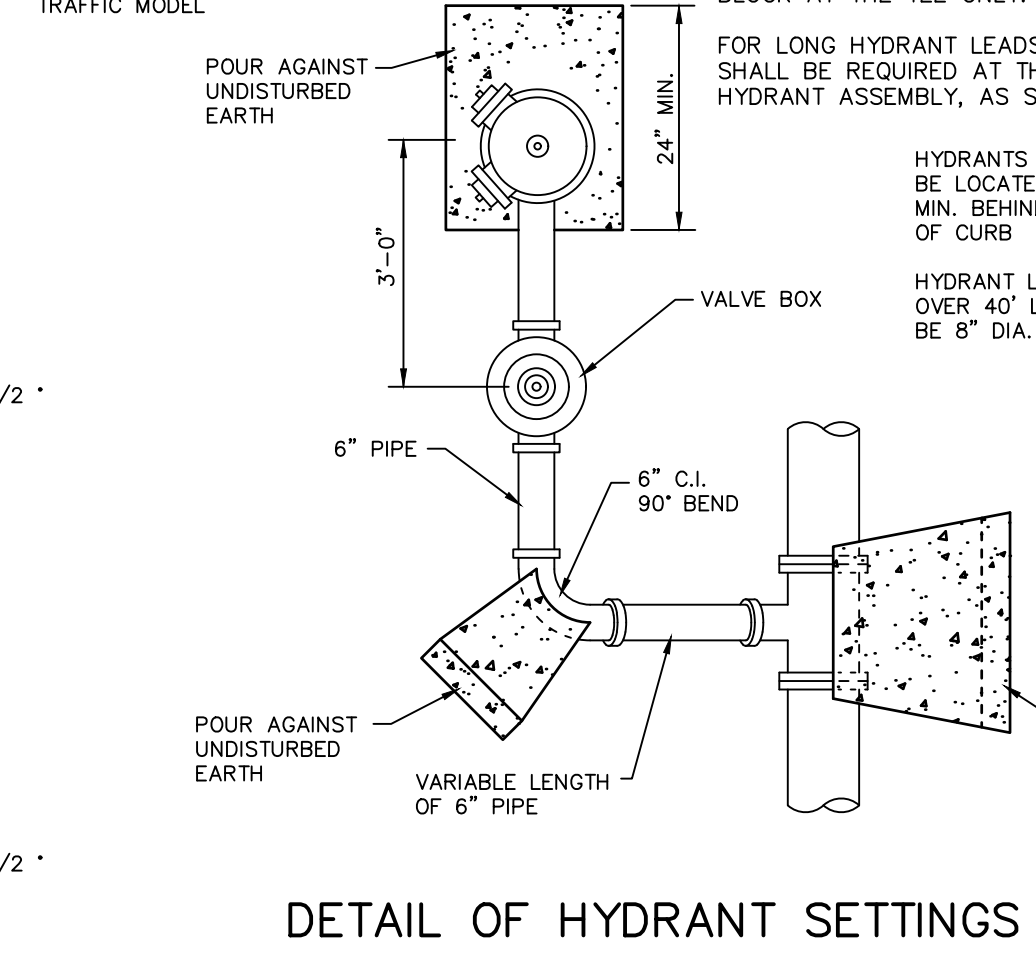
BACKFILL IN THE AREA OF STREETS, ALLEYS, SIDEWALKS, DRIVES & PARKING AREAS



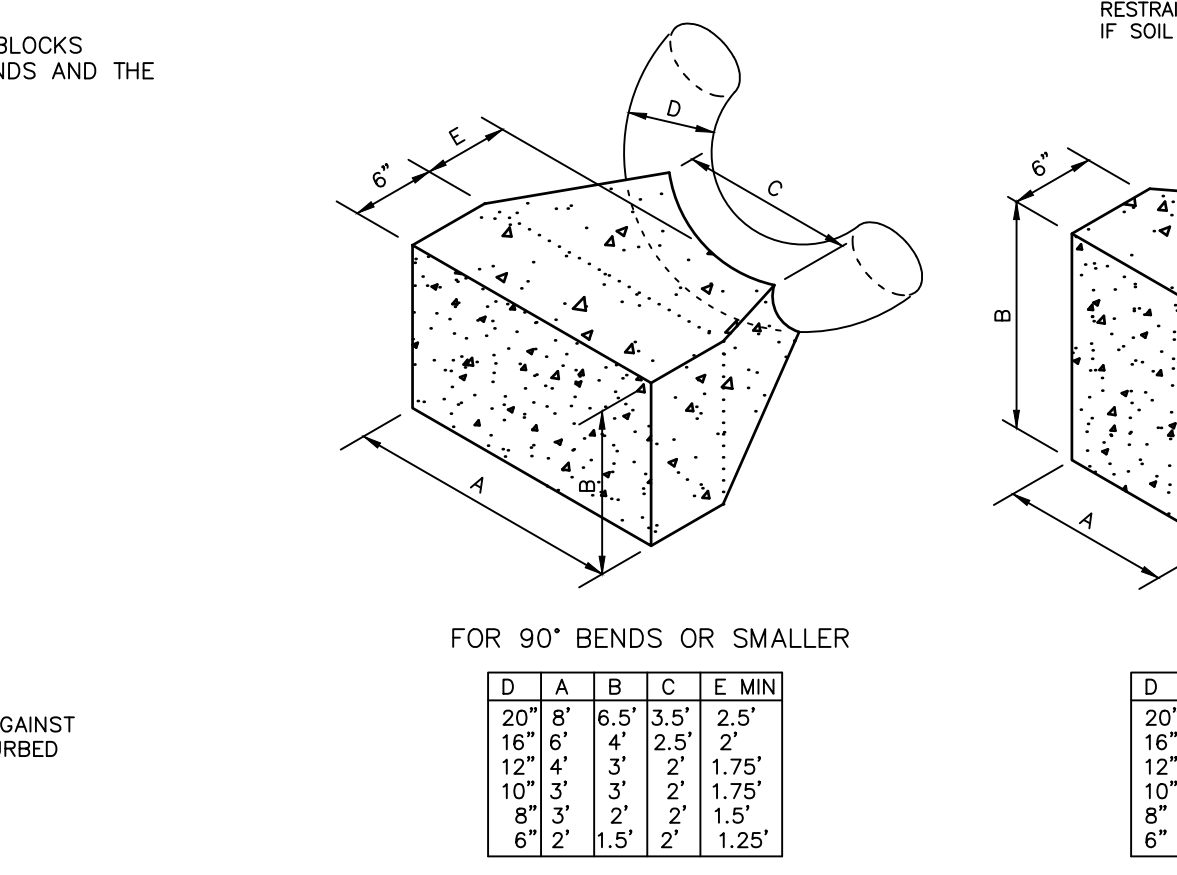
GATE WELL TOPS WITHIN PAVEMENT AREAS



SEWER OR CULVERT CROSSING

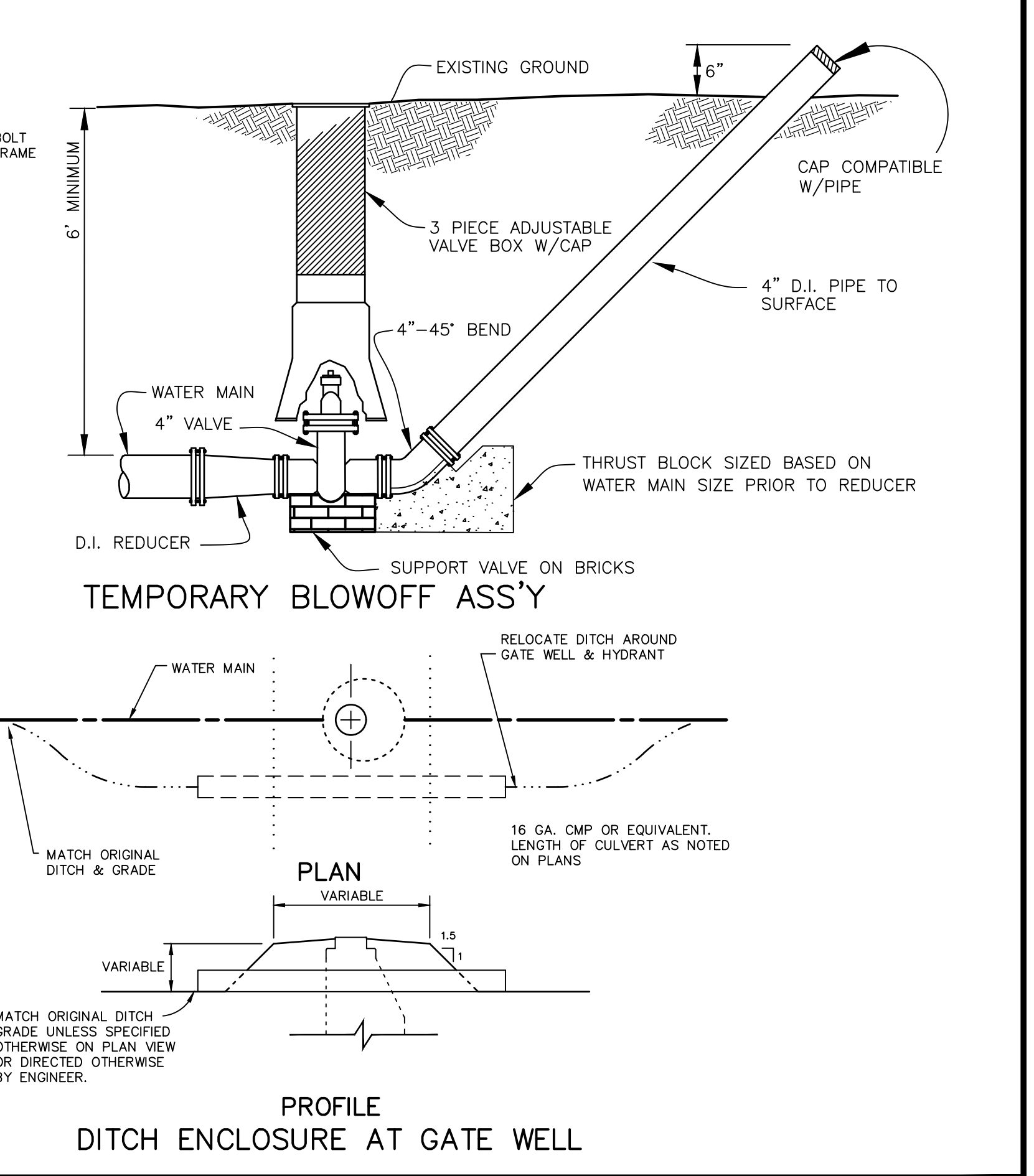


DETAIL OF HYDRANT SETTINGS



THRUST BLOCK DETAILS

- WATER MAIN NOTES
- All construction procedures and materials used on this project shall conform to White Lake Township current standards and specifications.
 - All hydrants shall be East Jordan Iron Works 5BR-250 traffic model. Self-draining hydrants shall not be used. Valve shall have 1-1/2" pentagon nut and shall open counter-clockwise. Provide two 4.5" Storz quick connect nozzles (Harrington Integral Hydrant Storz, Model HHS) as manufactured by Harrington, Inc. of Erie, PA.
 - All hydrants shall be field painted with a heavy coat of bright safety red polyurethane or alkyd glass enamel, except for the Storz fittings and caps, which shall be left unpainted.
 - Johnson and Anderson, Inc. field personnel will affix to the fixed collar of each Storz connection 1" wide 3M Scotch reflective tape, color coded per NFPA 291 guidelines flow capacity.
 - All water mains shall be ductile iron pipe Class 54, cement lined with push on joints. Mechanical joints allowed only for tapping sleeves, hydrants & hydrant valves. Only Cor-Blue bolts shall be used for assembling mechanical joints. All bands, tees, valves and hydrant tees shall have a poured concrete thrust block as detailed on this sheet. Joints which have thrust blocks bearing on soil of questionable stability shall be fully restrained utilizing Tyler swivel ells and adapters or a system approved by the Township Engineer. HDPE pipe for directional boring, if approved by the Township Engineer, shall meet all of the requirements of the MDEQ and shall be DR9 (200 psi), and shall have two #8 tracer wires, terminated in the nearest gate well at the highest step.
 - Tapping sleeve shall be mechanical joint or approved equal. Ductile iron or Stainless steel are allowed.
 - Specifications shall include direction of operation of all valves. All valves shall be counter clockwise open.
 - All necessary easements shall be provided in the name of White Lake Township before acceptance of the water distribution system.
 - The design engineer shall furnish White Lake Township with one reproducible sets of "As-Built" water main plans or an AutoCAD file upon completion of the job.
 - All required cross-connection devices shall be installed as required by the local plumbing inspector and in accordance with the standards of the Michigan Department of Public Health.
 - Gate well frame and cover shall be as follows: East Jordan heavy manhole cover, base flange type #1040 or Neenah Foundry heavy duty #R-1642 Manhole frame, solid lid cover shall be non-racking and marked "White Lake Water Department"
 - Gate valves shall be AWWA approved and of a double disc or resilient wedge design with push on joints, 16" gate valves may be mechanical joint provided Cor-Blue bolts are used. All gate valves with operating nuts greater than 5" below ground surface shall be provided with an extension stem. The length of the extension shall be such that it will be within 5' of the ground surface when an extension is used it shall be held in place by an extension stem guide suitably fastened to the wall of the gate well.
 - 1" corporation stops are to be placed on the main at each side of each main line gate valve and at such other locations as may be required by the engineer.
 - All pipe and fittings shall be subjected to a hydro-static pressure test of 150 PSI for a 2 hour duration; Township Engineer must be present. Maximum segment 2000 feet except that longer segments may be tested with allowable leakage based on 2000 feet.
 - 2 consecutive safe bacteria samples shall be taken from the water system approx. 24 hours apart at points established by the Township Engineer. Samples shall be taken by the Township Engineer.
 - Filling, flushing and sampling of water main can only be performed with a "Jumper" Line, the jumper shall be equipped with an approved RPZ type of backflow preventer.
 - Adjustments on gate wells shall be limited to 23" maximum from top of rim to first step in accordance with MIOSHA Rule 341.
 - All new water service lines shall have a minimum nominal size of 1". Services from 1" to 2" may be type K copper tubing or plastic DR-9 (200 PSI rated) meeting ASTM D2237-03 (Standard Specification for Polyethylene (PE) plastic tubing). ASTM Designation and pressure rating shall be stamped on the pipe by the manufacturer. Plastic pipe shall also meet AWWA C-901 Specifications. All sizes shall relate to the copper tubing outside diameter standard size (CTS). Copper pipe joints shall be flared. Fittings shall adapt to the plastic pipe with compression to iron pipe thread adapter. Plastic pipes shall be either compression style with a steel insert or may be fusion welded in the larger sizes.
- Plastic water service pipes shall be traced with two #10 copper tracer wires or two #12 copper coated steel or stainless steel wires insulated with a minimum of 30 mils of polyethylene insulation. The tracer wires shall be terminated to supply line so as to be locatable at the building and the curb box without digging.
- Water services sizes 3" and greater shall be Class 54 cement lined ductile iron with push on joints or HDPE DR-9 (200 PSI rated) with fusion welded joints and fittings, DIPS (Ductile Iron Pipe Size).
- A stop box shall be installed at the property or easement line and shall be equivalent to an A.Y. McDonald Mfg. 6100 flare regular pattern ball valve. The curb box shall have a 1" riser pipe with an Erie 2-hole pattern cover equivalent to A.Y. McDonald Mfg. 5601L. Stop box shall be protected with a 2'x4' painted blue extending 4 feet above ground.
- Standard pipe cover shall be 6'-0".
 - Air release manholes shall consist of a standard 5' diameter gate well style structure with a ValMatic Model 25C air release valve mounted on a 1" corporation stop. Air release shall be equipped with the vacuum check option. A 1/2" diameter galvanized pipe air discharge shall be extended to within 12" of the top of the structure. A goose-neck trap shall be installed at the top of the riser to prevent debris & water from entering the valve.



TEMPORARY BLOWOFF ASS'Y

REVISIONS

NO	MARK	ADDENDUM/CHANGE ORDER	DATE	MARK	ADDENDUM/CHANGE ORDER	DATE	MARK	ADDENDUM/CHANGE ORDER	DATE
1	GENERAL	REVISION TO CAD	12/29/95	GW & NUT SIZE	07/23/98	CLARIFY HYD. SPEC	02/07/01	REV. HYD., THRUST, AIR REL.	03/29/04
2	ADD NOTE	17	11/04/97	PIPE COVER & FLANGE TAPE	05/12/99	5-BR HYD, WS STAKE	02/27/02	HDPE, HYD, VALVES	07/18/05
3	REVISE	HYD. & THRUSTING	05/18/98	ADD BLOWOFF	07/06/99	ADD NOTE 19	07/23/03	UPDATED TITLE BLOCK	04/30/13

Johnson & Anderson

4494 Elizabeth Lake Road Waterford, Michigan 48328
tel (248) 881-7800 fax (248) 881-2680

1060 W. Norton Avenue, Suite 7 Muskegon, Michigan 49441
tel (231) 780-3100 fax (231) 780-3115

2291 Water Street, Suite 6 Port Huron, Michigan 48060
tel (810) 987-7820 fax (810) 987-7895

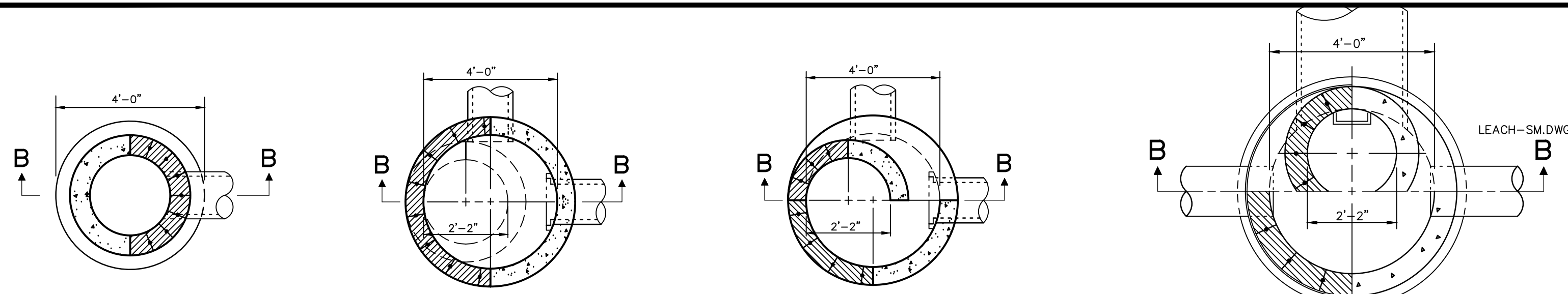
White Lake Township

7525 Highland Road (M-59)
White Lake, Michigan 48383
248-698-3300

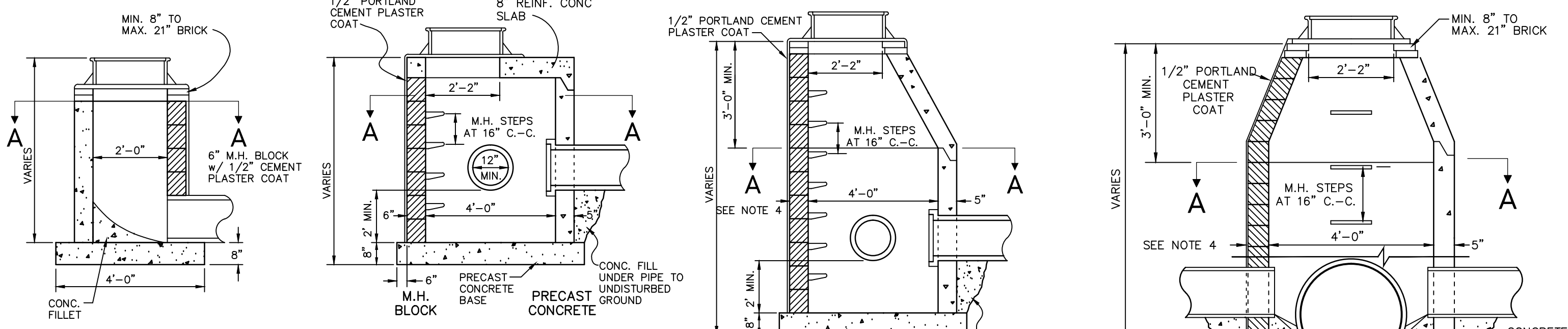
WATER MAIN STANDARD DETAILS

VERT. -
SCALE: HORZ. AS NOTED

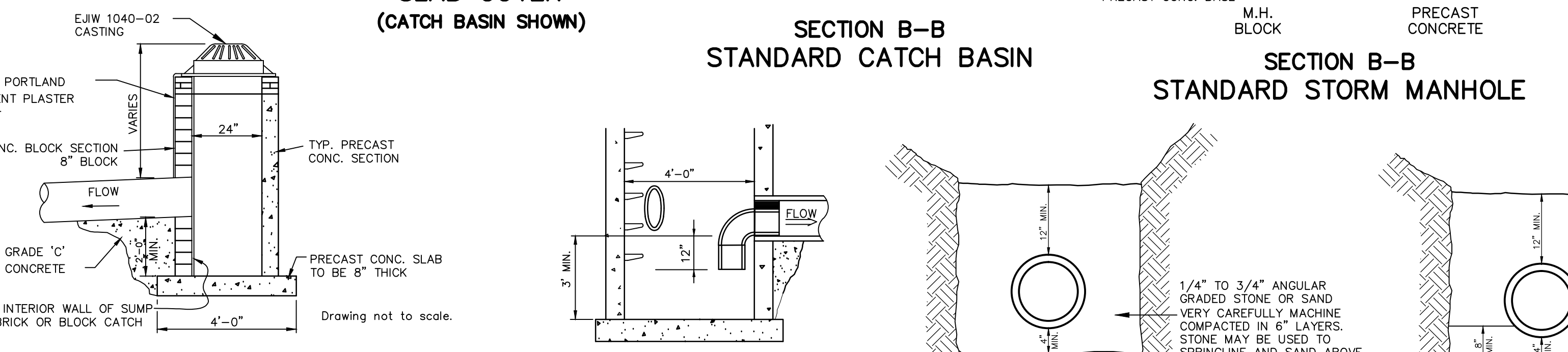
JOB NO.
DATE ISSUED
SHEET NO.



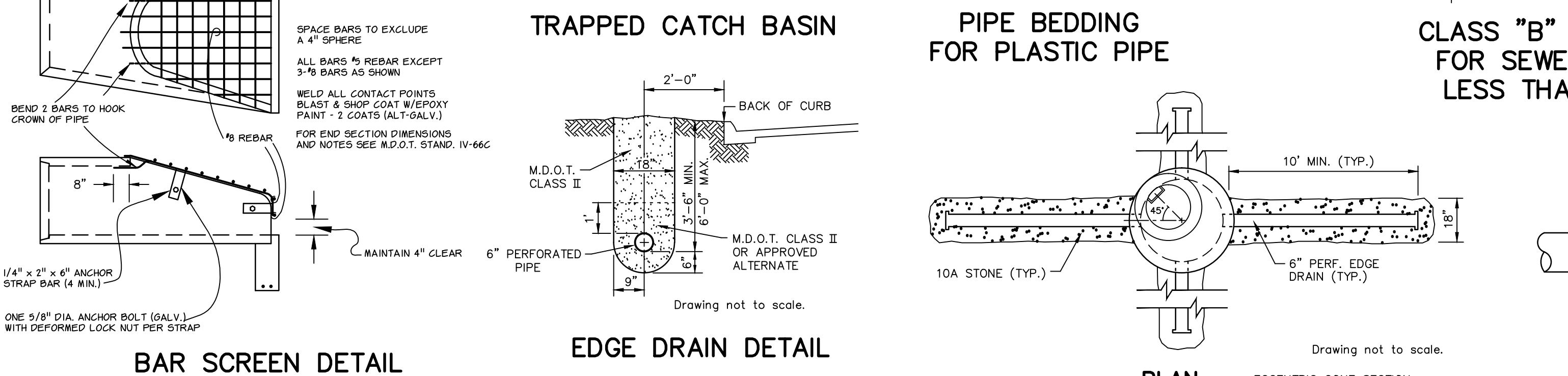
SECTION A-A SECTION A-A SECTION A-A SECTION A-A
M.H. BLOCK PRECAST CONCRETE



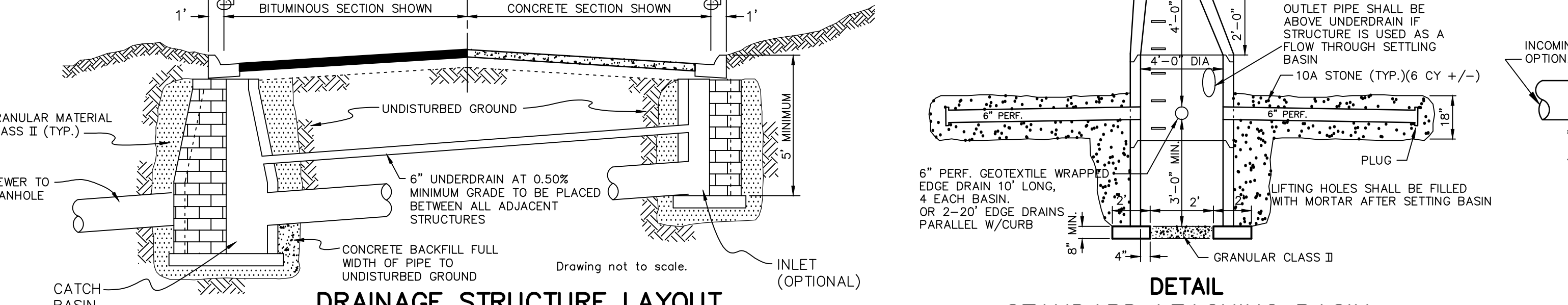
SECTION B-B SECTION B-B SECTION B-B SECTION B-B
24" INLET STRUCTURE WITH SLAB COVER (CATCH BASIN SHOWN) STANDARD CATCH BASIN STANDARD STORM MANHOLE



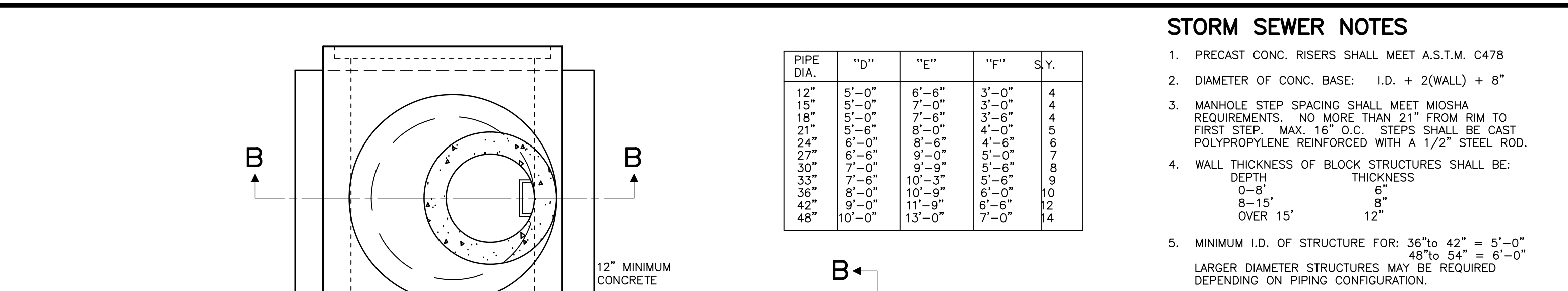
SECTION B-B SECTION B-B
STANDARD REAR YARD CATCH BASIN STANDARD PRECAST CONCRETE MANHOLE TEE



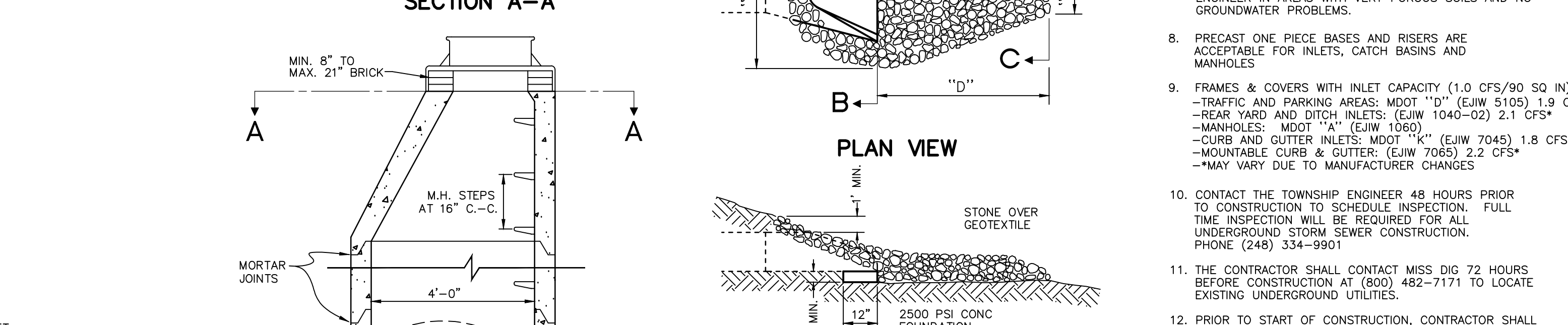
TRAPPED CATCH BASIN PIPE BEDDING FOR PLASTIC PIPE CLASS "B" BEDDING FOR SEWER PIPE LESS THAN 48"



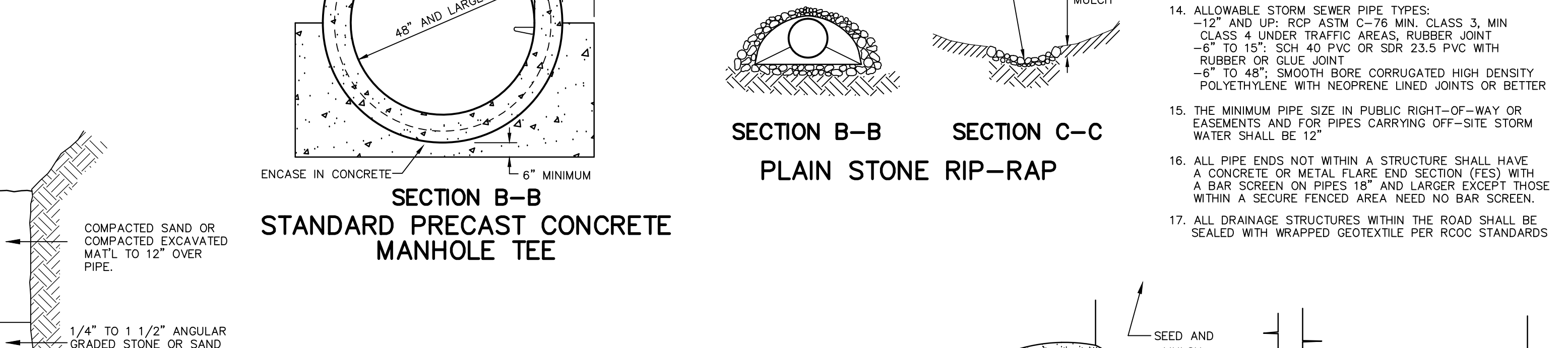
BAR SCREEN DETAIL EDGE DRAIN DETAIL DRAINAGE STRUCTURE LAYOUT



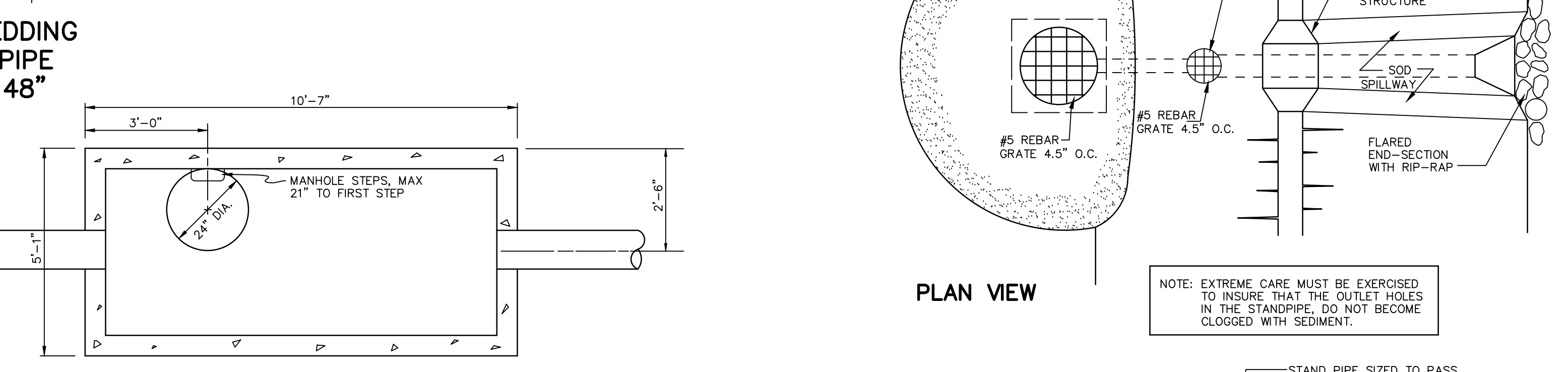
SECTION A-A
1000 GALLON LEACHING/SETTLING BASIN



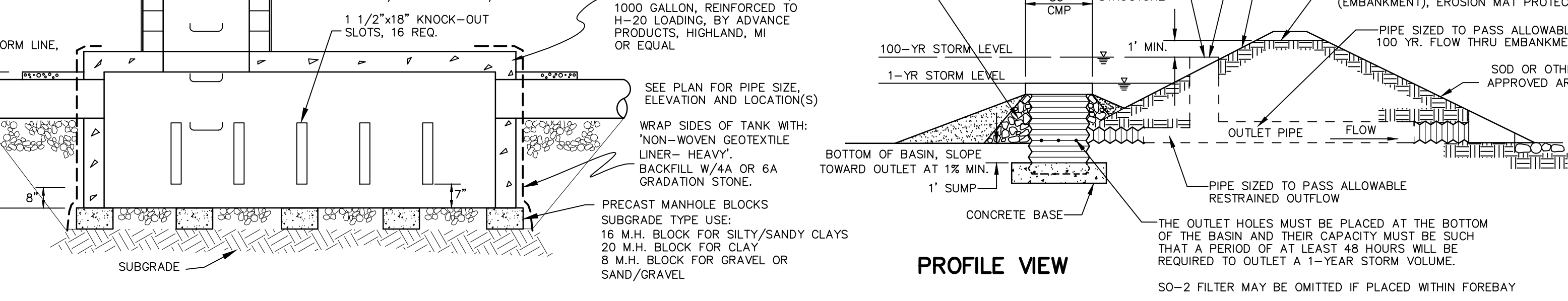
SECTION B-B
STANDARD PRECAST CONCRETE MANHOLE TEE



SECTION B-B
STANDARD PRECAST CONCRETE MANHOLE TEE



1000 GALLON LEACHING/SETTLING BASIN



SO-2 DETENTION BASIN OUTLET FILTER (CMP)

PIPE DIA.	"D"	"E"	"F"	S.Y.
12"	5'-0"	6'-6"	3'-0"	4
15"	5'-0"	7'-0"	3'-0"	4
18"	5'-0"	7'-6"	3'-6"	4
21"	5'-6"	8'-0"	4'-0"	5
24"	6'-0"	8'-6"	4'-6"	6
27"	6'-6"	9'-0"	5'-0"	7
30"	7'-0"	9'-6"	5'-6"	8
33"	7'-6"	10'-3"	5'-6"	9
36"	8'-0"	10'-9"	6'-0"	10
42"	9'-0"	11'-9"	6'-6"	12
48"	10'-0"	13'-0"	7'-0"	14

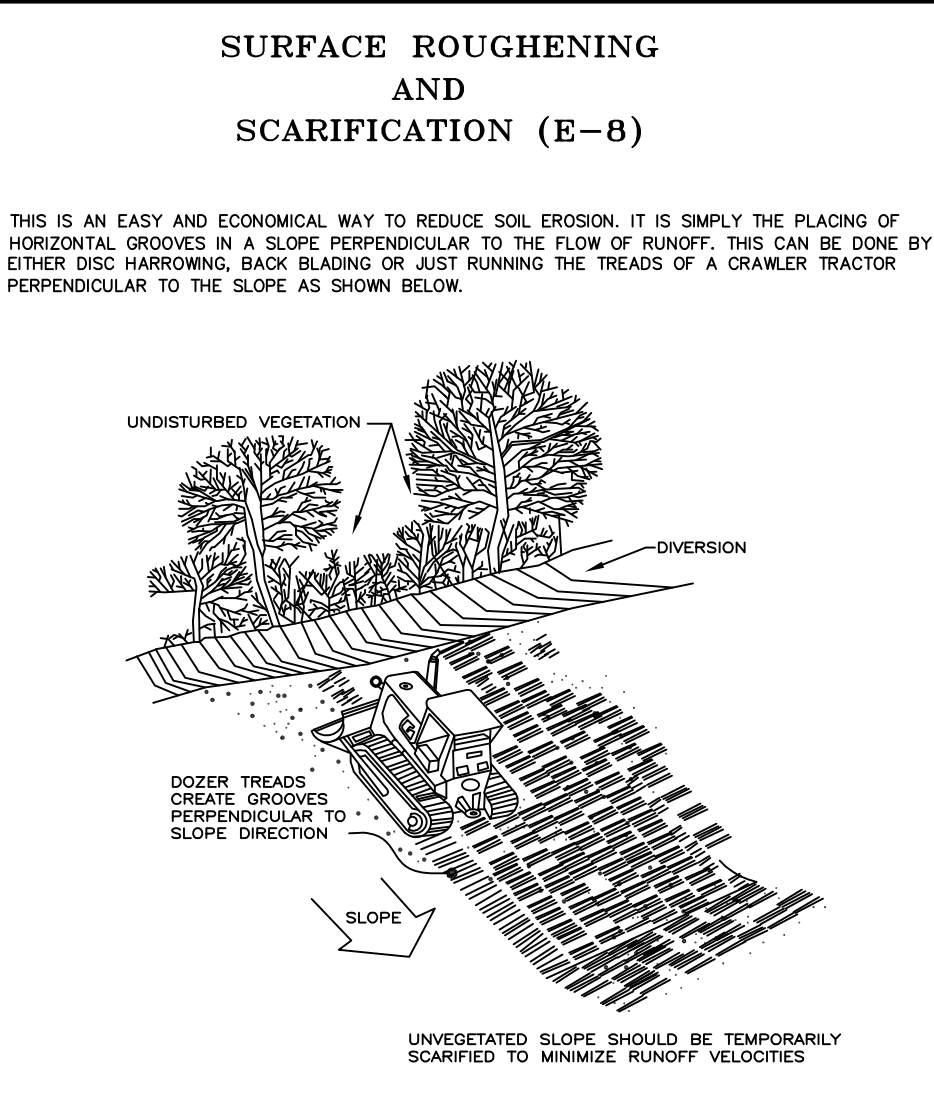
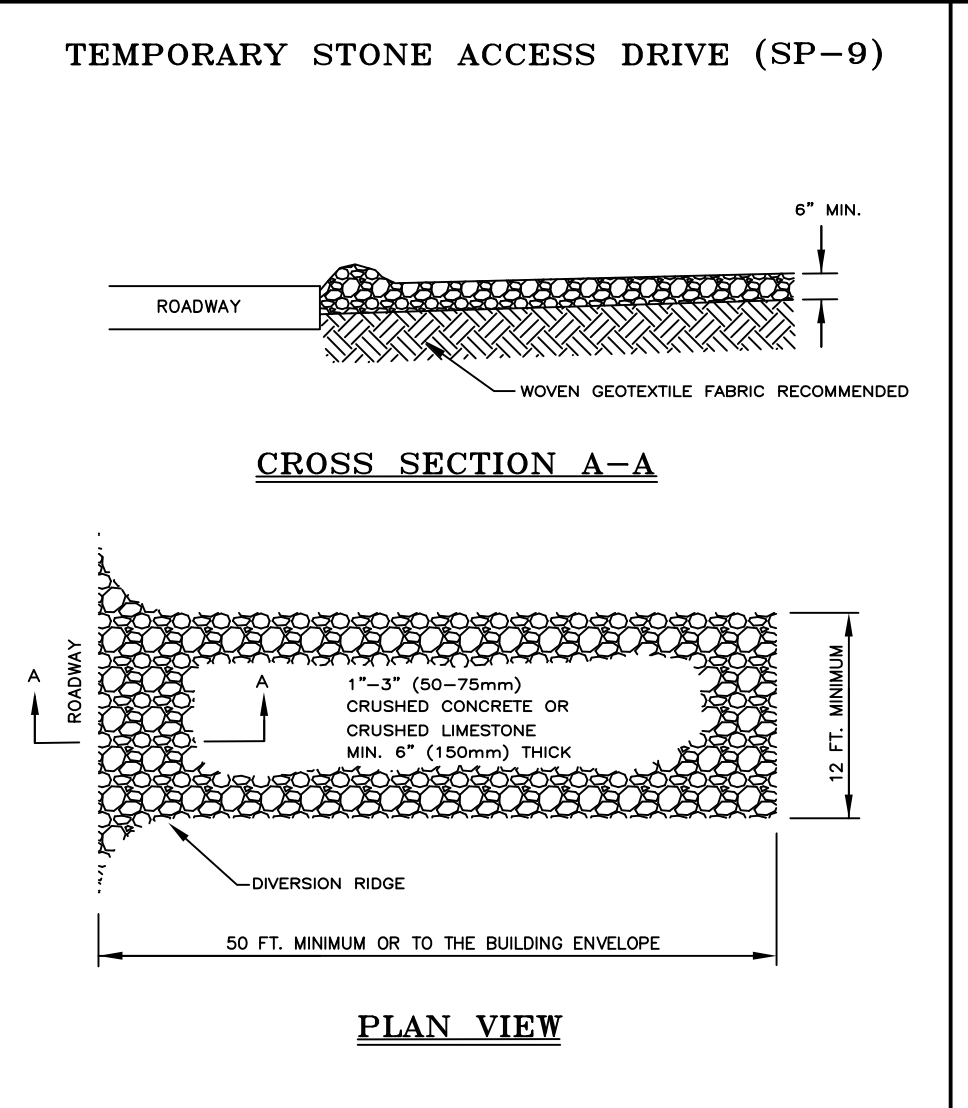
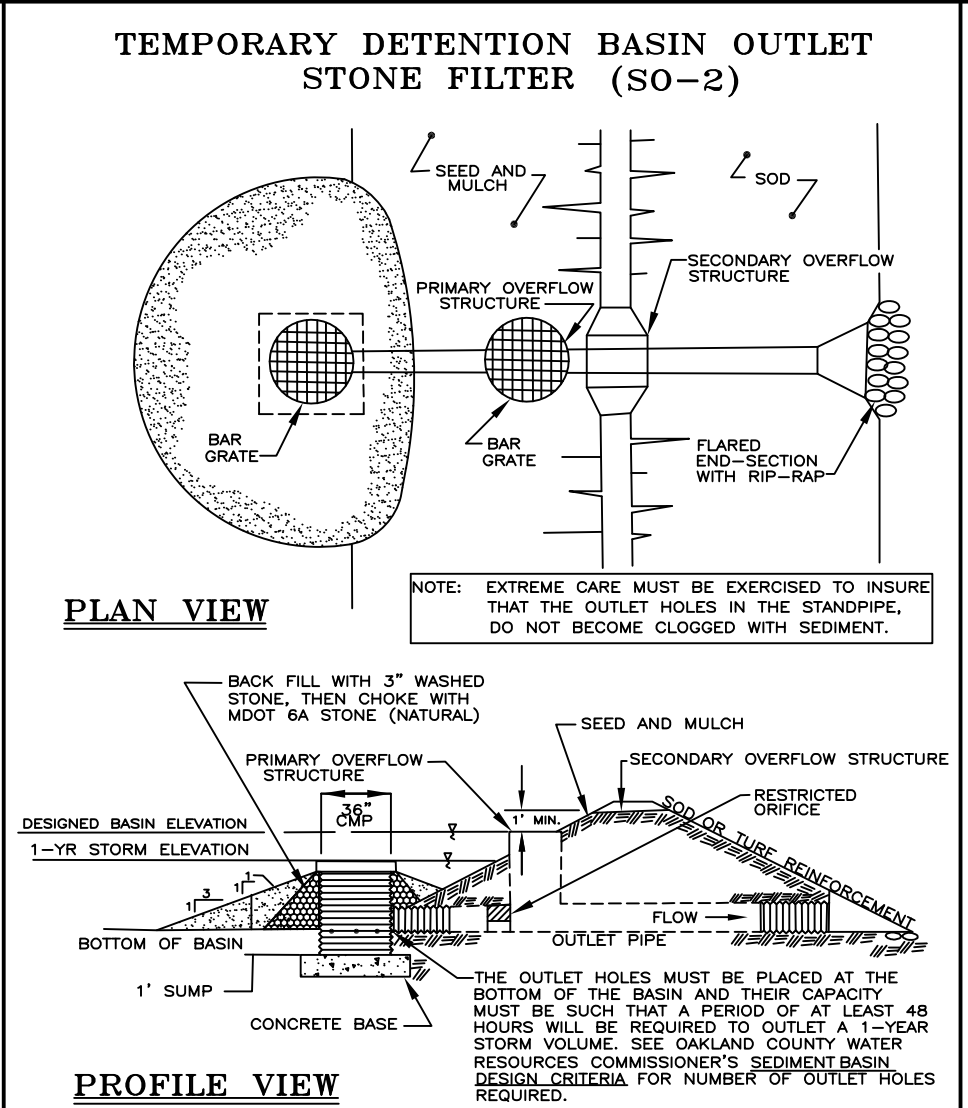
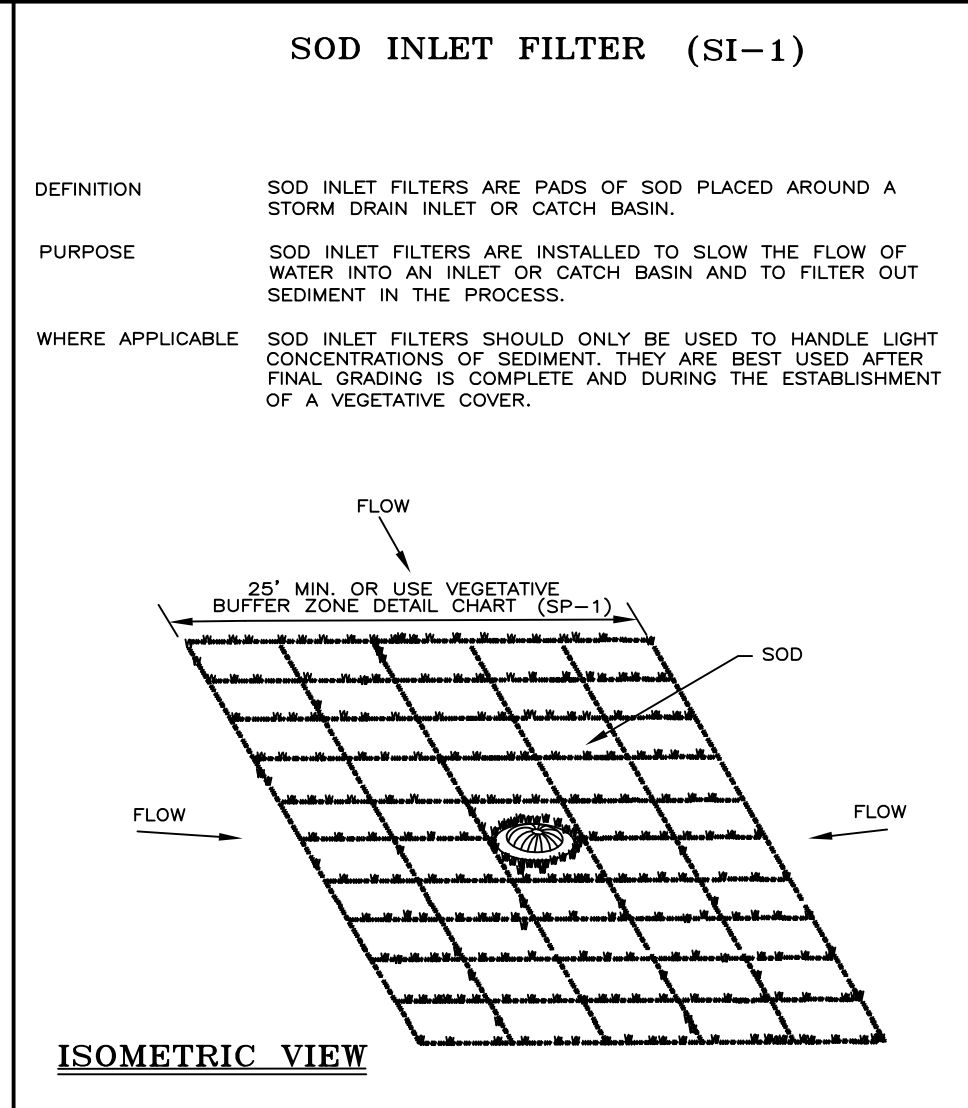
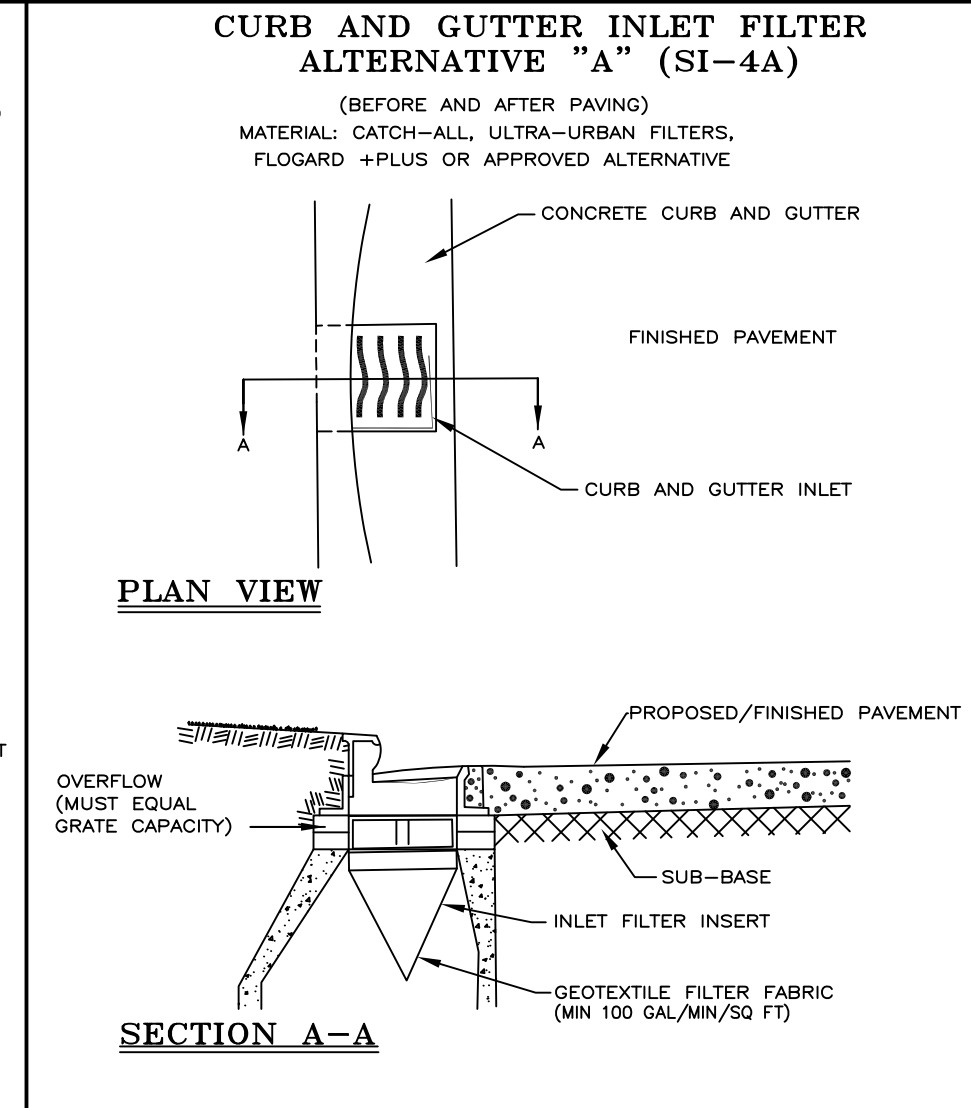
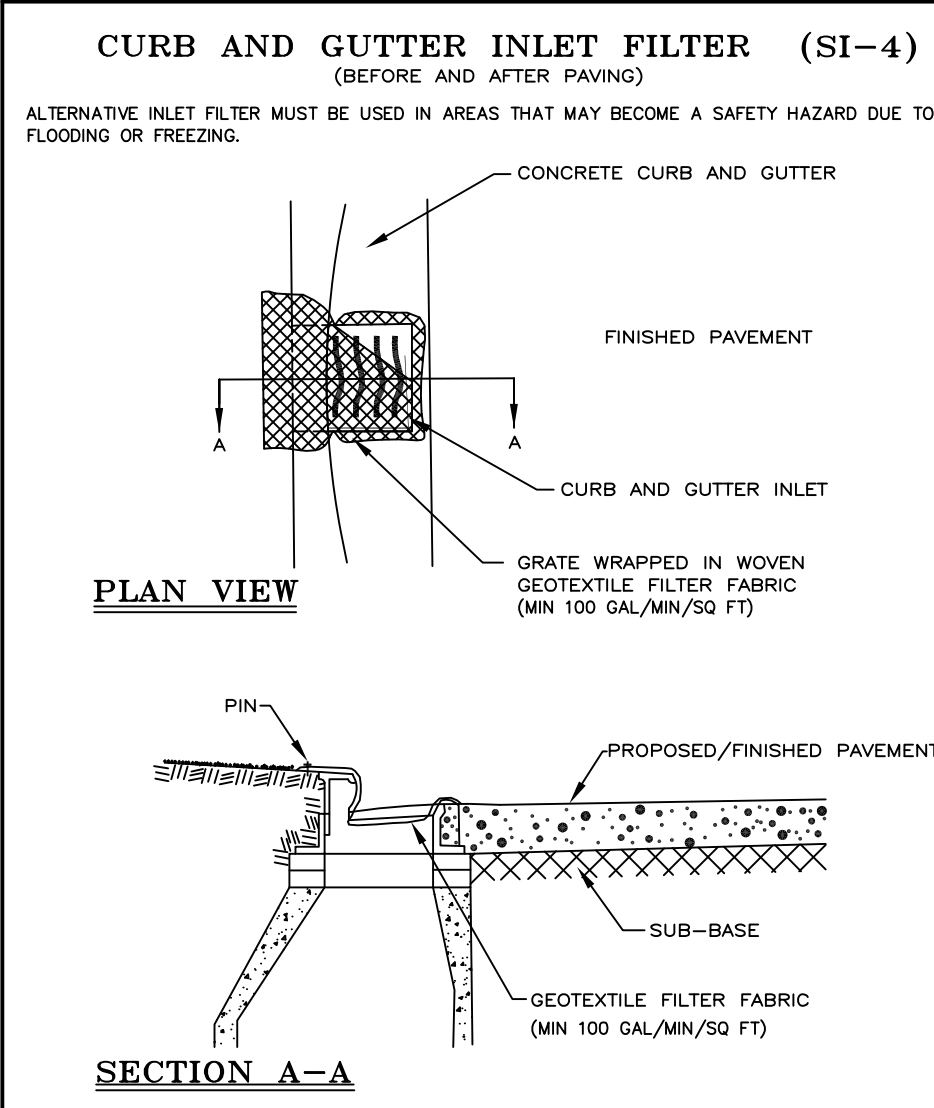
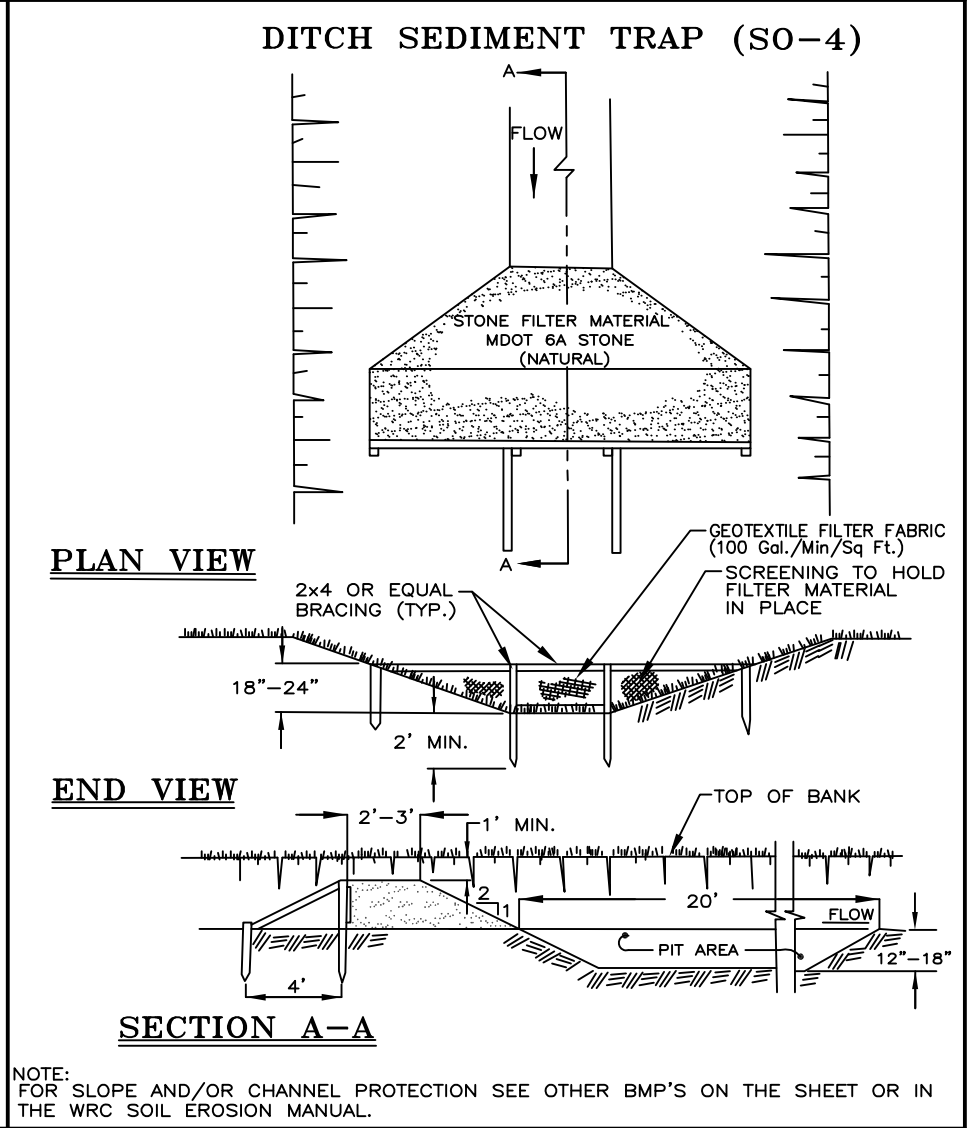
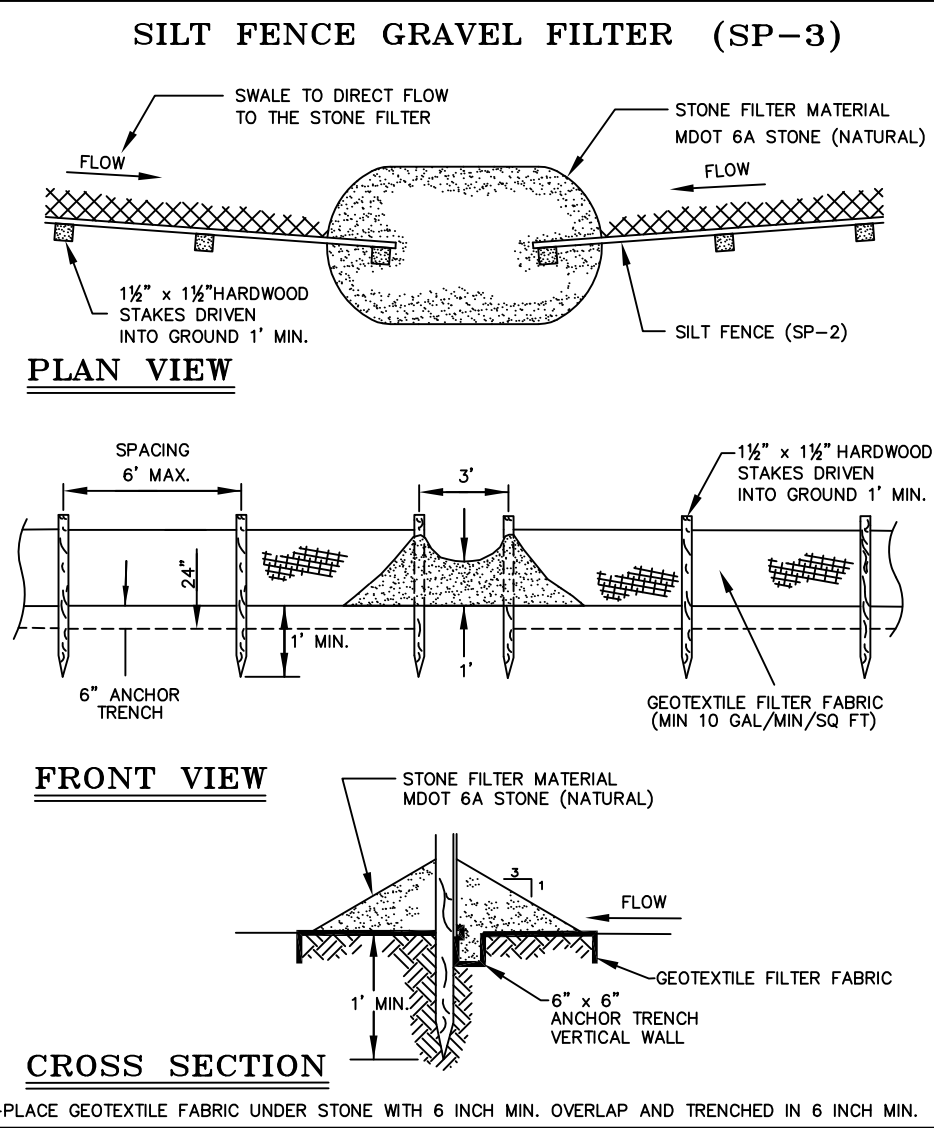
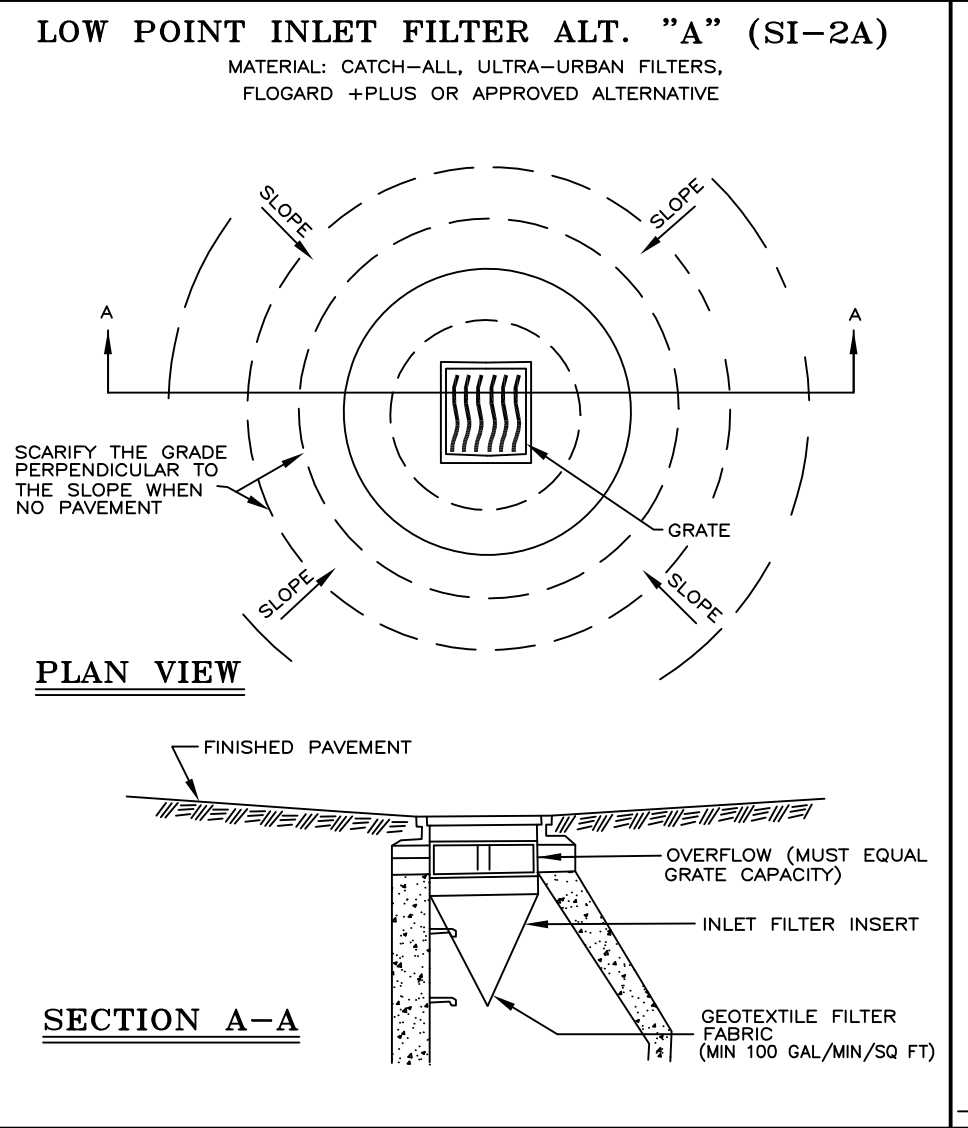
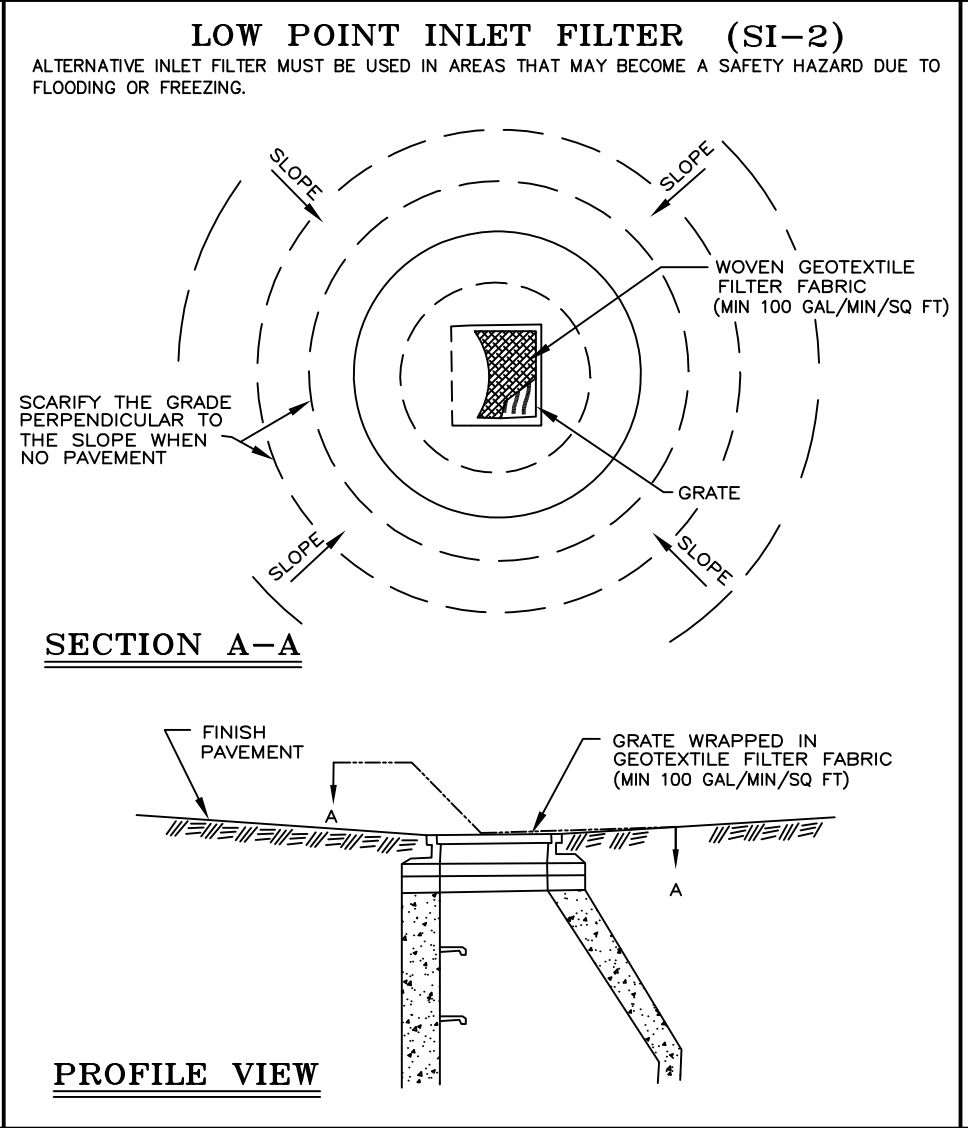
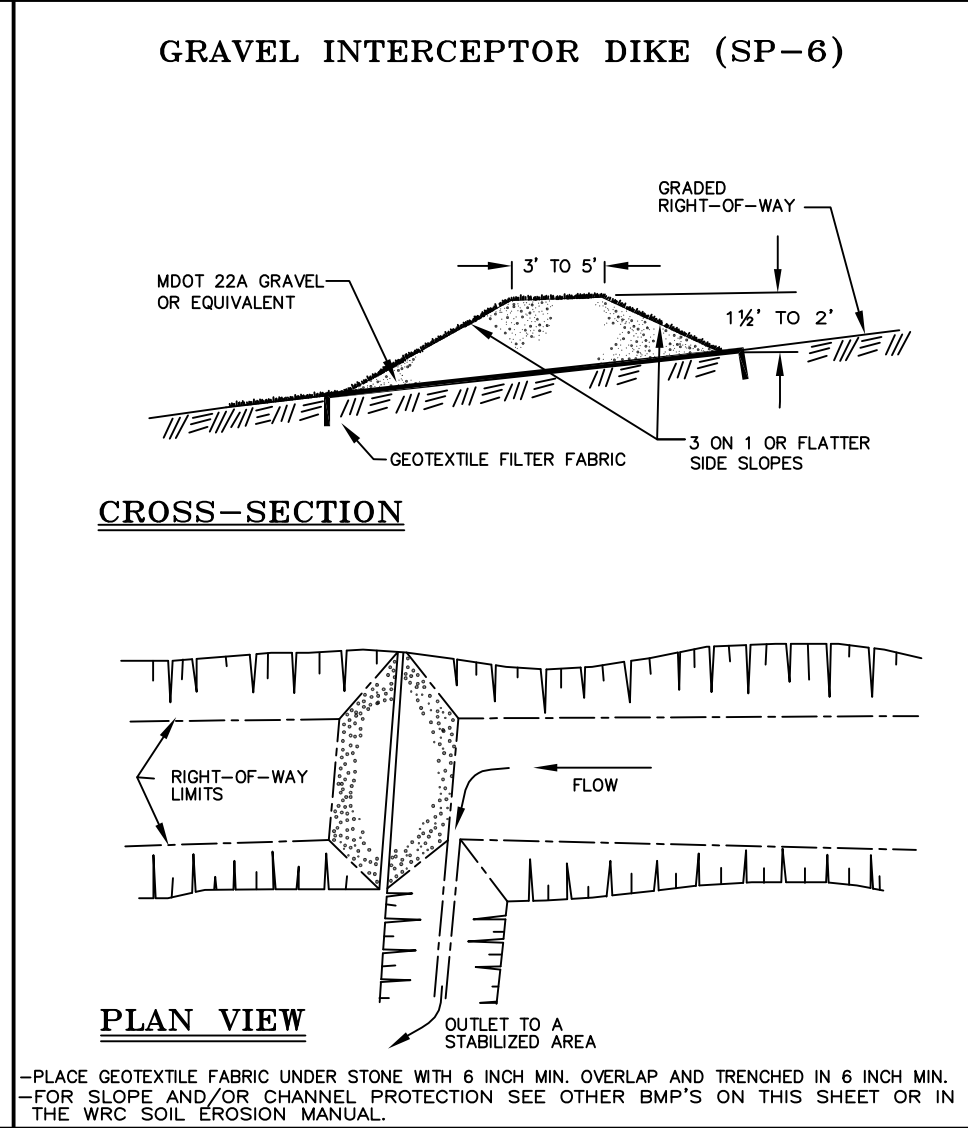
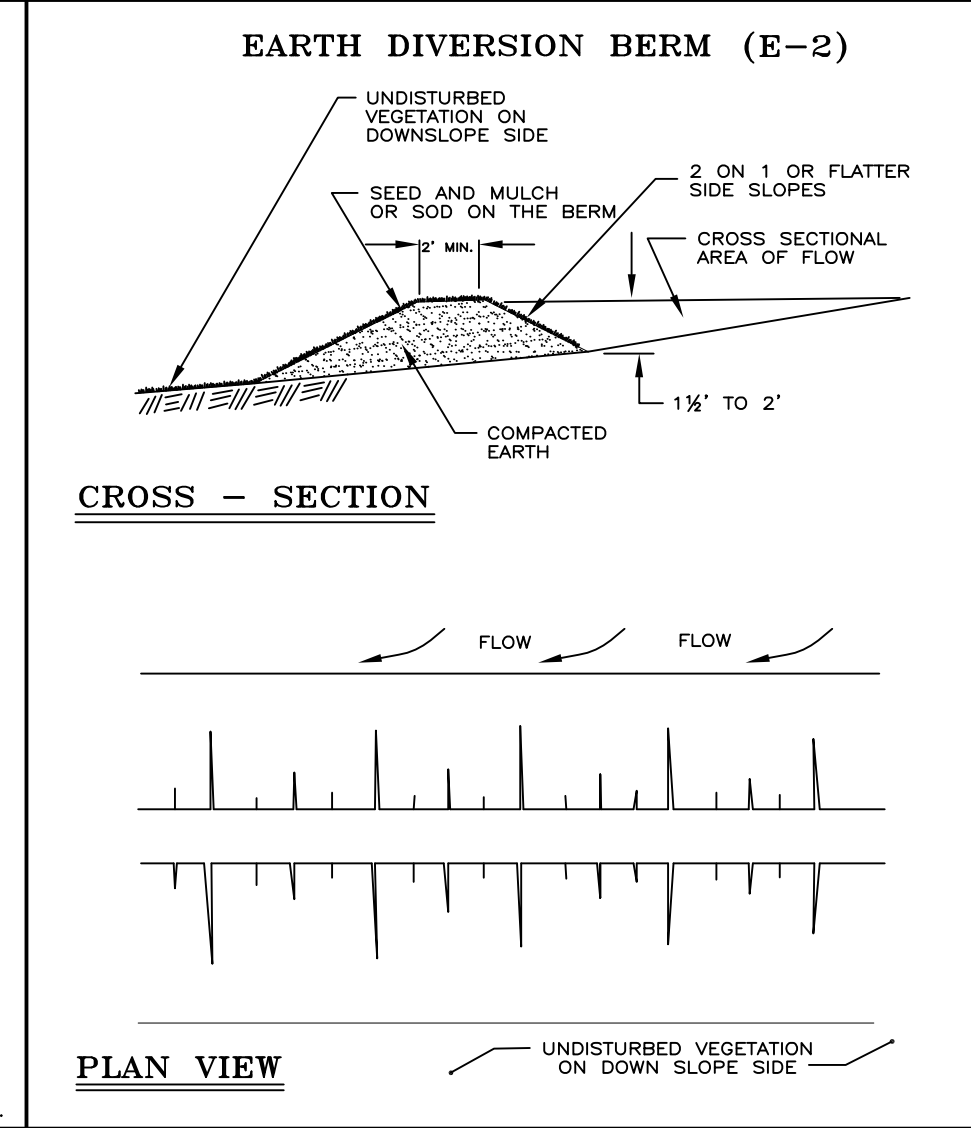
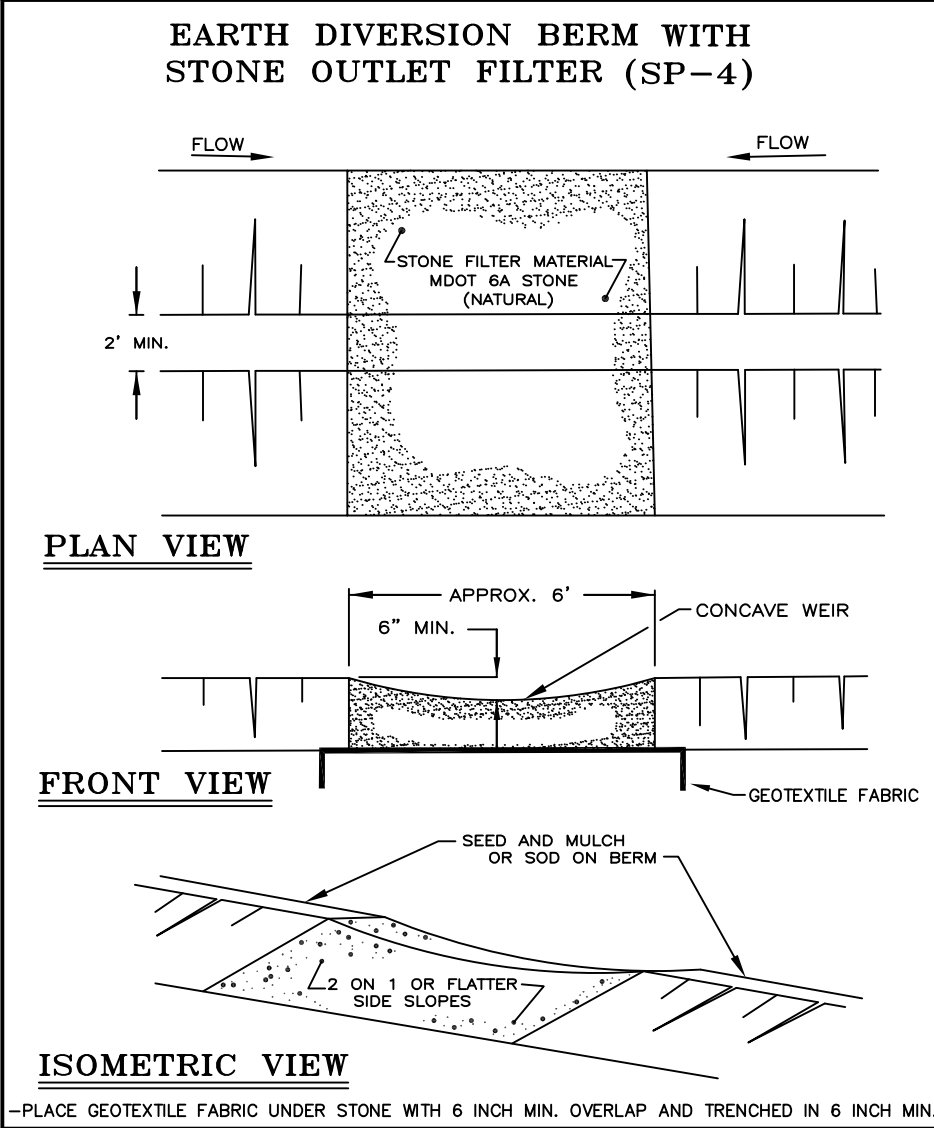
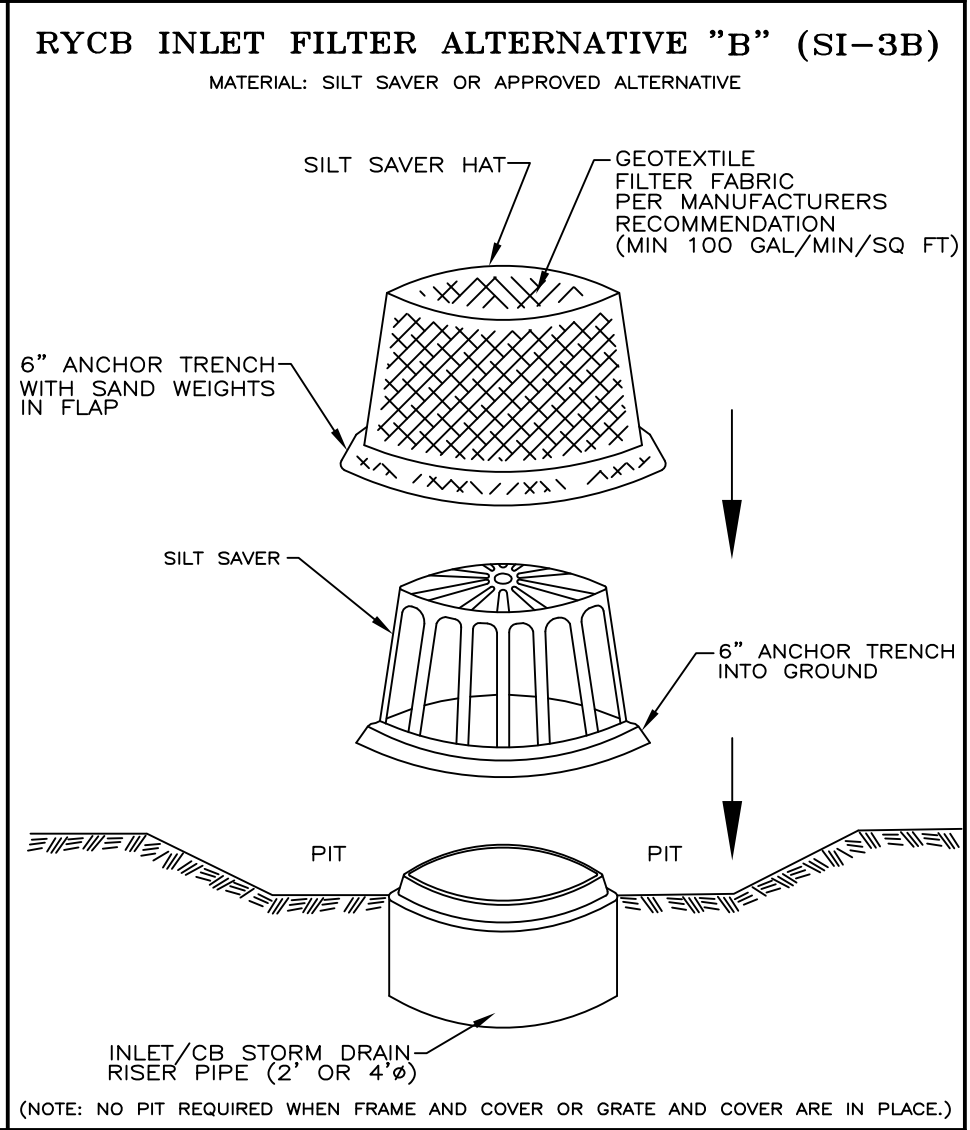
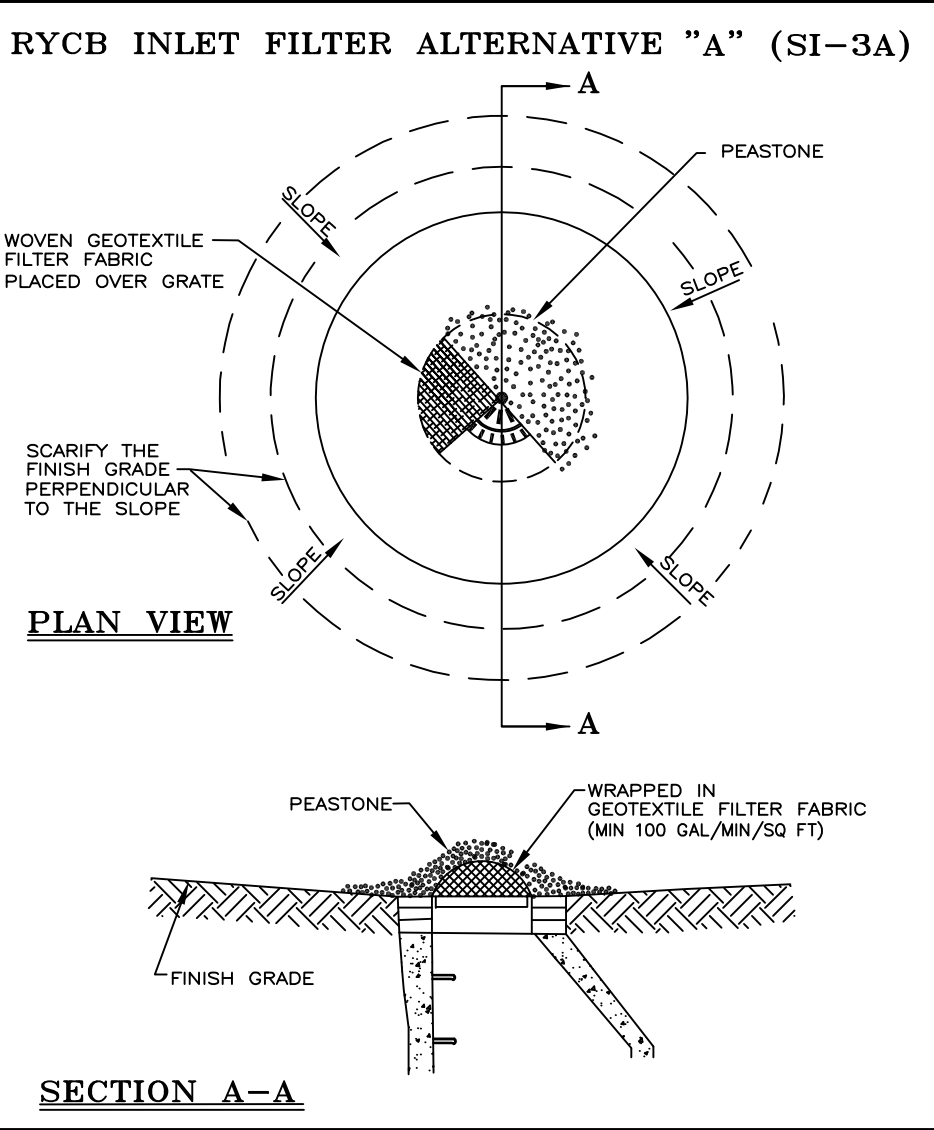
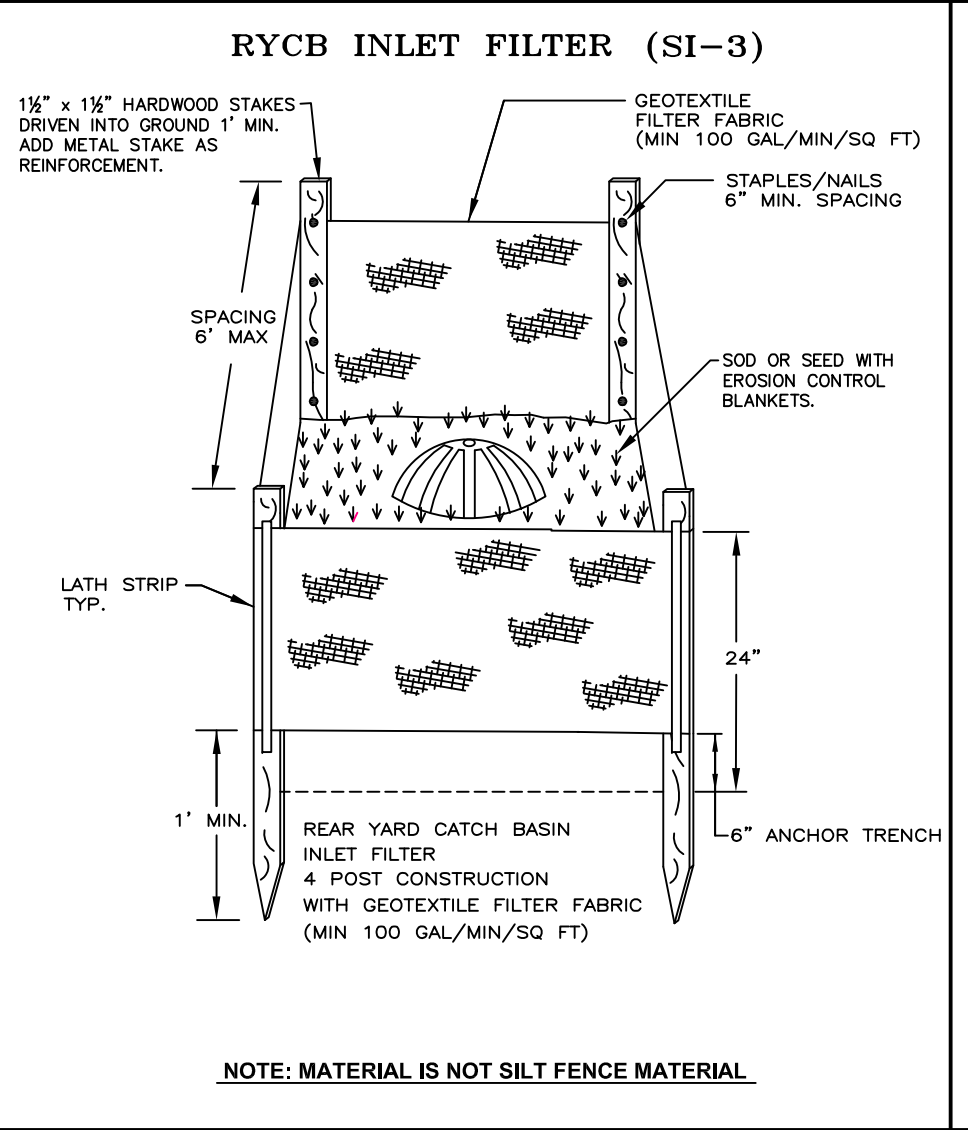
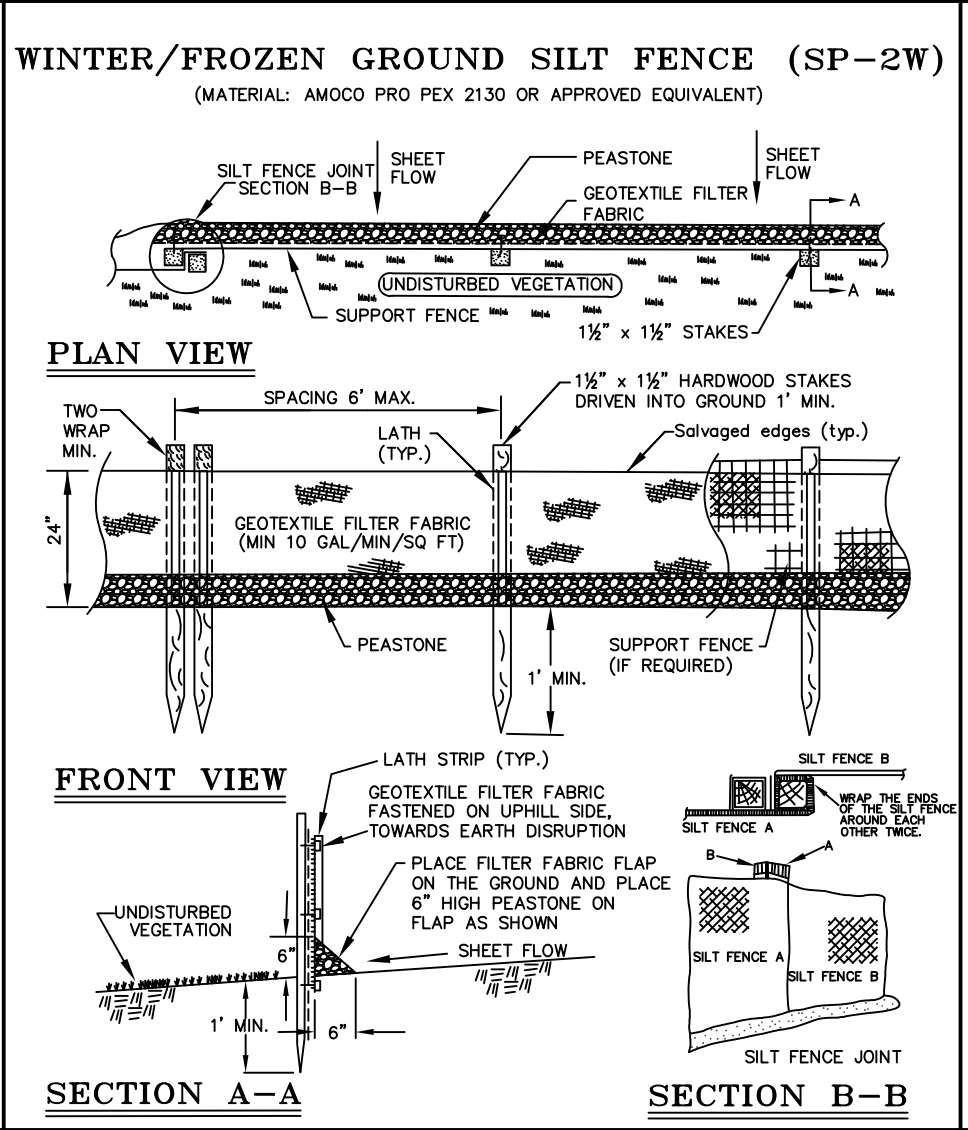
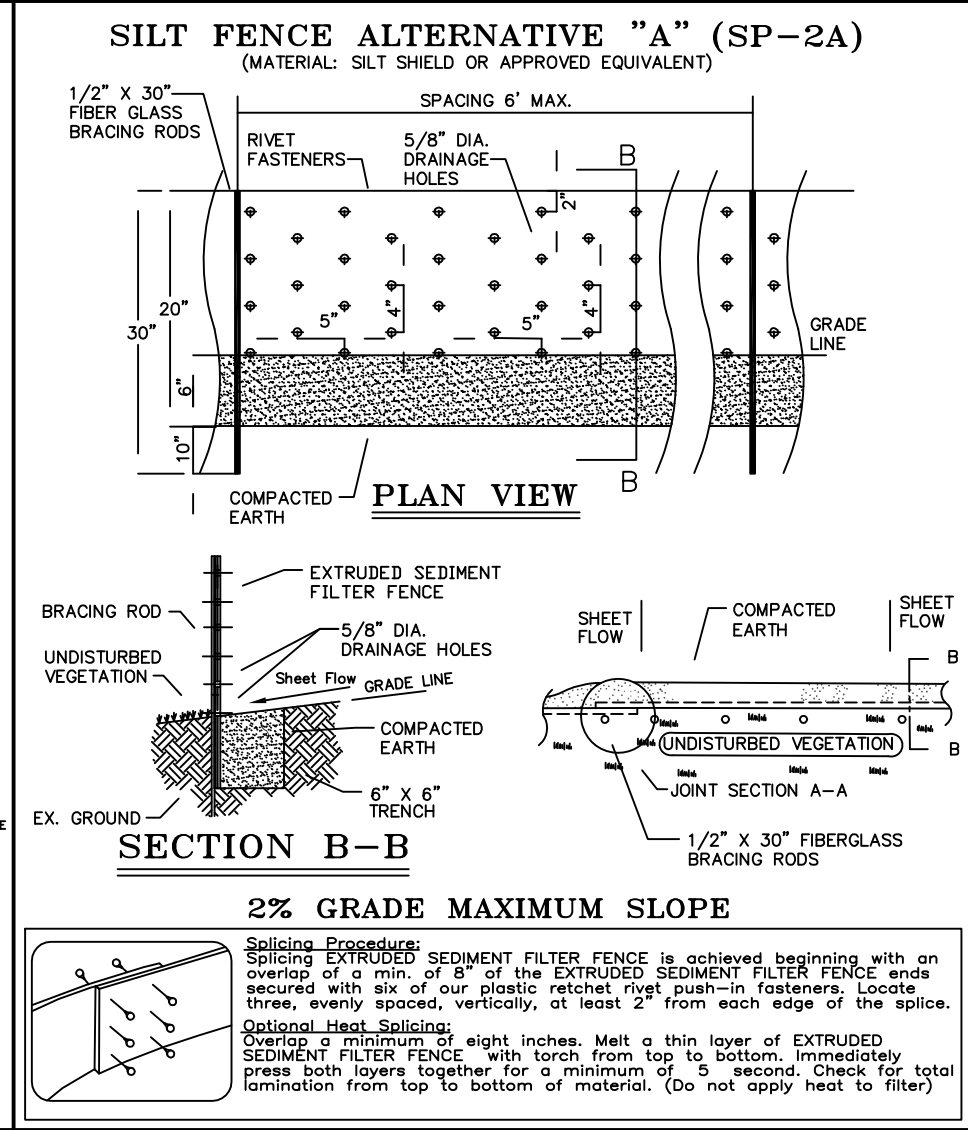
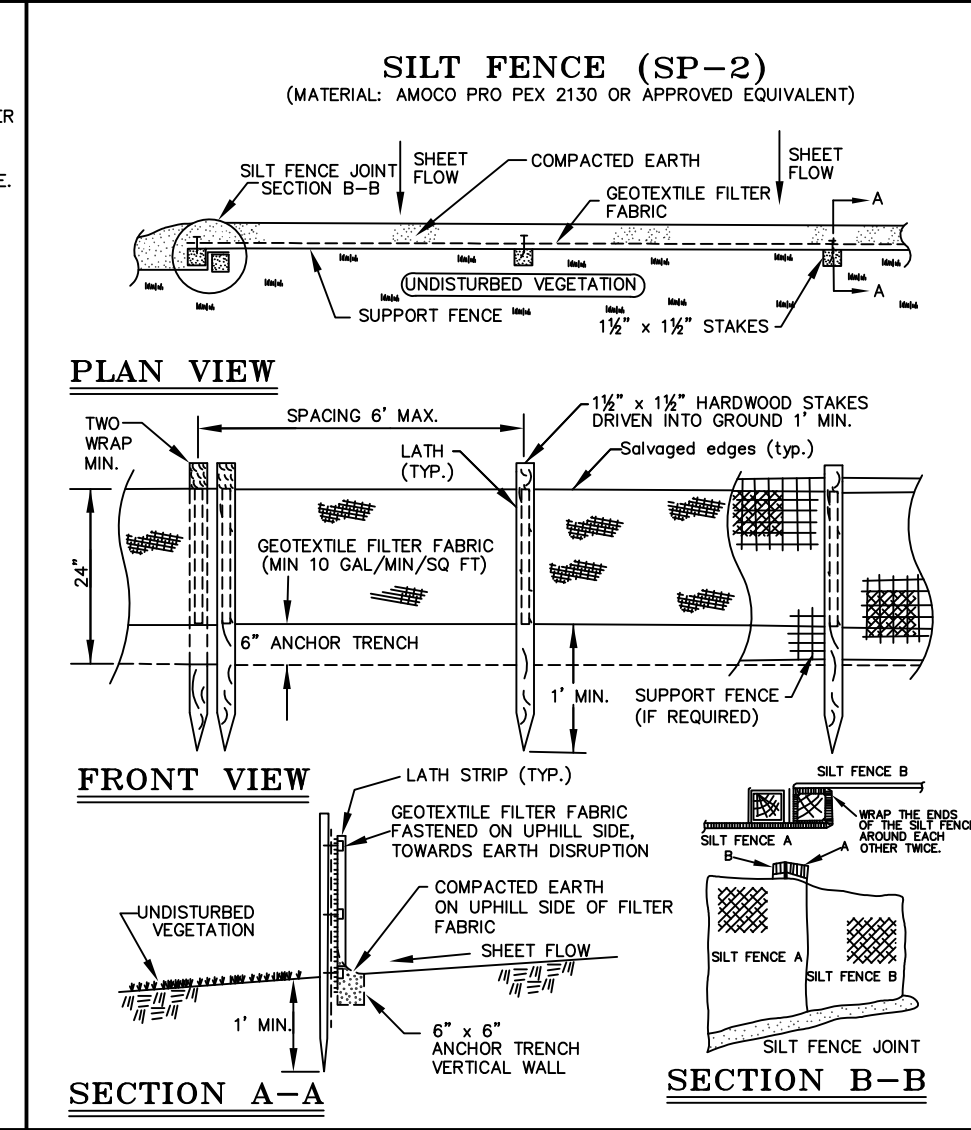
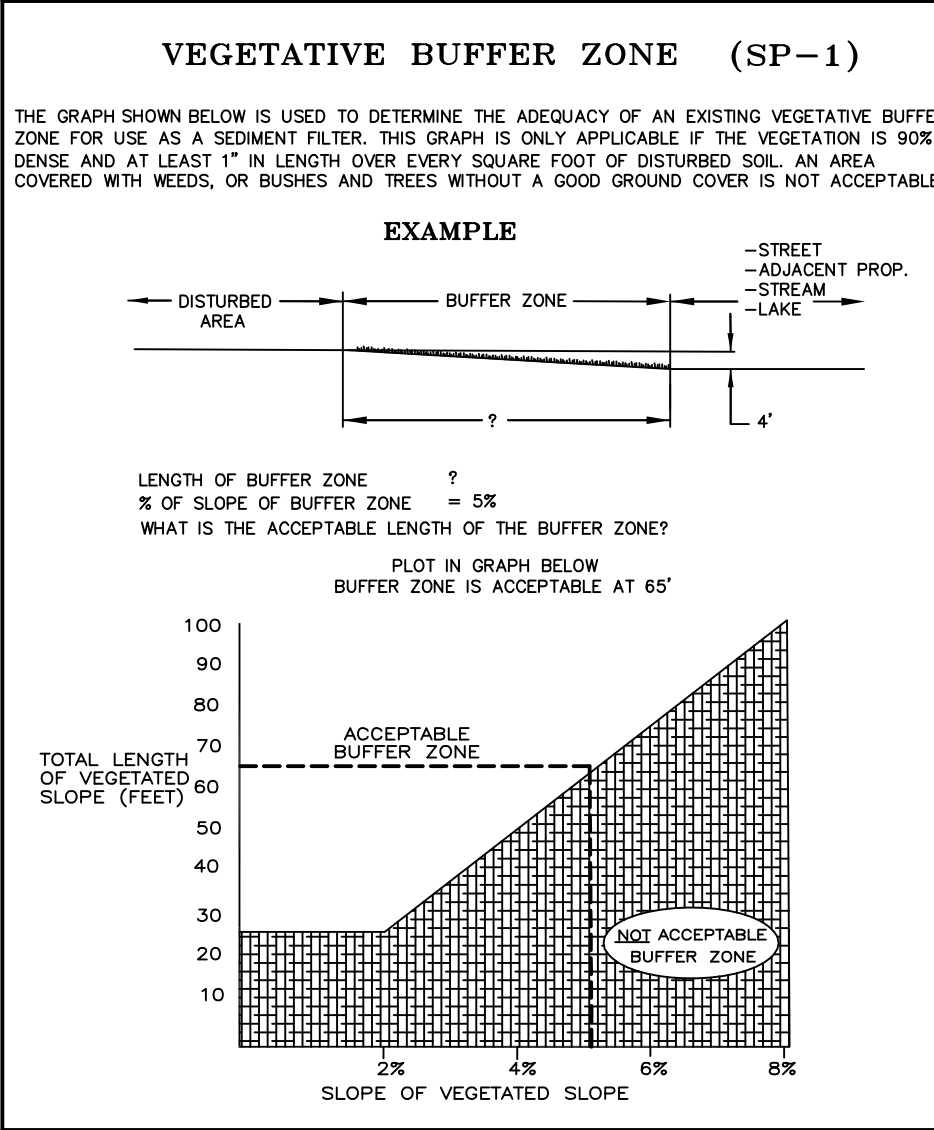
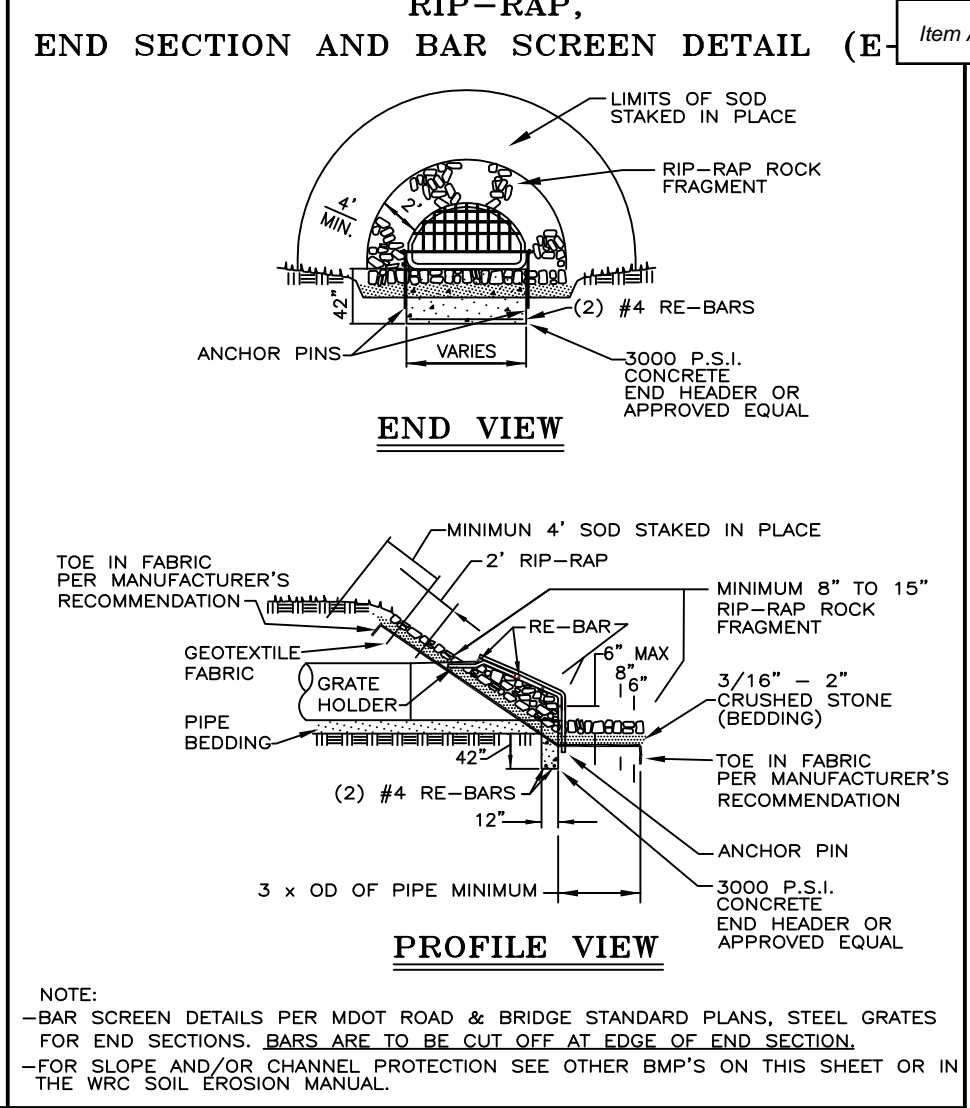
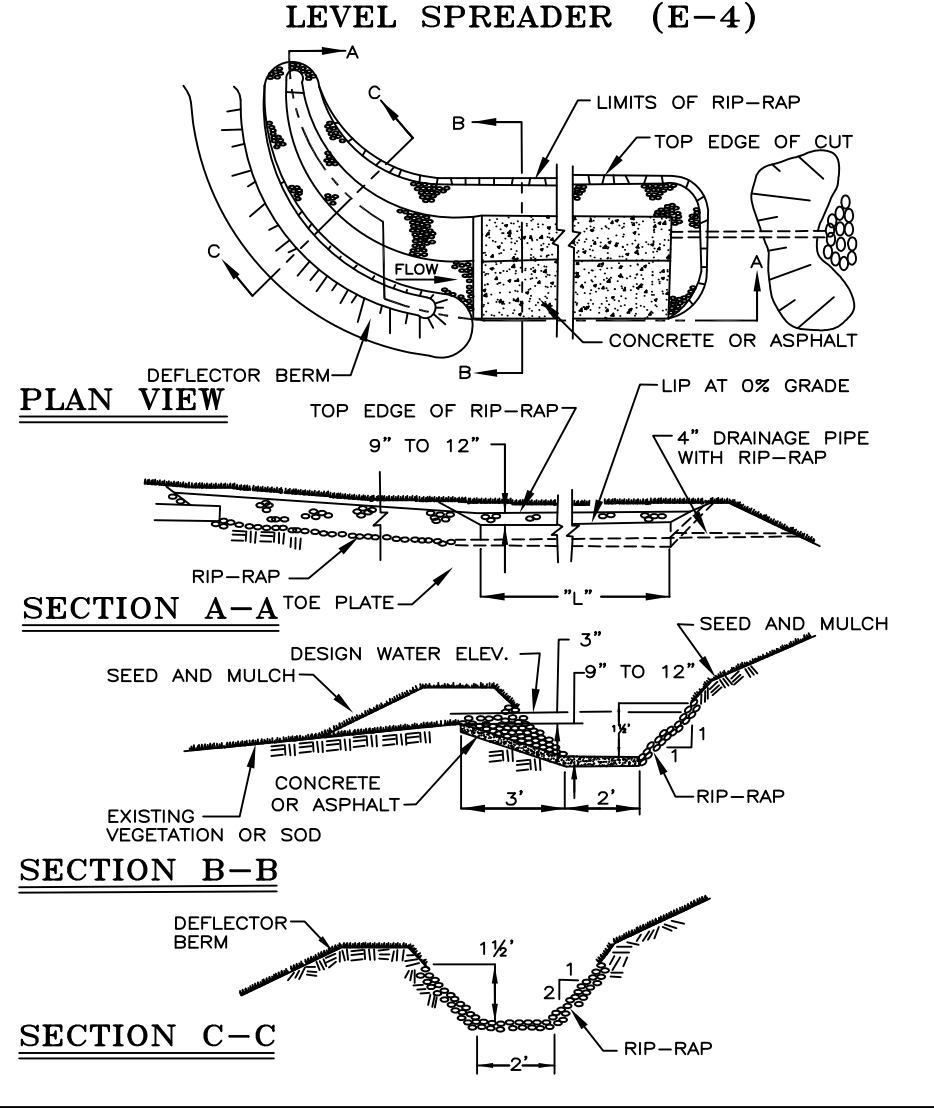
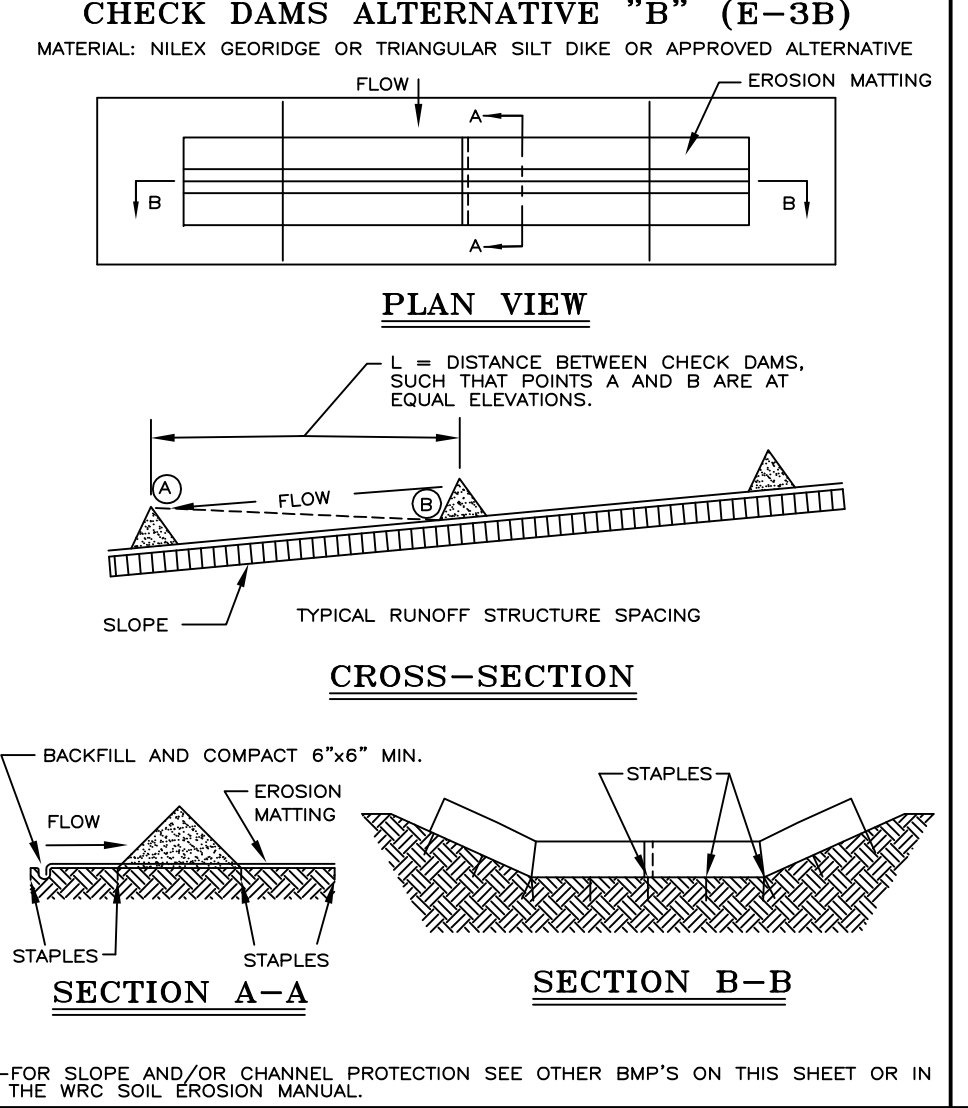
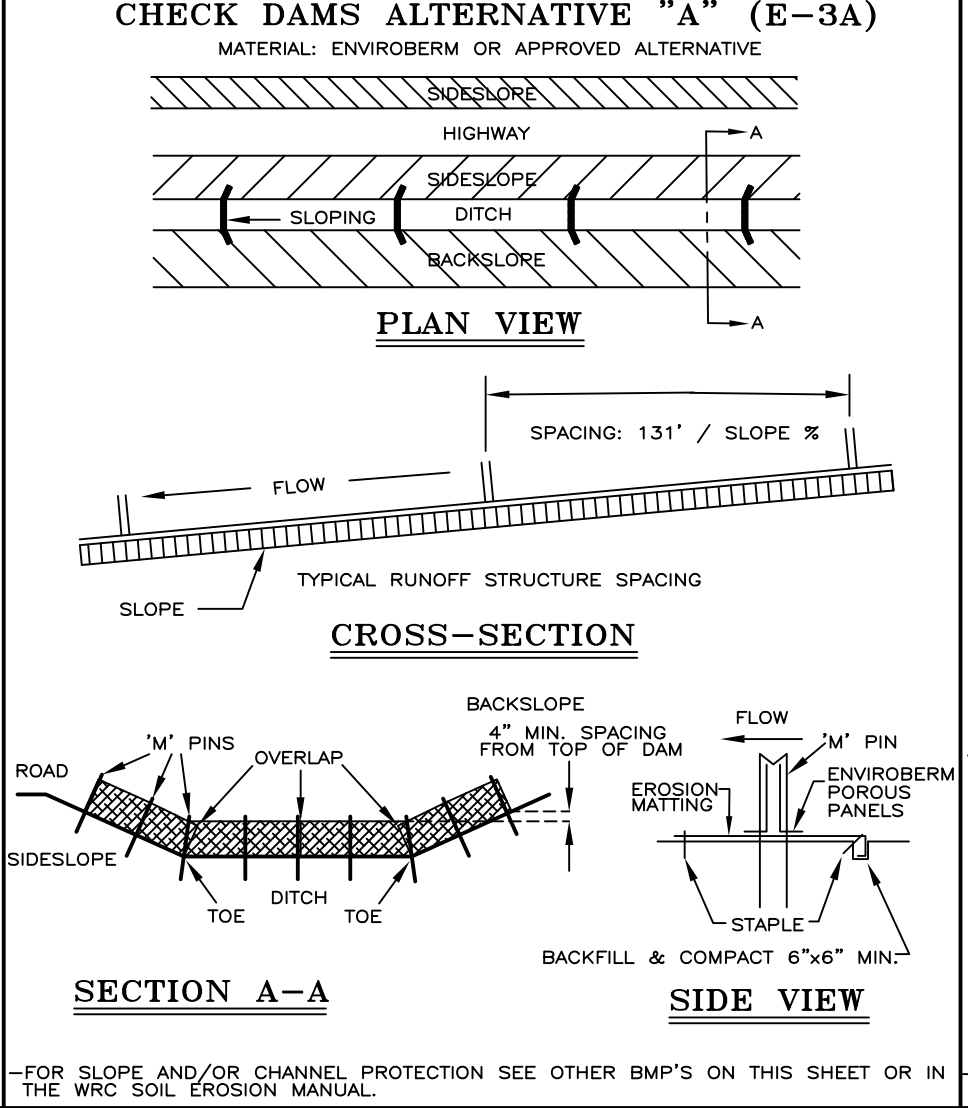
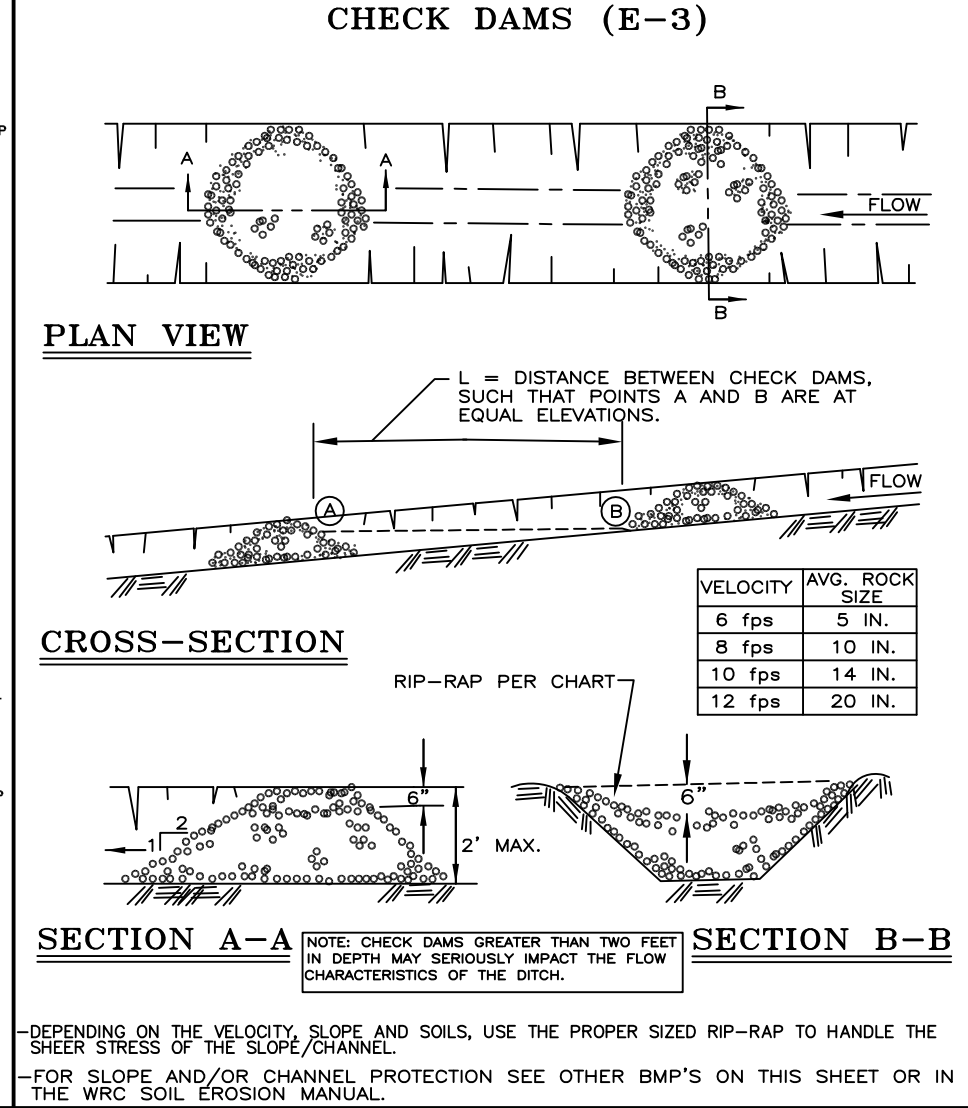
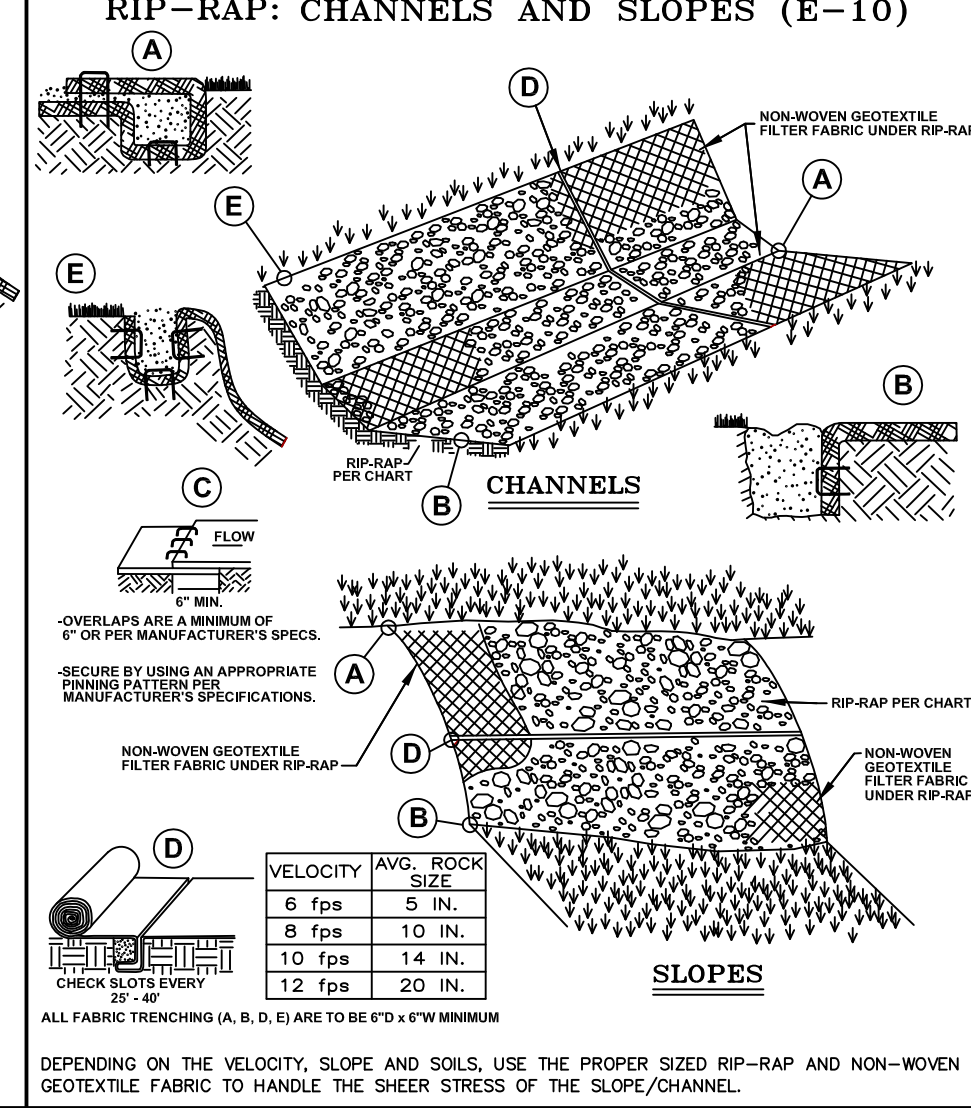
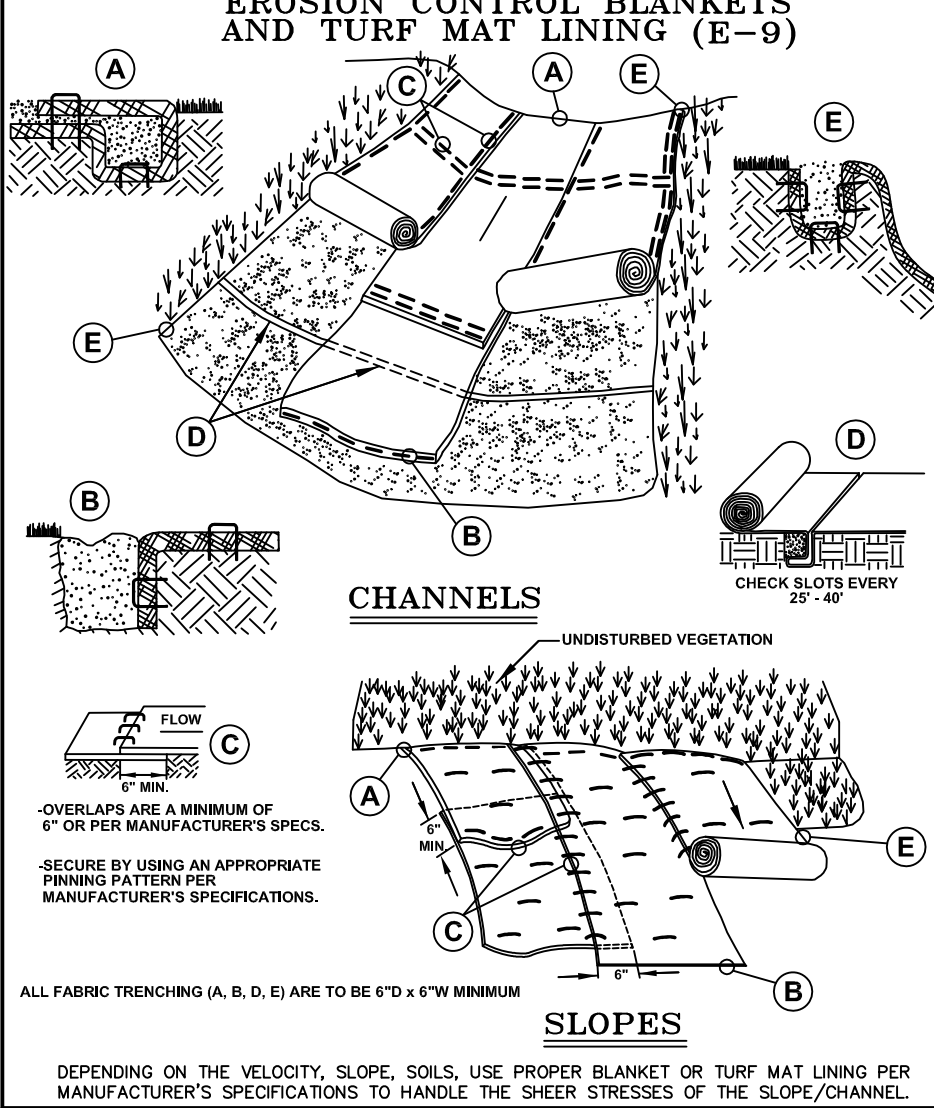
- STORM SEWER NOTES**
- PRECAST CONC. RISERS SHALL MEET A.S.T.M. C478
 - DIAMETER OF CONC. BASE: I.D. + 2(WALL) + 8"
 - MANHOLE STEP SPACING SHALL MEET MIOSHA REQUIREMENTS. NO MORE THAN 21" FROM RIM TO FIRST STEP. MAX. 16" O.C. STEPS SHALL BE CAST POLYPROPYLENE REINFORCED WITH A 1/2" STEEL ROD.
 - WALL THICKNESS OF BLOCK STRUCTURES SHALL BE:
DEPTH THICKNESS
0-8' 8"
8-15' 8"
OVER 15' 12"
 - MINIMUM I.D. OF STRUCTURE FOR: 36" to 42" = 5'-0"
48" to 54" = 6'-0"
LARGER DIAMETER STRUCTURES MAY BE REQUIRED DEPENDING ON PIPING CONFIGURATION.
 - ALL LIFTING HOLES AND VOIDS IN INTERIOR JOINTS SHALL BE FILLED BY MORTAR.
 - THE FINGER DRAIN DETAIL SHALL BE USED AT ALL LOW POINT CATCH BASINS IN PAVEMENT AREAS. THE DETAIL MAY BE OMITTED WITH THE APPROVAL OF THE TOWNSHIP ENGINEER IN AREAS WITH VERY POROUS SOILS AND NO GROUNDWATER PROBLEMS.
 - PRECAST ONE PIECE BASES AND RISERS ARE ACCEPTABLE FOR INLETS, CATCH BASINS AND MANHOLES
 - FRAMES & COVERS WITH INLET CAPACITY (1.0 CFS/90 SQ IN) -TRAFFIC AND PARKING AREAS: MDOT "D" (EJW 5105) 1.9 CFS*
-REAR YARD AND DITCH INLETS: (EJW 1040-02) 2.1 CFS*
-MANHOLES: MDOT "A" (EJW 1060)
-CURB AND GUTTER INLETS: MDOT "K" (EJW 7045) 1.8 CFS*
-MOUNTABLE CURB & GUTTER: (EJW 7065) 2.2 CFS*
*MAY VARY DUE TO MANUFACTURER CHANGES
 - CONTACT THE TOWNSHIP ENGINEER 48 HOURS PRIOR TO CONSTRUCTION TO SCHEDULE INSPECTION. FULL TIME INSPECTION WILL BE REQUIRED FOR ALL UNDERGROUND STORM SEWER CONSTRUCTION. PHONE (248) 334-9901
 - THE CONTRACTOR SHALL CONTACT MISS DG 72 HOURS BEFORE CONSTRUCTION AT (800) 482-7171 TO LOCATE EXISTING UNDERGROUND UTILITIES.
 - PRIOR TO START OF CONSTRUCTION, CONTRACTOR SHALL HAVE IN HIS POSSESSION A CURRENT SOIL EROSION CONTROL PERMIT AS ISSUED BY WHITE LAKE TOWNSHIP.
 - A 2' DEEP SUMP SHALL BE USED IN ANY STRUCTURE SUBJECT TO A WATER DROP GREATER THAN 2.0' FROM AN INLET PIPE.
 - ALLOWABLE STORM SEWER PIPE TYPES:
-12" AND UP: RCP ASTM C-76 MIN CLASS 3, MIN CLASS 4 UNDER TRAFFIC AREAS, RUBBER JOINT
-6" TO 15": SCH 40 PVC OR SDR 23.5 PVC WITH RUBBER OR GLUE JOINT
-6" TO 48": SMOOTH BORE CORRUGATED HIGH DENSITY POLYETHYLENE WITH NEOPRENE LINED JOINTS OR BETTER
 - THE MINIMUM PIPE SIZE IN PUBLIC RIGHT-OF-WAY OR EASEMENTS AND FOR PIPES CARRYING OFF-SITE STORM WATER SHALL BE 12"
 - ALL PIPE ENDS NOT WITHIN A STRUCTURE SHALL HAVE A CONCRETE OR METAL FLARE END SECTION (FES) WITH A BAR SCREEN ON PIPES 18" AND LARGER EXCEPT THOSE WITHIN A SECURE FENCED AREA NEED NO BAR SCREEN.
 - ALL DRAINAGE STRUCTURES WITHIN THE ROAD SHALL BE SEALED WITH WRAPPED GEOTEXTILE PER ROC STANDARD

MARK	ADDENDUM/CHANGE ORDER	DATE	MARK	ADDENDUM/CHANGE ORDER	DATE	MARK	ADDENDUM/CHANGE ORDER	DATE
	FIRST ISSUE	08/16/95		REVISE	10-03-02		REVISE	06-01-07
	ADD SO-1	06-17-96		REVISE	12-17-03		UPDATED TITLE BLOCK	04/30/13
	NEW BAR GRATE	11-03-97		SEC REFERENCE	05-17-05			

Johnson & Anderson
 4494 Elizabeth Lake Road Waterford, Michigan 48328 tel (248) 681-7800 fax (248) 681-2660
 1060 W. Norton Avenue, Suite 7 Muskegon, Michigan 49441 tel (231) 780-3100 fax (231) 780-3115
 3910 Lapeer Road Port Huron, Michigan 48060 tel (810) 987-7820 fax (810) 987-7895

White Lake Township
 7525 Highland Road (M-59)
 White Lake, Michigan 48383
 248-698-3300

STORM SEWER STANDARD DETAILS
 DATE ISSUED: 08/16/95
 SHEET NO.:



NOTE:

WHILE PERFORMING WORK INVOLVING GROUNDS MAINTENANCE AND/OR THE CONSTRUCTION/MAINTENANCE OF ANY INFRASTRUCTURE, INCLUDING ROADS, WATER MAINS, SANITARY SEWERS, STORM DRAINS AND STORM WATER BEST MANAGEMENT PRACTICES (BMPs), CONTRACTORS SHALL MINIMIZE POLLUTION FROM STORM WATER RUNOFF THAT CAN AFFECT WATER QUALITY RELATED TO WORK ACTIVITIES. POLLUTANTS THAT COULD IMPAIR WATER QUALITY MAY INCLUDE FUEL, GREASE AND OIL, NUTRIENTS, BACTERIA AND PATHOGENS, LITTER AND DEBRIS, AND SOIL EROSION AND SEDIMENTATION. APPLICABLE BMPs SHALL BE IMPLEMENTED BY THE CONTRACTOR TO THE MAXIMUM EXTENT PRACTICABLE TO PROTECT WATER QUALITY AND WILDLIFE HABITAT.

SOIL EROSION AND SEDIMENTATION CONTROL DETAILS

REV.	DATE	DESCRIPTION
1	01/01/01	ISSUED FOR APPROVAL
2	01/01/01	PROPOSED DETAIL REVISIONS
3	01/01/01	FOR CONSTRUCTION APPROVAL, NAME CHANGES
4	01/01/01	FOR CONSTRUCTION APPROVAL, NAME CHANGES
5	01/01/01	FOR CONSTRUCTION APPROVAL, NAME CHANGES

ORIG. DATE: 01/01/01

SCALE: NONE

DESIGNED BY: WRC

DRAWN BY: Mapping

WRC WATER RESOURCES COMMISSIONER

ONE PUBLIC WORKS DRIVE, BLDG 95 WEST WATERFORD, MICHIGAN 48326-1907

SHEET NO.: 1 of 41



client:
JMF WHITE LAKE, LLC.
 1700 W. BIG BEAVER ROAD SUITE 120
 TROY, MI 48084

project:
LAKE POINTE

project location:
 White Lake Twp., Michigan

sheet title:
OVERALL LANDSCAPE PLAN VIEW

job no./issue/revision date:

LS19.124.11	TWP.	11-12-2019
LS19.124.12	TWP.	12-27-2019
LS20.089.10	TWP.	10-14-2020
LS21.009.01	SPA	1-18-2021
LS21.009.01	SPA	2-02-2021
LS21.009.03	SPA	3-22-2021
LS23.081.08	ENG. UPDATED	8-1-2023
LS23.081.12	TWP. COMMENTS	12-3-2023
LS24.026.02	COMMENTS	2-7-2024

drawn by:
JP, DK
 checked by:
FP
 date:
1-30-2024

notice:
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 Do Not scale drawings. Use figured dimensions only.



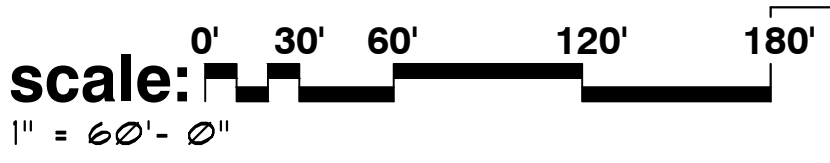
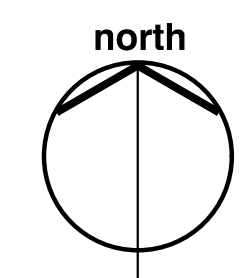
The location and elevations of existing underground utilities as shown on this drawing are only approximate. no guarantee is either expressed or implied as to the completeness of accuracy; contractor shall be exclusively responsible for determining the exact location and elevation prior to the start of construction.

project no:
LS24.026.02

sheet no:
LS-1 of 7

overall view landscape plan for:
Lake Pointe
 a multi-family residential community
 White Lake Township, Michigan

note:
 conceptual landscape plan for graphic presentation purposes only and in no way a construction document or approved for record.



general landscape notes:

- LANDSCAPE CONTRACTOR SHALL VISIT THE SITE, INSPECT EXISTING CONDITIONS, REVIEW PROPOSED PLANTINGS AND RELATED WORK, CONTACT THE OWNER AND/OR LANDSCAPE ARCHITECT WITH ANY CONCERNS OR DISCREPANCY BETWEEN THE PLAN, PLANT MATERIAL LIST, AND/OR SITE CONDITIONS.
- PRIOR TO BEGINNING OF CONSTRUCTION ON ANY WORK, CONTRACTORS SHALL VERIFY LOCATIONS OF ALL ON SITE UTILITIES, GAS, ELECTRIC, TELEPHONE, CABLE TO BE LOCATED BY CONTACTING MISS DIG 1-800-482-7171. ANY DAMAGE OR INTERRUPTION OF SERVICES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. COORDINATE ALL RELATED WORK ACTIVITIES WITH OTHER TRADES AND REPORT ANY UNACCEPTABLE JOB CONDITIONS TO OWNER PRIOR TO COMMENCING.
- NUMERICAL VALUE ON THE LANDSCAPE QUANTITIES SPECIFIED ON THE PLAN TAKE PRECEDENCE OVER GRAPHIC REPRESENTATION. VERIFY ANY CONCERN/DISCREPANCY WITH LANDSCAPE ARCHITECT.
- ALL CONSTRUCTION AND PLANT MATERIAL LOCATION TO BE ADJUSTED ON SITE IF NECESSARY.
- ALL SUBSTITUTIONS OR DEVIATIONS FROM THE LANDSCAPE PLAN MUST BE APPROVED BY WHITE LAKE TOWNSHIP AND LANDSCAPE ARCHITECT.
- ALL LARGE TREES AND EVERGREENS TO BE STAKED, GUYED AND WRAPPED AS DETAILED, SHOWN ON PLAN.
- PLANT BEDS TO BE DRESSED WITH MIN. 4" OF FINELY DOUBLE SHREDDED HARBARK MULCH.
- DIG SHRUB PITS 1' LARGER THAN SHRUB ROOT BALLS AND TREE PITS 2' LARGER THAN ROOT BALL. BACK FILL WITH ONE PART TOP SOIL AND ONE PART SOIL FROM EXCAVATED PLANTING HOLE.
- NATURAL COLOR, FINELY SHREDDED HARDWOOD BARK MULCH REQUIRED FOR ALL PLANTINGS.
- REMOVE ALL TWINE, WIRE AND BURLAP FROM TREE AND SHRUB EARTH BALLS, AND FROM TREE TRUNKS. 4" THICK BARK MULCH FOR TREES IN 4" DIA. CIRCLE WITH 3" PULLED AWAY FROM TRUNK. 4" THICK BARK MULCH FOR SHRUBS AND 4" THICK BARK MULCH FOR PERENNIALS.
- PLANT MATERIAL QUALITY & INSTALLATION SHALL BE IN ACCORDANCE WITH THE CURRENT AMERICAN ASSOCIATION OF NURSERYMEN LANDSCAPE STANDARDS.
- PROVIDE FEAT SOD FOR ALL NEW AND DISTURBED LAWN AREAS UNLESS NOTED OTHERWISE.
- ALL PLANTING AREAS TO BE PREPARED WITH APPROPRIATE SOIL MIXTURES AND FERTILIZER BEFORE PLANT INSTALLATION.
- PLANT TREES AND SHRUBS GENERALLY NO CLOSER THAN THE FOLLOWING DISTANCES FROM SIDEWALKS, CURBS AND PARKING STALLS:
 - SHADE TREES _____ 5 FT.
 - ORNAMENTAL AND EVERGREEN TREES (CRAB, PINE, SPRUCE, ETC.) _____ 10 FT.
 - SHRUBS THAT ARE LESS THAN 1 FOOT TALL AND WIDE AT MATURITY _____ 2 FT.
- NO TREES OR EVERGREENS TO BE INSTALLED OVER AND/OR WITHIN 5' TO 6' OF ANY PROPOSED OR EXISTING UTILITY LINES AS SHOWN ON THE OVERALL LANDSCAPE PLAN. SEE ENGINEERING PLANS FOR LOCATION AND DETAILS.
- ALL LAWN AREAS AND LANDSCAPE BEDS TO BE FULLY IRRIGATED WITH AN AUTOMATIC UNDERGROUND SYSTEM. IRRIGATION SYSTEM TO HAVE SEPARATE ZONES FOR LAWN AREAS, PARKING ISLANDS, AND SHRUB BEDS WITH DIFFERENT CONTROL MOISTURE LEVEL ADJUSTMENT PER ZONE AS REQUIRED.
- UNLESS NOTED OTHERWISE, LANDSCAPE BEDS ADJACENT TO LAWN TO RECEIVE EDGING. EDGING SHALL BE 4" X 1/8" METAL (FINISH BLACK OR GREEN) OR APPROVED EQUAL AND TO BE INSTALLED WITH HORIZONTAL METAL STAKES AT 32" O.C. OR PER MANUFACTURER'S SPECIFICATION.
- LANDSCAPE BEDS ADJACENT AND NEXT TO BUILDING SHALL BE EXCAVATED OF ALL BUILDING MATERIALS AND POOR SOILS A MIN. OF 12" DEPTH. BACK FILL WITH GOOD, MEDIUM TEXTURED PLANTING SOILS. ADD A MIN. 4" OF TOPSOIL OVERFILL TO FINISH GRADE. PROVIDE POSITIVE DRAINAGE.
- WATERING OF ALL PLANTS AND TREES TO BE PROVIDED IMMEDIATELY AND MULCHING WITHIN 24 HOURS AFTER INSTALLATION.
- ALL TREE PITS TO BE TESTED FOR PROPER DRAINAGE PRIOR TO TREE PLANTING. PROVIDE APPROPRIATE DRAINAGE SYSTEM AS REQUIRED IF THE TREE PIT DOES NOT DRAIN SUFFICIENTLY.
- THE LANDSCAPE CONTRACTOR SHALL GUARANTEE ALL LANDSCAPE PLANT MATERIALS AND IRRIGATION INSTALLATION FOR A PERIOD OF TWO YEAR BEGINNING AFTER THE COMPLETION OF LANDSCAPE INSTALLATION DATE APPROVED BY THE TWP. OR LANDSCAPE ARCHITECT. THE CONTRACTOR SHALL REPLACE DURING AND AT THE END OF THE GUARANTEE PERIOD, ANY DEAD OR UNACCEPTABLE PLANTS, AS DETERMINED BY THE TOWNSHIP OR LANDSCAPE ARCHITECT, WITHOUT COST TO THE OWNER.
- TREES SHALL NOT BE PLANTED CLOSER THAN (4') FOUR FEET TO A PROPERTY LINE.

sheet index

- LS-1 OVERALL LANDSCAPE PLAN VIEW
- LS-2 GENERAL PLANTING DETAIL
- LS-3 PLANT MATERIAL LIST & PLANTING DETAILS
- LS-4 BUILDING FOUNDATION, CLUBHOUSE & ENTRY PLANTING DETAILS
- LS-5 SITE AMENITY, PERGOLA & ENTRY SIGN DETAILS
- LS-6 POOL DECK PLAN
- LS-7 POOL PERGOLA \ TRELLIS ELEVATIONS & DETAILS

residential landscape requirements:

greenbelt	REQUIRED	PROVIDED
TOTAL LN.FT. OF GREENBELT FRONTAGE	825±	
ONE (1) DECIDUOUS OR EVERGREEN TREE PER 30 LN.FT. (825' LN.FT. / 30 LN.FT. = 27.5 TREES)	28	28
EIGHT (8) SHRUB PER 30 LN.FT. (825' LN.FT. / 30 LN.FT. = 27.5 X 8 = 220 SHRUBS)	190	255 (A)

interior landscape	REQUIRED	PROVIDED
TOTAL ACRES OF SITE	19.32 AC±	
ACRES OF 60' R.O.M. AREA	56 AC±	
ACRES OF INTERNAL ROAD AREA	1.31 AC±	
TOTAL ACRES OF SITE NET AREA	11.45 AC± (498,762 SQ.FT.)	
TOTAL SQ.FT. OF INTERIOR LANDSCAPING AREA (15% OF 11.45 AC± (498,762 SQ.FT.) = 74,814.3±)	74,814.3±	
ONE (1) DECIDUOUS, ORNAMENTAL OR EVERGREEN TREE PER 300 SQ.FT. (74,814.3 SQ.FT. / 300 SQ.FT. = 249.4 TREES)	250	265 (B)
FIVE (5) SHRUB PER 300 SQ.FT. (74,814.3 SQ.FT. / 300 SQ.FT. = 249.4 X 5 = 1,247 SHRUBS)	1,247	478 ± (C)

residential buffer	REQUIRED	PROVIDED
TOTAL LN.FT. OF EAST PROPERTY LINE	475±	
ONE (1) DECIDUOUS OR EVERGREEN TREE PER 15 LN.FT. (475 LN.FT. / 15 LN.FT. = 31.7 TREES)	32	32
FOUR (4) SHRUB PER 15 LN.FT. (475 LN.FT. / 15 LN.FT. = 31.7 X 4 = 126.7 SHRUBS)	127	167 (B)

note:
 'A' - 65 SUPPLEMENTAL SHRUB PLANTINGS TO BE CREDITED TOWARDS INTERIOR LANDSCAPE PLANTING REQUIREMENTS
 'B' - 40 SUPPLEMENTAL SHRUB PLANTINGS TO BE CREDITED TOWARDS INTERIOR LANDSCAPE PLANTING REQUIREMENTS
 'C' - SUPPLEMENTAL PERENNIAL PLANTINGS TO BE CREDITED TOWARDS INTERIOR SHRUB LANDSCAPE PLANTING REQUIREMENTS
 620- PERENNIALS AND GRASSES
 2500- GROUND COVERS



LAWN AREAS TO RECEIVE IRRIGATION & SOD ON FINISH GRADES. PROVIDE POSITIVE DRAINAGE.
 HATCHING DENOTES EXISTING TREES AND VEGETATION

PROPOSED PERGOLA FEATURE
 DETENTION BASIN - SEE ENGINEERING PLANS FOR LOCATION, SIZE, SIDE SLOPES, WATER ELEVATION, TOP OF BANK AND DETAILS.

5' WIDE MEANDERING PEDESTRIAN WALK.

PROPOSED RETAINING WALL. SEE ENGINEERING PLANS FOR DETAILS

PROPOSED RESIDENTIAL UNITS SEE ENGINEERING & ARCHITECTURAL PLANS FOR SITE PLAN, UTILITY LAYOUT, BUILDING ARCHITECTURE & DETAILS.

5' WIDE INTERIOR COLLECTOR WALK, TYP.

TREES SHALL NOT BE PLANTED CLOSER THAN 4 FEET FROM THE PROPERTY LINE

HATCHING DENOTES EXISTING EVERGREEN TREES ON ADJACENT PROPERTY

PROPOSED RETAINING WALL. SEE ENGINEERING PLANS FOR DETAILS

LAWN AREAS TO RECEIVE IRRIGATION & SOD ON FINISH GRADES. PROVIDE POSITIVE DRAINAGE. SEE ENGINEERING PLANS FOR GRADES.

HATCHING DENOTES EXISTING TREES

tree cluster/grouping planting notes:

- typical 3 to 4 evergreen or canopy tree cluster grouping per same species
- maximum of 8 evergreen tree cluster grouping per same species provided
- maximum of 5 canopy tree cluster grouping per same species provided



client:
JMF WHITE LAKE, LLC.
 1700 W. BIG BEAVER ROAD SUITE 120
 TROY, MI 48084

project:
LAKE POINTE

project location:
 White Lake Twp., Michigan

Union Lake Road
 sheet title:
GENERAL LANDSCAPE PLANTING DETAIL

job no./issue/revision date:

LS19.124.11	TWP.	11-12-2019
LS19.124.12	TWP.	12-27-2019
LS20.089.10	TWP.	10-14-2020
LS21.009.01	SPA	1-18-2021
LS21.009.01	SPA	2-02-2021
LS21.009.03	SPA	3-22-2021
LS23.081.08	ENG. (UPDATED)	8-1-2023
LS23.081.12	TWP. COMMENTS	12-3-2023
LS24.026.02	COMMENTS	2-7-2024

drawn by:
JP, DK
 checked by:
FP
 date:
1-30-2024

notice:
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3 WORKING DAYS BEFORE YOU DIG
 CALL MISS DIG
 1-800-482-7171
 For free location of public utility lines

The location and elevations of existing underground utilities as shown on this drawing are only approximate. no guarantee is either expressed or implied as to the completeness of accuracy; contractor shall be exclusively responsible for determining the exact location and elevation prior to the start of construction

project no:
LS24.026.02

sheet no:
LS-2 of 7



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TROY, MI 48084

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project location:
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PLANT MATERIAL LIST AND PLANT DETAILS

job no./issue/revision date:

LS19.124.11	TWP.	11-12-2019
LS19.124.12	TWP.	12-27-2019
LS20.089.10	TWP.	10-14-2020
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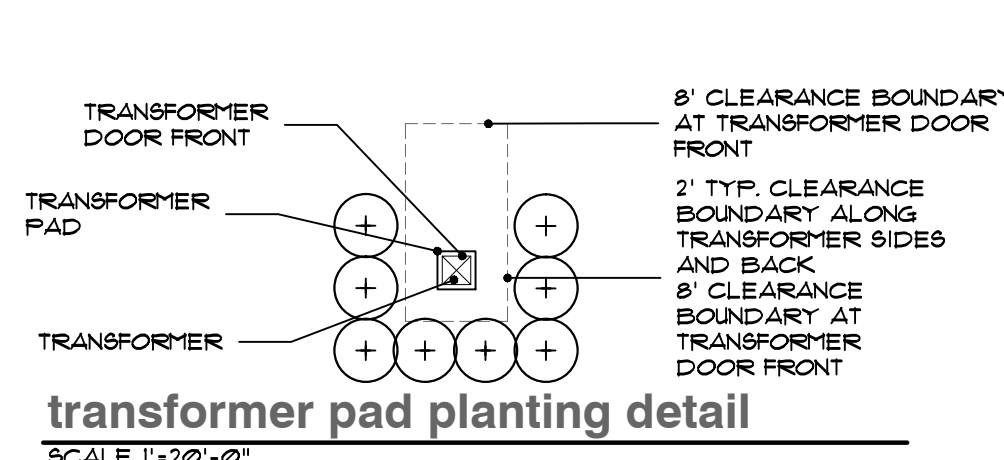
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project no:
LS24.026.02

sheet no:
LS-3 of 7



A MINIMUM OF 2' SEPARATION BETWEEN TRANSFORMER AND FULL GROWN SHRUBS AND TREES. GROUND COVERS ALLOWED UP TO TRANSFORMER PAD IF MAINTAINED BELOW 4" FULL GROWTH. IF TRANSFORMER FACES TOWARDS THE HOUSE, THEN THE SAME CONDITIONS EXIST. NO FULL GROWTH IN FRONT OF THE TRANSFORMER FOR AT LEAST A MINIMUM OF 8'. THERE ARE NO WAIVERS GRANTED TO THE ABOVE CONDITION. DETAIL FROM THE DETROIT EDISON COMPANY SERVICE PLANNING DEPARTMENT (3-11-98)

SEE ENGINEERING PLANS FOR PROPOSED LOCATIONS. TOTAL NUMBER OF TRANSFORMERS AND FINAL LOCATION PER DETROIT EDISON REQUIREMENTS.

plant material list

key	quant. LS-2	botanical name	common name	size	comments
LARGE AND SMALL DECIDUOUS TREES					
GT	8	GLEDTISIA TRI. INERHIS 'SKYCOLE'	SKYLINE LOCUST	2 1/2" BB	
TC	8	TILIA CORDATA 'GREENSPIRE'	GREENSPIRE LINDEN	2 1/2" BB	
LB	7	LIQUIDAMBAR SYTRACIFLUA	AMERICAN SWEETGUM	2 1/2" BB	
ZS	12	ZELKOVA SERRATE 'VILLAGE GREEN'	VILLAGE GREEN ZELKOVA	2 1/2" BB	
AR	11	ACER R. 'FRANKSRED'	RED SUNSET RED MAPLE	2 1/2" BB	
CO	10	CELTIS OCCIDENTALIS	HACKBERRY	2 1/2" BB	
LT	10	LIRIODENDRON TULIPIFERA	TULIPTREE	2 1/2" BB	
QB	12	QUERCUS 'BICOLOR'	SWAMP WHITE OAK	2 1/2" BB	
AF	18	ACER X FREEMANII 'JEFFERD'	AUTUMN BLAZE RED MAPLE	2 1/2" BB	
APC	3	ACER P. 'CRIMSON KING'	CRIMSON KING NORWAY MAPLE	2 1/2" BB	
AS	2	ACER SACCHARUM	SUGAR MAPLE	2 1/2" BB	
OY	9	OSTRYA VIRGINIANA	AMERICAN HOPHORNBEAM	2 1/2" BB	
CJ	2	CERCIDIPHYLLUM JAPONICUM	KATSURATREE	2 1/2" BB	
CB	6	CARPINUS BETULUS 'FASTIGIATA'	PYRAMIDAL EUROPEAN HORNBEECH	2 1/2" BB	
BR	2	STRYGINA RETICULATA 'IVORY SILK'	IVORY SILK JAPANESE TREE LILAC	2 1/2" BB	
CC	7	CERCIS CANADENSIS	EASTERN REDBUD (MULTI-STEM)	8' BB	(MULTI-STEM)
AC	6	AMELANCHIER CANADENSIS	SHADBLow SERVICEBERRY	8' BB	(MULTI-STEM)
CK	5	CORNUS KOUSA	KOUSA DOGWOOD	2" BB	
CP	1	CRATAEGUS PHAENOPYRUM	WASHINGTON HAUHORN	2" BB	
MS	6	MALUS 'SNOWDRIFT'	SNOWDRIFT CRABAPPLE	2" BB	
MF	7	MALUS FLORIBUNDA	JAPANESE FLOWERING CRABAPPLE	2" BB	
MU	7	MAGNOLIA LILIFLORA 'JANE'	JANE MAGNOLIA	8' BB	(MULTI-STEM)
MR	4	MALUS 'RED BARRON'	RED BARRON CRABAPPLE	2" BB	
AP	2	ACER P. 'BLOODGOOD'	BLOODGOOD LACE LEAF JAPANESE MAPLE	1" CONT. T. HIGH	
LARGE AND SMALL EVERGREENS					
AU	36	ABIES CONCOLOR	CONCOLOR WHITE FIR	8' BB	
AUL	18	ABIES CONCOLOR	CONCOLOR WHITE FIR	10' BB O	
PA	34	PICEA ABIES	NORWAY SPRUCE	8' BB	
PAL	20	PICEA ABIES	NORWAY SPRUCE	10' BB O	
PD	32	PICEA GLAUCA 'DENSATA'	BLACK HILL SPRUCE	8' BB	
PDL	20	PICEA GLAUCA 'DENSATA'	BLACK HILL SPRUCE	10' BB O	
SHRUBS					
YD	26	VIBURNUM DENTATUM 'CHICAGO LUSTRE'	CHICAGO LUSTRE ARROWWOOD VIBURNUM	3' BB	60" SPACING O.C.
FI	50	FORSYTHIA X INTERMEDIA	BORDER FORSYTHIA	3" BB	60" SPACING O.C.
CS	28	CORNUS STOLONIFERA	REDTIG DOGWOOD	3' BB	60" SPACING O.C.
YMK	43	VIBURNUM X B. 'MOHAUK'	MOHAUK VIBURNUM	3' BB	60" SPACING O.C.
RAG	11	RHUS AROMATICA 'GRO-LOW'	GRO-LOW FRAGRANT BURNING	24" CONT	48" SPACING O.C.
EF	55	ELONYMUS FORTUNEI 'MOONSHADOW'	MOONSHADOW ELONYMUS	24" CONT	48" SPACING O.C.

Landscape maintenance notes:

LANDSCAPE MAINTENANCE PROCEDURES AND FREQUENCIES TO BE FOLLOWED SHALL BE SPECIFIED ON THE LANDSCAPE PLAN, ALONG WITH THE MANNER IN WHICH THE EFFECTIVENESS, HEALTH AND INTENDED FUNCTIONS OF THE VARIOUS LANDSCAPE AREAS ON THE SITE WILL BE ENSURED.

1. LANDSCAPING SHALL BE KEPT IN A NEAT, ORDERLY AND HEALTHY GROWING CONDITION, FREE FROM DEBRIS AND REFUSE.

2. PRUNING SHALL BE MINIMAL AT THE TIME OF INSTALLATION, ONLY TO REMOVE DEAD OR DISEASED BRANCHES. SUBSEQUENT PRUNING SHALL ASSURE PROPER MATURATION OF PLANTS TO ACHIEVE THEIR APPROVED PURPOSE.

3. ALL DEAD OR DISEASED PLANT MATERIAL SHALL BE REMOVED AND REPLACED WITHIN SIX (6) MONTHS AFTER IT DIES OR IN THE NEXT PLANTING SEASON, WHICHEVER OCCURS FIRST. THE PLANTING SEASON FOR DECIDUOUS PLANTS SHALL BE BETWEEN MARCH 15 AND NOVEMBER 15 OR UNTIL THE PREPARED SOIL BECOMES FROZEN. THE PLANTING SEASON FOR EVERGREEN PLANTS SHALL BE BETWEEN MARCH 1 AND JUNE 1. PLANT MATERIAL INSTALLED TO REPLACE DEAD OR DISEASED MATERIAL SHALL BE AS CLOSE AS PRACTICAL TO THE SIZE OF THE MATERIAL IT IS INTENDED TO REPLACE.

Planting landscape notes:

GENERAL NOTES:

- PLANT MATERIALS TO BE INSTALLED ACCORDING TO THE WHITE LAKE TOWNSHIP, AND CURRENT AMERICAN ASSOCIATION OF NURSERYMEN'S STANDARDS.
- PLANT MATERIALS TO BE GUARANTEED FOR 2 YEARS. REPLACE FALLING MATERIAL WITHIN 1 YEAR, OR THE NEXT APPROPRIATE PLANTING PERIOD.
- PLANT MATERIALS TO BE OF PREMIUM QUALITY, NO. 1 GRADE NORTHERN NURSERY GROWN, IN HEALTHY CONDITION, FREE OF PESTS AND DISEASES.
- MULCH IS TO BE NATURAL COLORED, DOUBLE SHREDDED HARDWOOD BARK OF 4" THICK BARK MULCH FOR TREES IN 4" DIA. CIRCLE W/3" PULLED AWAY FROM TRUNK, 3" THICK BARK MULCH FOR SHRUBS AND 2" THICK BARK MULCH FOR PERENNIALS.
- CALL MISS DIG AT 1-800-482-7171 PRIOR TO ANY CONSTRUCTION.

DECIDUOUS 4 EVERGREEN TREE:

- TREE SHALL BE INSTALLED SAME RELATIONSHIP TO FINISH GRADE AS IT BORE ORIGINALLY OR SLIGHTLY HIGHER THAN FINISH GRADE UP TO 6" ABOVE GRADE, IF DIRECTED BY LANDSCAPE ARCHITECT FOR HEAVY CLAY SOIL AREAS.
- DO NOT PRUNE TERMINAL LEADER, PRUNE ONLY DEAD OR BROKEN BRANCHES.
- REMOVE ALL TAGS, STRING, PLASTICS AND OTHER MATERIALS THAT ARE UNSIGHTLY AND COULD CAUSE GIRDLING.
- REMOVE TREE STAKES, GUY WIRES AND TREE WRAP AFTER ONE WINTER SEASON.

SHRUB:

- SHRUB SHALL BE INSTALLED SAME RELATIONSHIP TO FINISH GRADE AS IT BORE ORIGINALLY OR SLIGHTLY HIGHER THAN FINISH GRADE UP TO 6" ABOVE GRADE, IF DIRECTED BY LANDSCAPE ARCHITECT FOR HEAVY CLAY SOIL AREAS.
- DO NOT PRUNE TERMINAL LEADER, PRUNE ONLY DEAD OR BROKEN BRANCHES.
- REMOVE ALL TAGS, STRING, PLASTICS AND OTHER MATERIALS THAT ARE UNSIGHTLY AND COULD CAUSE GIRDLING.

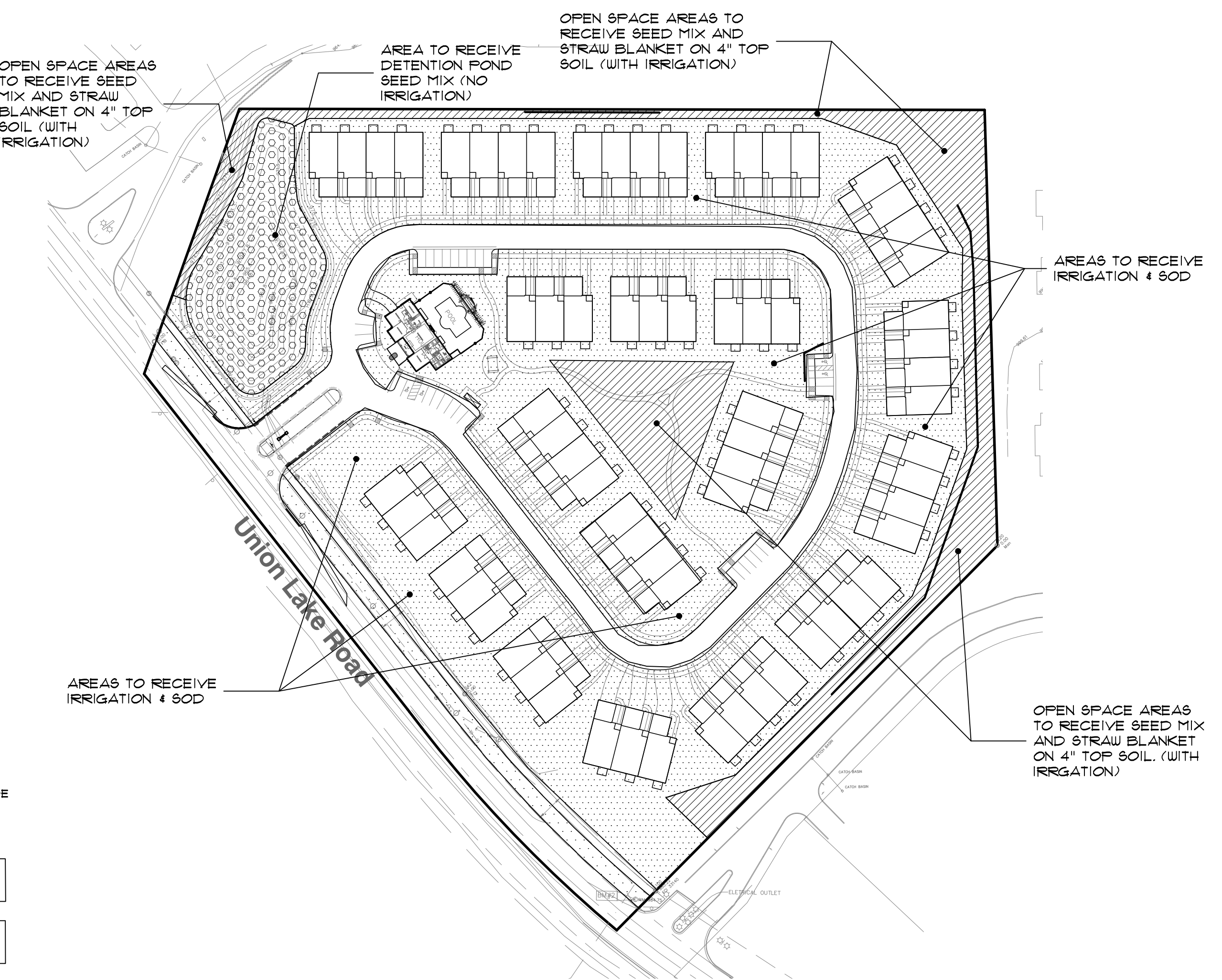
LAWN:

- SOD LAWN AREAS SHALL BE KENTUCKY BLUE GRASS BLEND GRASS IN A SOD NURSERY ON LOAM SOIL. SOD TO BE INSTALLED ON MINIMUM 2" TOPSOIL.
- SEEDED LAWN AREAS SHALL CONSIST OF THE FOLLOWING TYPES AND PROPORTIONS:
5% PERENNIAL RYE GRASS
10% RED FESCUE
25% CHEWING FESCUE
60% KENTUCKY BLUE GRASS

SEED MIX SHALL BE APPLIED AT A RATE OF 200 POUNDS PER ACRE AND WEED CONTENT SHALL NOT EXCEED 1%. SEED, PROVIDE A MINIMUM 4" TOP SOIL ON ALL SEEDED LAWN AREA.

TREES IDENTIFIED FOR PROTECTION DURING CONSTRUCTION AND THE MEANS OF PROTECTION SHALL BE IDENTIFIED PRIOR TO FINAL SITE PLAN.

NO CONSTRUCTION SHALL OCCUR UNTIL TREE PROTECTION HAS BEEN INSTALLED AND APPROVED BY THE COMMUNITY DEVELOPMENT DIRECTOR.



detention basin seed mix:

Sedge Meadow Mix: (Edge Zone)
A mix of sedges, grasses and wildflowers recommended for soils that are saturated during most of the growing season. Use just above the normal waterline in the capillary zone in our Lake Edge Enhancement System.

Sedge Meadow Mix oz/acre

1	Carex comosa (Bristly Sedge)	1	Aster puniceus (Swamp Aster)
2	Carex cristatella (Crested Sedge)	1	Aster umbellatus (Flat-topped Aster)
3	Carex frankii (Frank's Sedge)	1	Cassia hebecarpa (Wild Senna)
4	Carex hystericina (Porcupine Sedge)	2	Eupatorium maculatum (spotted Joe-Pye Weed)
5	Carex lurida (Lurid Sedge)	2	Eupatorium perfoliatum (Boneset)
6	Carex stipata (Aw-Fruited Sedge)	2	Helenium autumnale (Autumn Sneezeweed)
7	Carex trichoides (Pinnated Oval Sedge)	2	Liatris spicata (Dense Blazing Star)
8	Carex vulpinoidea (Fox Sedge)	1	Lobelia cardinalis (Cardinal Flower)
9	Elymus virginicus (Virginia Wild Rye)	1	Lobelia siphilitica (Great Blue Lobelia)
10	Glyceria striata (Fowl Manna Grass)	3	Rudbeckia fulgida speciosa (Showy Black-Eyed Susan)
11	Leersia oryzoides (Rice Cut Grass)	4	Rudbeckia hirta (Black-Eyed Susan)
12	Panicum virgatum (Switchgrass)	3	Rudbeckia subtomentosa (Sweet Black-Eyed Susan)
13	Scirpus atrovirens (Dark Green Bulrush)	2	Siphium integrifolium (Raisinweed)
14		2	Siphium perfoliatum (Cupplant)
15		2	Siphium terebinthaceum (Prairie Dock)
16		1	Solidago patula (Swamp Goldenrod)
17		2	Solidago rigida (Ricklefs's Goldenrod)
18		2	Verbenia hastata (Blue Vervain)
19		2	Vernonia fasciculata (Smooth Ironweed)
20		1	Veronicastrum virginicum (Culver's Root)
21		1	Zizia aurea (Golden Alexander)

Forbs oz/acre

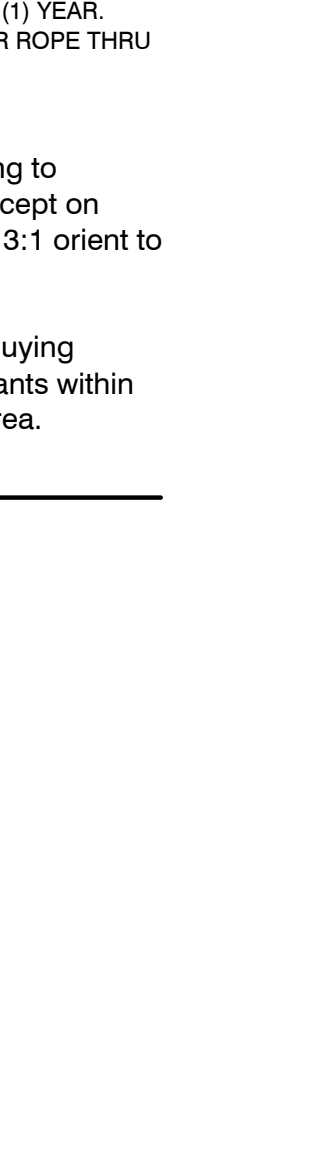
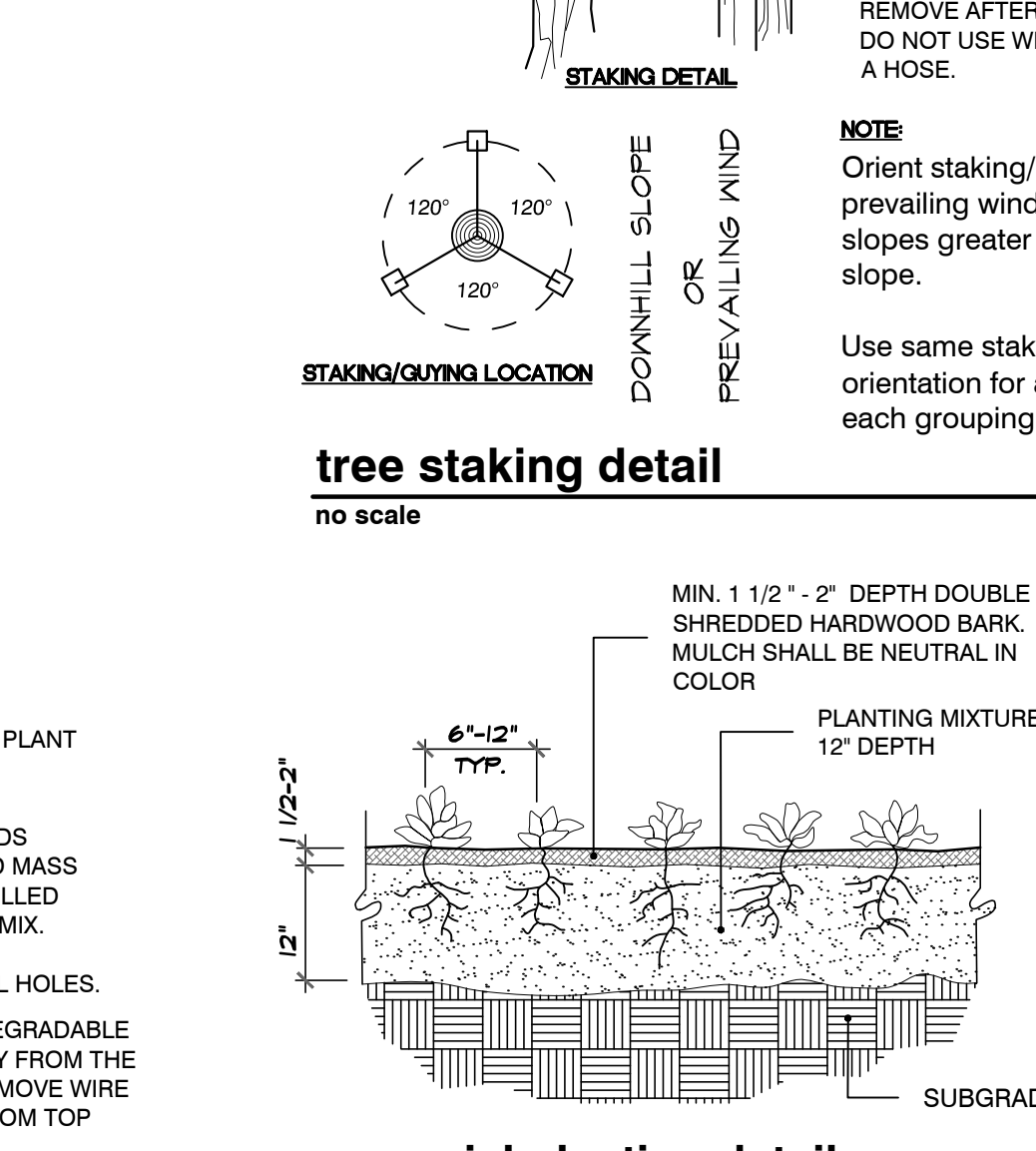
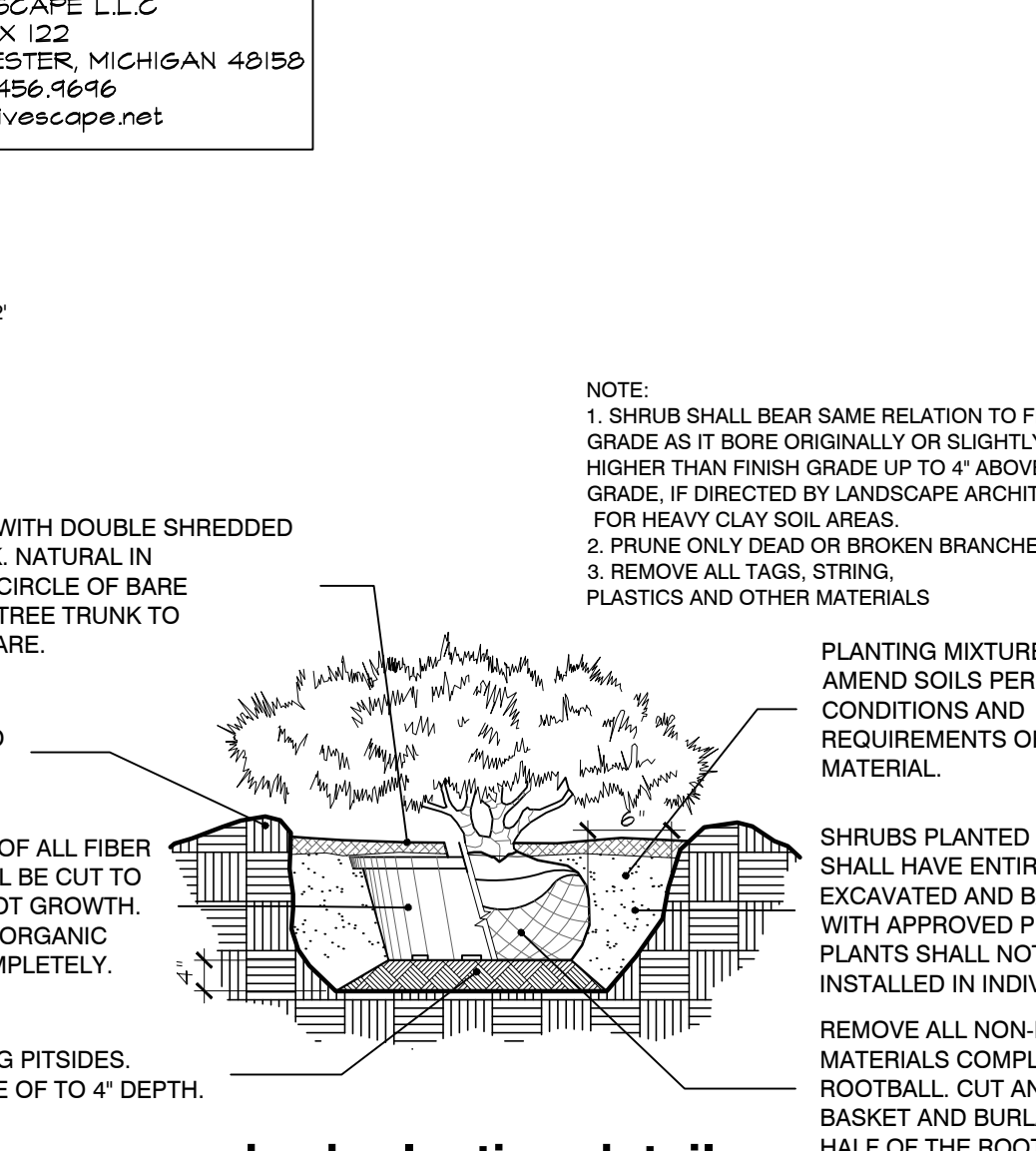
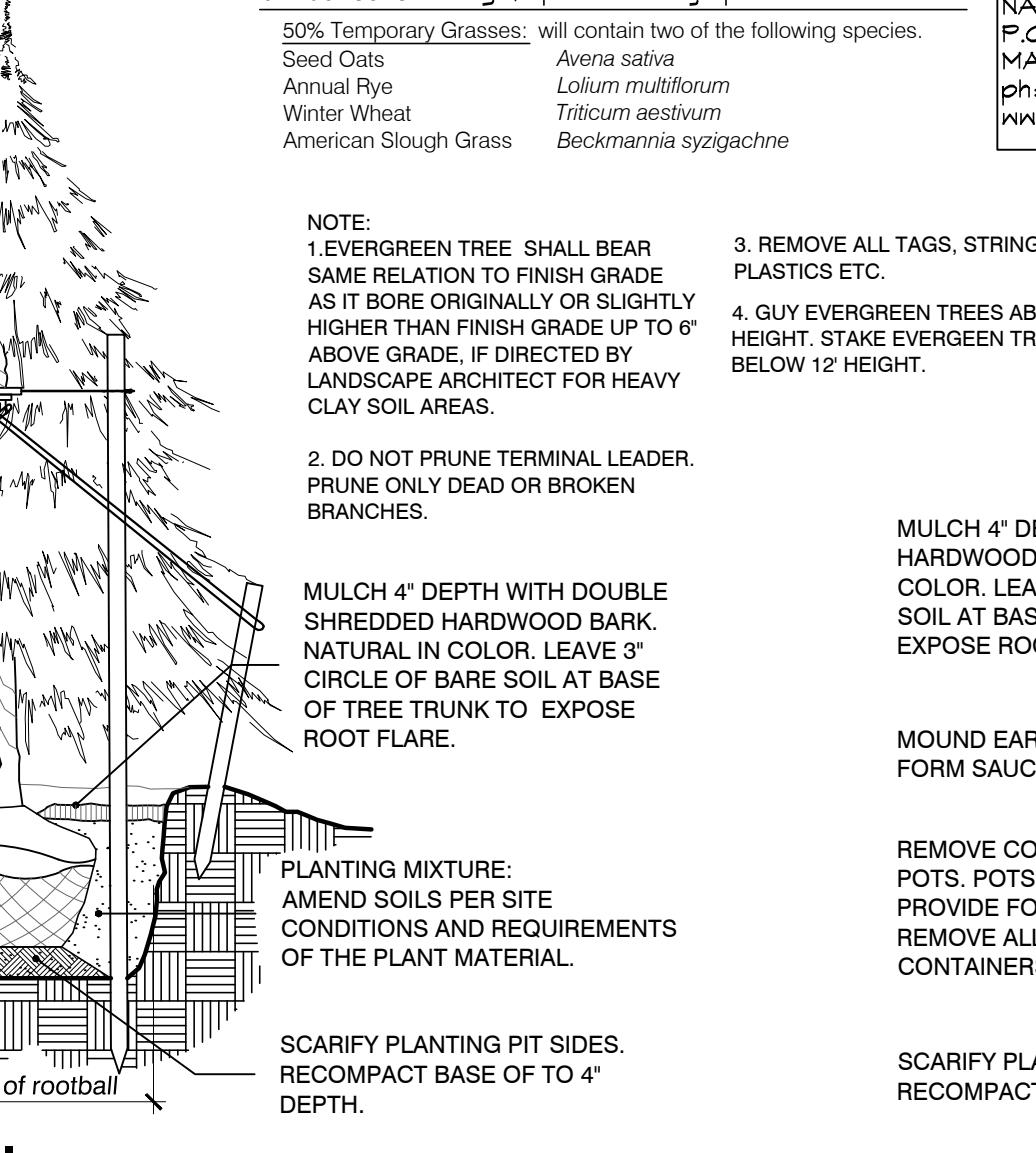
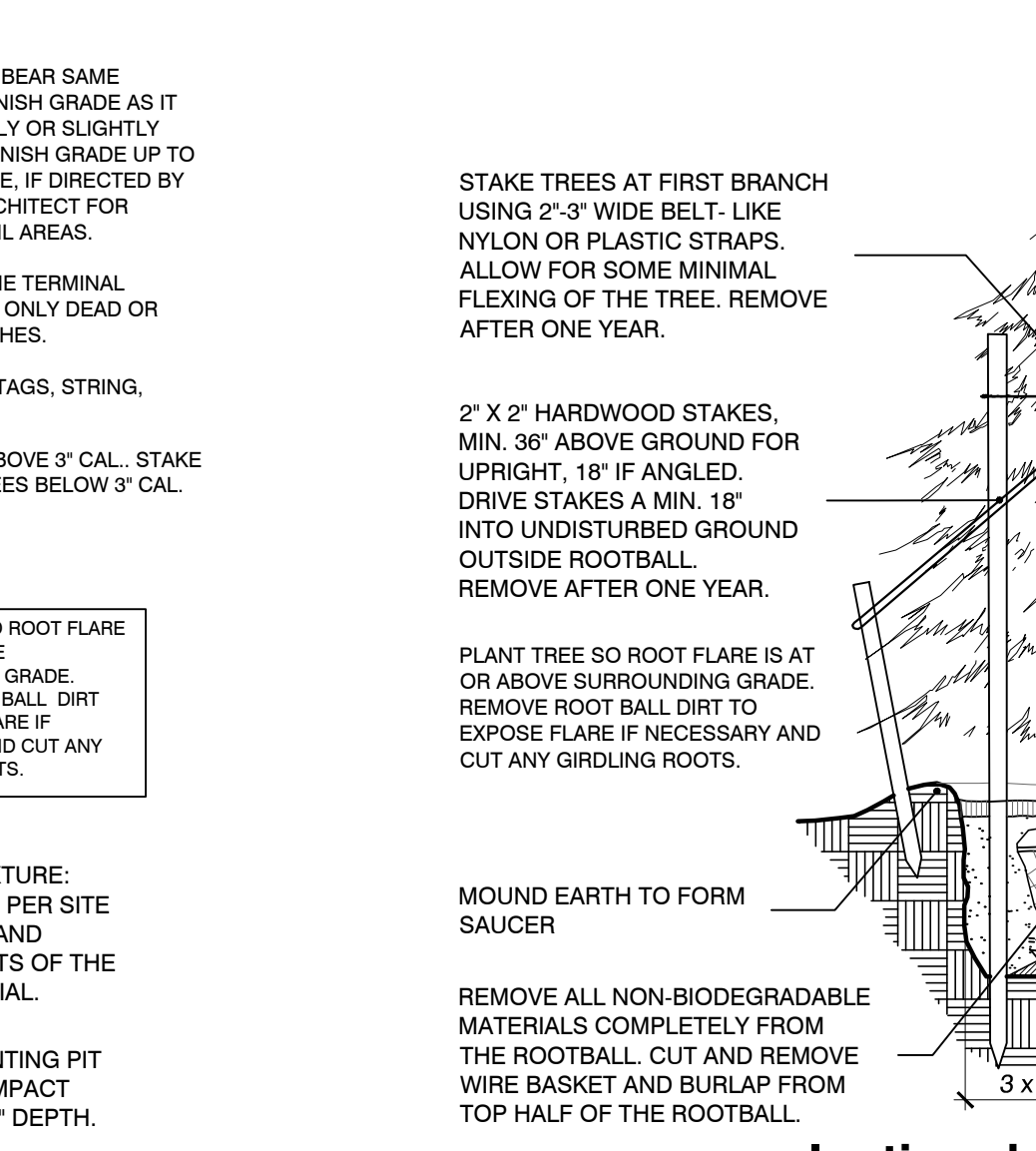
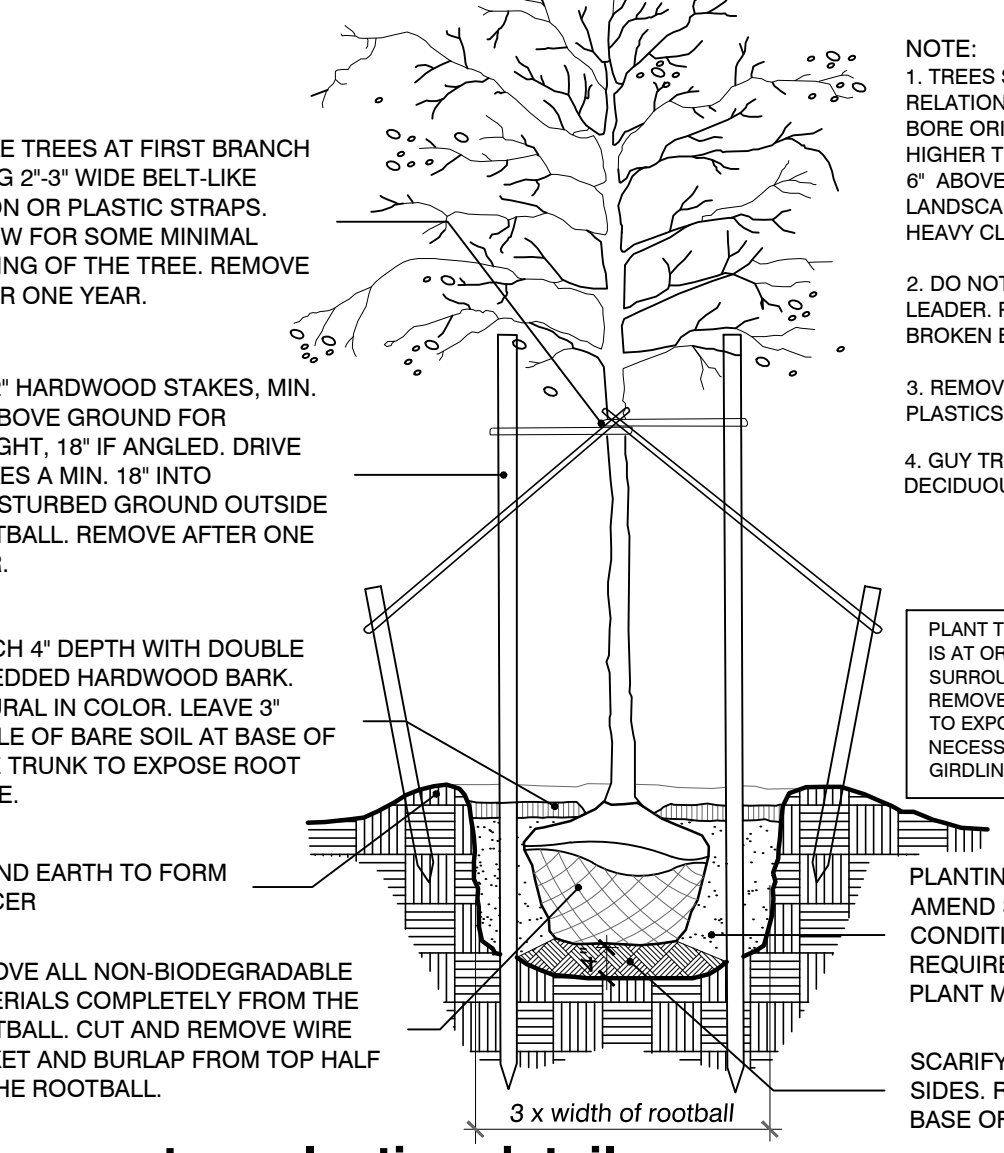
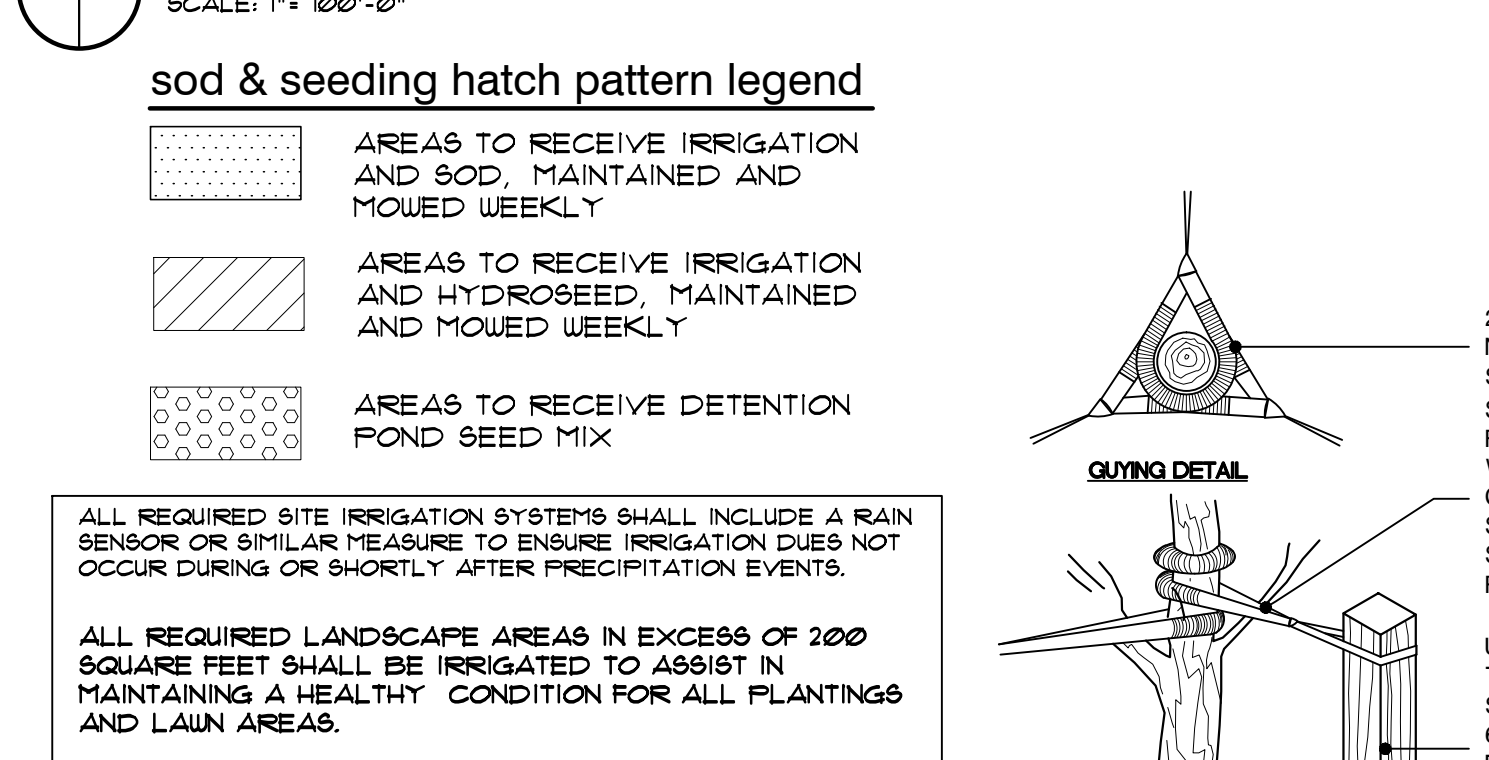
1	Alisma subcordatum (Water plantain)	1
2	Angelicatropurpurea (Angelica)	1
3	Aster novae-angliae (New England Aster)	1

Components per acre
8 lbs grasses and sedges; 3 lbs forbs

annual cover: (Edge, Upland & Dry Upland Zones)
50% Temporary Grasses: will contain two of the following species.
Seed Oats: Avena sativa
Annual Rye: Lolium multiflorum
Winter Wheat: Triticum aestivum
American Slough Grass: Beckmannia syzigachne

SOURCE:
NATIVESCAPE LLC
P.O. BOX 122
MANCHESTER, MICHIGAN 48058
ph: 517.456.9696
www.nativescape.net

sod & seeding area reference location map
SCALE: 1" = 100'-0"



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client:
JMF WHITE LAKE, LLC.
 1700 W. BIG BEAVER ROAD SUITE 120
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job no./issue/revision date:

LS19.124.11	TWP.	11-12-2019
LS19.124.12	TWP.	12-27-2019
LS20.089.10	TWP.	10-14-2020
LS21.009.01	SPA	1-18-2021
LS21.009.01	SPA	2-02-2021
LS21.009.03	SPA	3-22-2021
LS23.081.08	ENG. UPDATED	8-1-2023
LS23.081.12	COMMENTS	12-3-2023
LS24.026.02	COMMENTS	2-7-2024

drawn by:
JP, DK
 checked by:
FP
 date:
1-30-2024

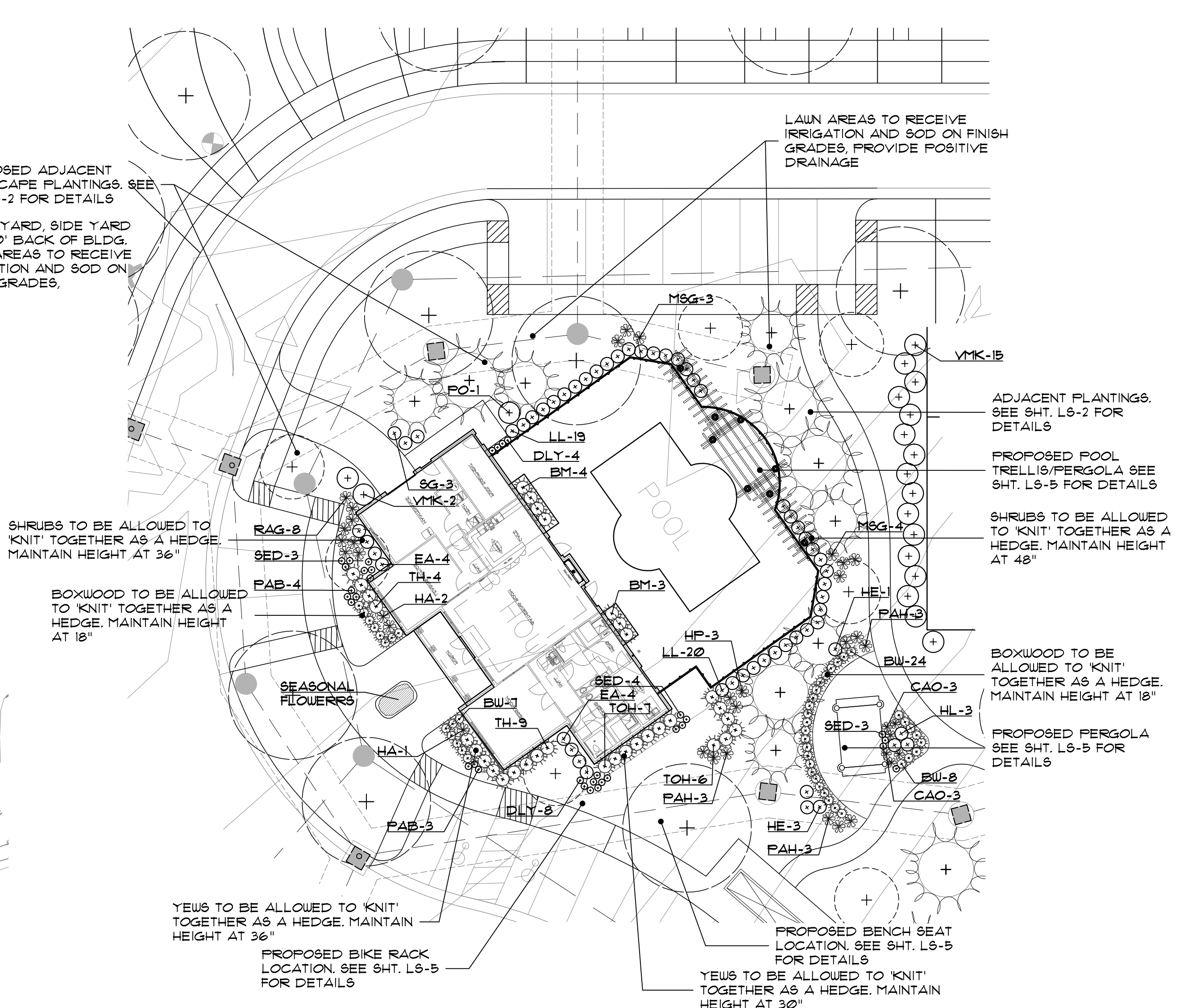
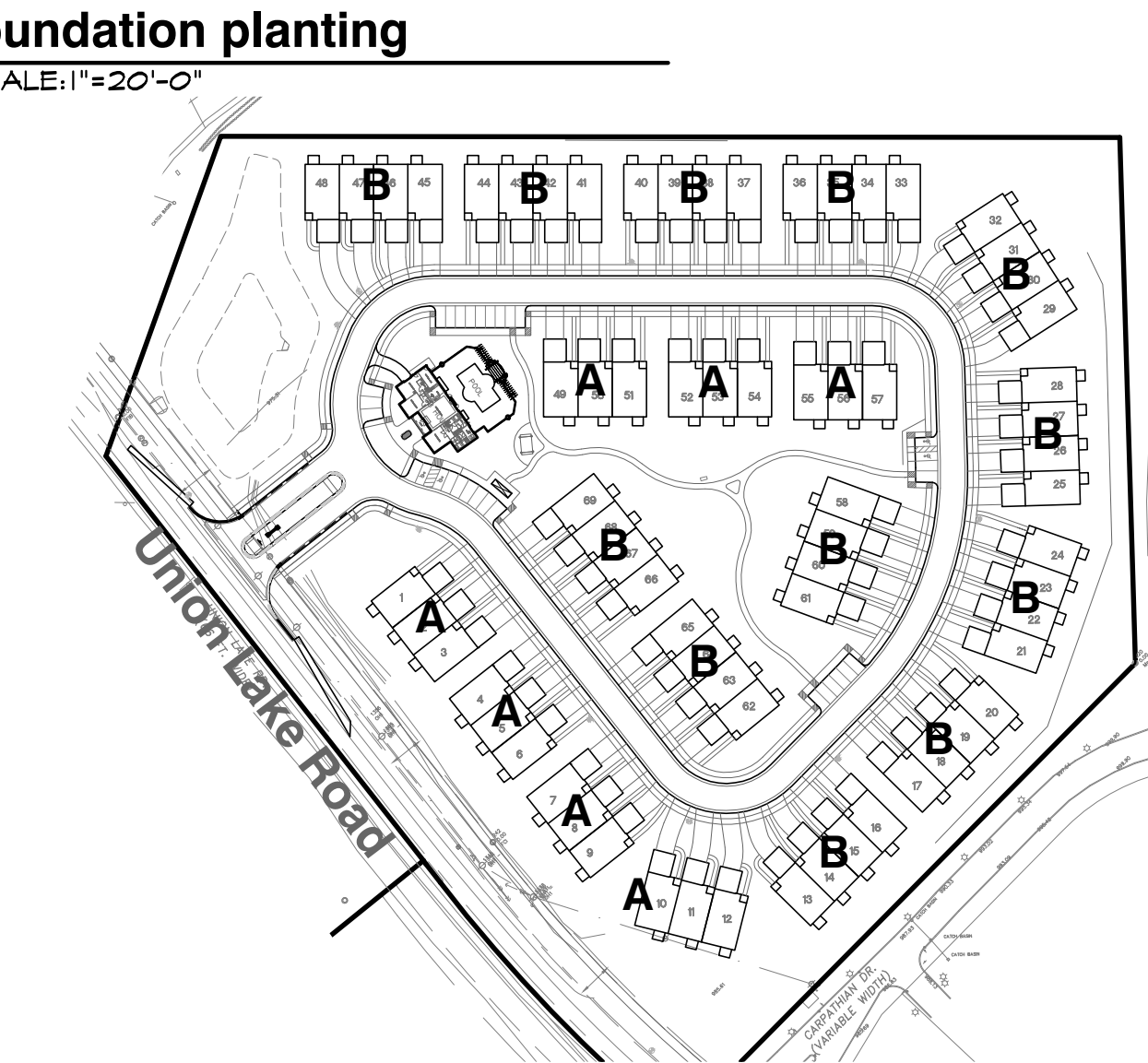
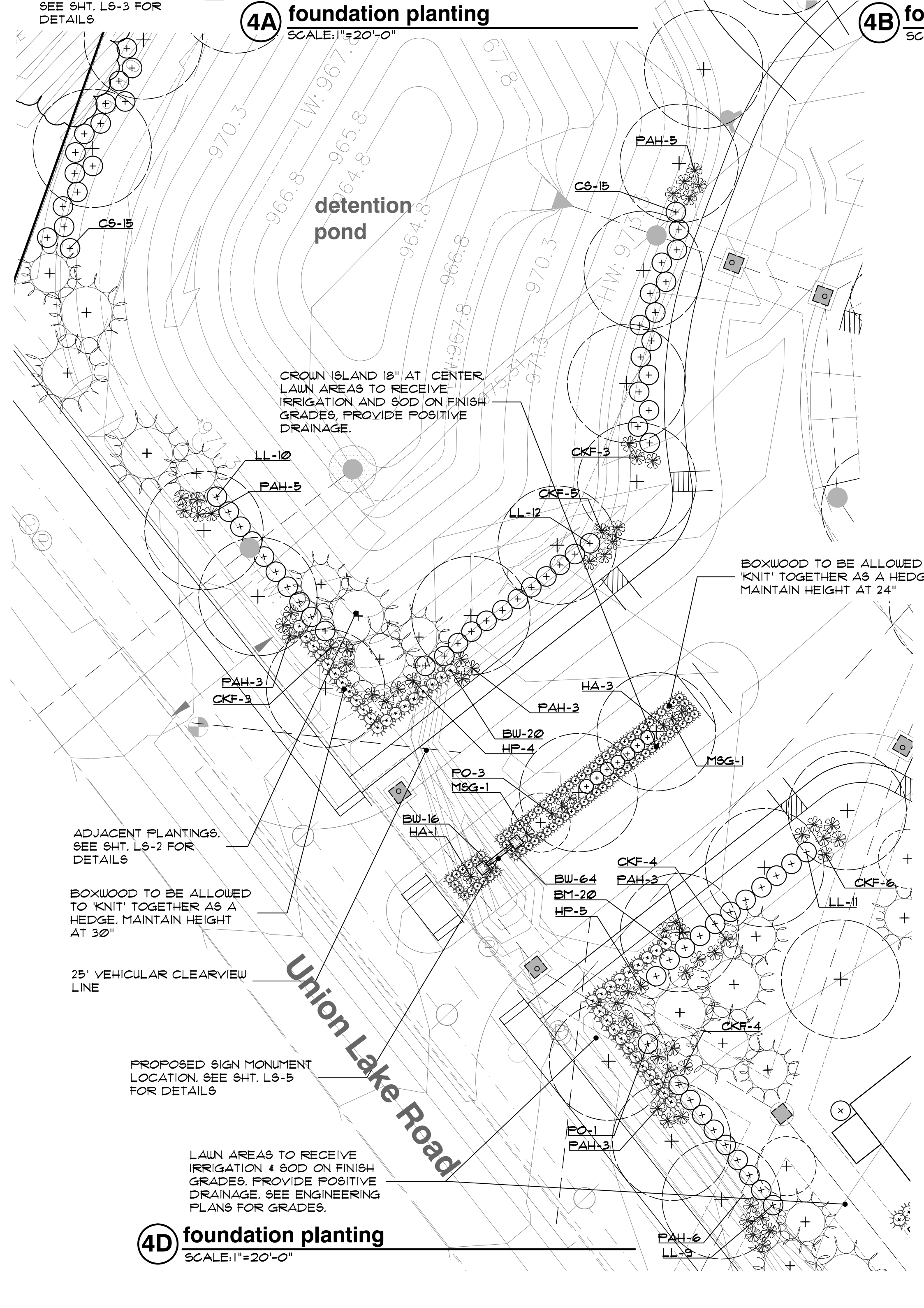
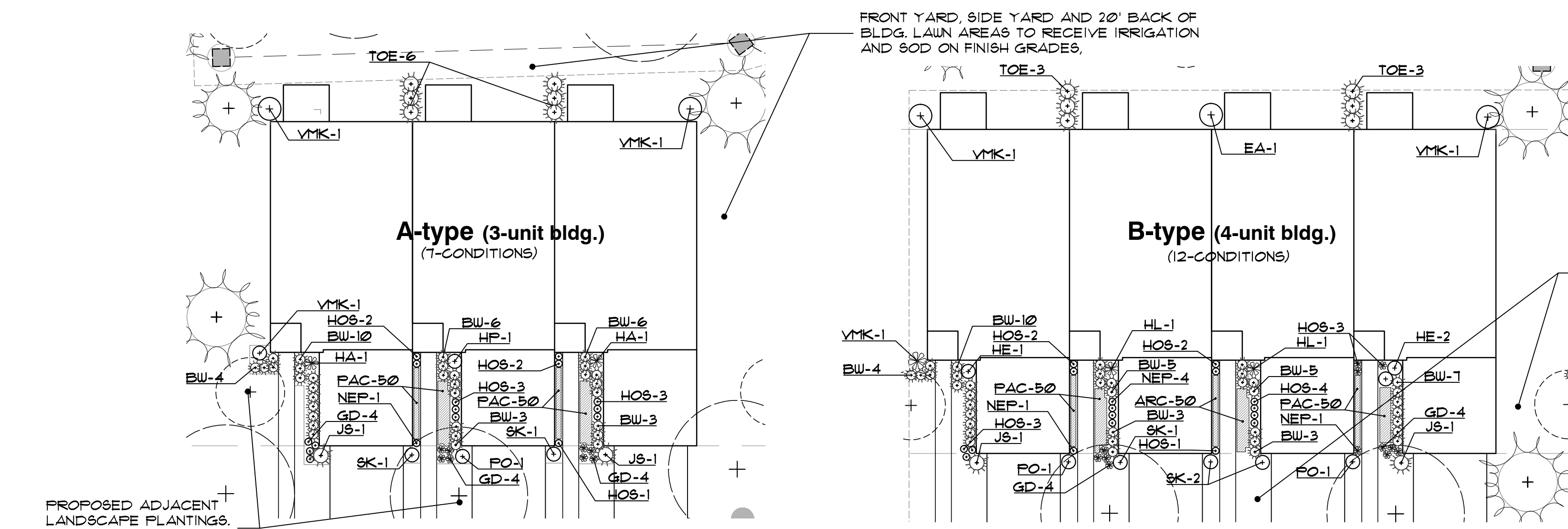
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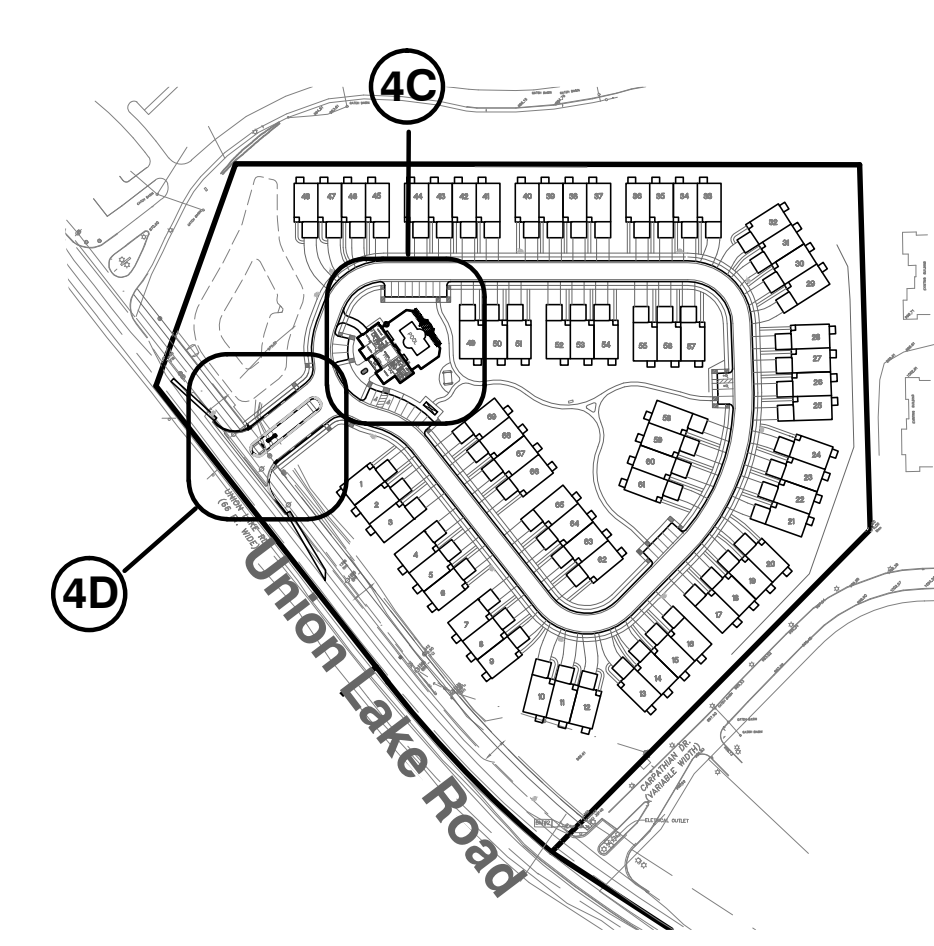
project no:
LS24.026.02

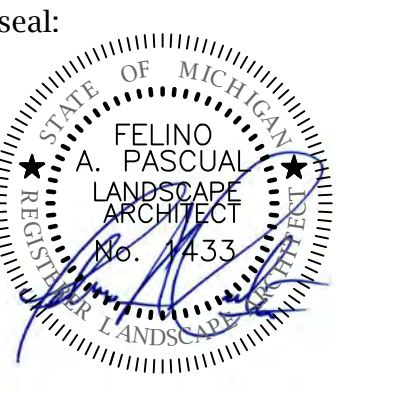
sheet no:
LS-4 of 7



plant material list

key	quant. 4A	quant. 4B	quant. 4C	quant. 4D	botanical name	common name	size	comments
SHRUBS								
SK	14	36	-	-	SYRINGA PATULA 'MISS KIM'	MISS KIM DWARF LILAC	3' BB.	
HP	1	-	3	9	HYDRANGEA PANICLE 'BOBO'	BOBO HYDRANGEA	9" CONT.	
HA	14	-	3	4	HYDRANGEA 'ANNABELLE'	ANNABELLE HYDRANGEA	9" CONT.	
HL	-	24	3	-	HYDRANGEA 'LINDSEY ANN'	LA DREAMIN HYDRANGEA	9" CONT.	
HE	-	36	4	-	HYDRANGEA M. 'GLOWING EMBERS'	GLOWING EMBERS HYDRANGEA	9" CONT.	
PO	1	24	1	4	PHYSCOCARPUS OPULIFOLIUS 'SEWARD'	SUMMER WINE NINEBARK	9" CONT.	
SG	-	-	3	-	SPIRAEA X.B. 'BIMALDA' 'GOLDFLAME'	GOLDFLAME SPIRAEA	9" CONT.	
VMK	21	36	11	-	VIBURNUM X.B. 'MOHAUK'	MOHAUK VIBURNUM	3' BB	
LL	-	-	39	42	LIGUSTRUM X. VICARYI	GOLDEN VICARY PRIVET	9" CONT.	60" O.C. SPACING
EA	-	12	8	-	BUONYMUS ALATUS 'COMPACTA'	DWARF WINGED BURNING BUSH	3' BB	60" O.C. SPACING
RAG	-	-	8	-	RHUS AROMATICA 'GRO-LOW'	GRO-LOW FRAGRANT SUMAC	9" CONT.	
BW	224	444	39	100	BUXUS M. 'GREEN VELVET'	GREEN VELVET BOXWOOD	18" HIGH BB	24" O.C. SPACING
BM	-	-	1	20	BUXUS M. 'GREEN MOUNTAIN'	GREEN MOUNTAIN BOXWOOD	30" HIGH BB	32" O.C. SPACING
TH	-	-	19	-	TAXUS 'HICKSII'	HICK YEWUS	30" BB	36" O.C. SPACING
TOE	42	12	-	-	THUJA OCCIDENTALIS 'SHARAGD'	EMERALD GREEN ARBORVITAE	5' BB.	36" O.C. SPACING
TOH	-	-	13	-	THUJA OCCIDENTALIS 'HELTZ'	HELTZ ARBORVITAE	9" CONT.	36" O.C. SPACING
CS	-	-	-	30	CORNUS STOLONIFERA	REDTWIG DOGWOOD	9" CONT.	60" O.C. SPACING
JS	14	24	-	-	JUNIPERUS SKYROCKET	SKYROCKET JUNIFER	5' BB	60" O.C. SPACING
PERENNIALS AND GRASSES								
NEP	1	12	-	-	NEPETA X FAASSENII 'WALKER'S LOW'	WALKER'S LOW NEPETA	4" CONT.	24" O.C. SPACING
GD	84	36	-	-	GERANIUM X. 'ROZANNE'	ROZANNE GERANIUM	32 / FLAT	12" O.C. SPACING
PAC	100	1200	-	-	FACHYSANDRA TERMINALIS	JAPANESE FACHYSANDRA	32 / FLAT	12" O.C. SPACING
DLY	-	-	12	-	HEMEROCALLIS 'HAPPY RETURNS'	HAPPY RETURNS DAY'LILY	4" CONT.	24" O.C. SPACING
SED	-	-	10	-	SEDUM X. 'NEON'	NEON SEDUM	4" CONT.	12" O.C. SPACING
HOS	11	180	-	-	HOSTA 'PATRIOT'	PATRIOT HOSTA	4" CONT.	24" O.C. SPACING
PAH	-	-	9	28	FENNISETUM ALOPECUROIDES 'HAMELN'	DWARF FOUNTAIN GRASS	9" CONT.	36" O.C. SPACING
CKF	-	-	-	25	CALAMAGROSTIS X.A. 'KARL FOERSTER'	KARL FOERSTER FEATHER REED GRASS	9" CONT.	36" O.C. SPACING
ARC	-	600	-	-	AUGA REPTAN 'CATLIN'S GAINT'	CATLIN'S GAINT AUGA	32 / FLAT	12" O.C. SPACING
M8G	-	-	1	2	MISCANTHUS SINENSIS 'MORNING LIGHT'	MORNING LIGHT JAPANESE SILVER GRASS	9" CONT.	
PAB	-	-	1	-	FENNISETUM ALOPECUROIDES 'LITTLE BUNNY'	LITTLE BUNNY FOUNTAIN GRASS	9" CONT.	36" O.C. SPACING
CAO	-	-	6	-	CALAMAGROSTIS X. ACUTIFLORA 'KARL FOERSTER'	KARL FOERSTER'S FEATHER REED GRASS	9" CONT.	36" O.C. SPACING





client:
JMF WHITE LAKE, LLC.
 1700 W. BIG BEAVER ROAD SUITE 120
 TROY, MI 48084

project:
LAKE POINTE
 project location:
 White Lake Twp., Michigan

Union Lake Road
 sheet title:
SITE AMENITY, PERGOLA AND ENTRY SIGN DETAILS
 job no./issue/revision date:
 LS19.124.11 TWP. 11-12-2019
 LS19.124.12 TWP. 12-27-2019
 LS20.089.10 TWP. 10-14-2020
 LS21.009.01 SPA 1-18-2021
 LS21.009.01 SPA 2-02-2021
 LS21.009.03 SPA 3-22-2021
 LS23.081.08 ENG. UPDATED 8-1-2023
 LS23.081.12 TWP. COMMENTS 12-3-2023
 LS24.026.02 TWP. COMMENTS 2-7-2024

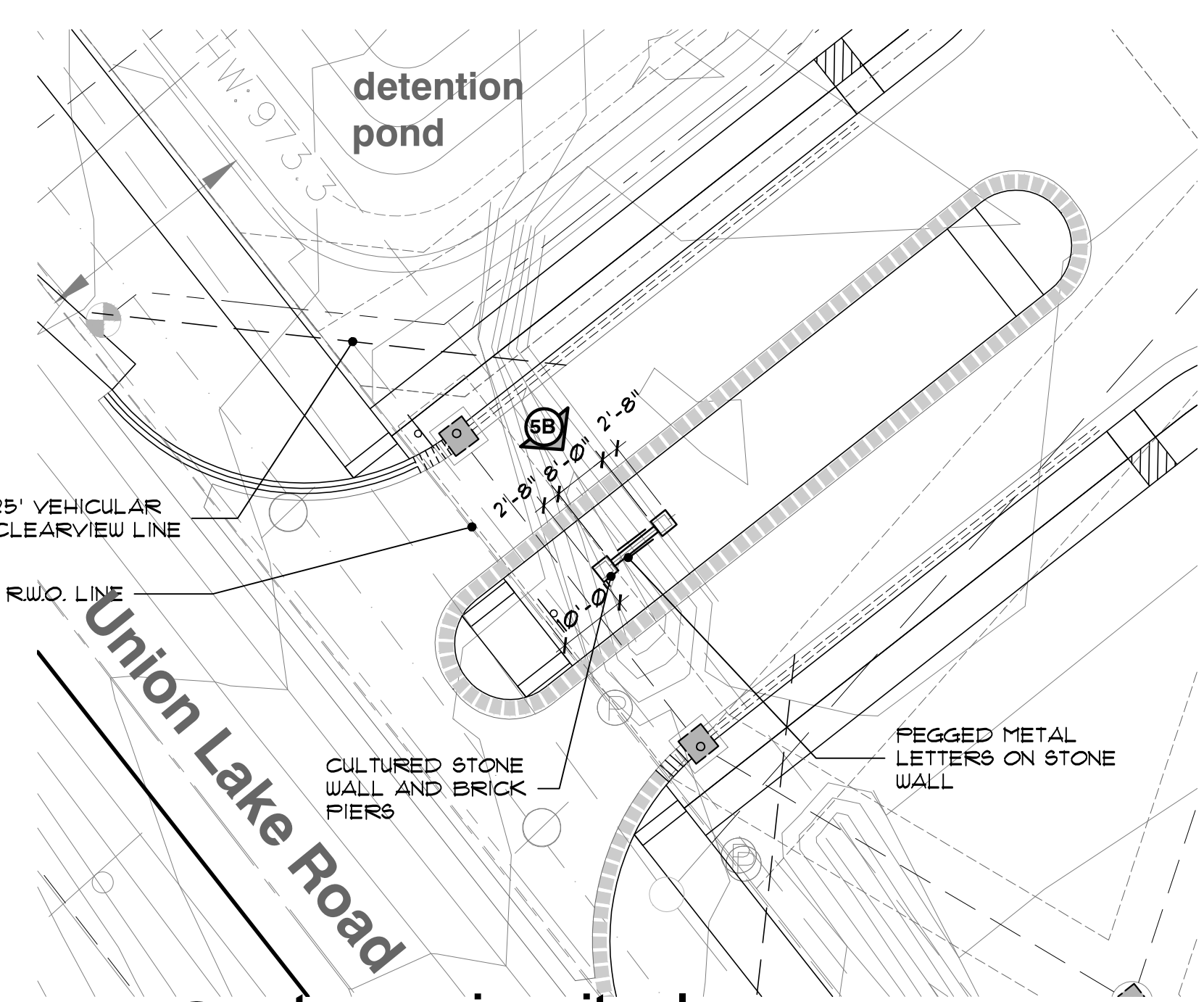
drawn by:
JP, DK
 checked by:
FP
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1-30-2024
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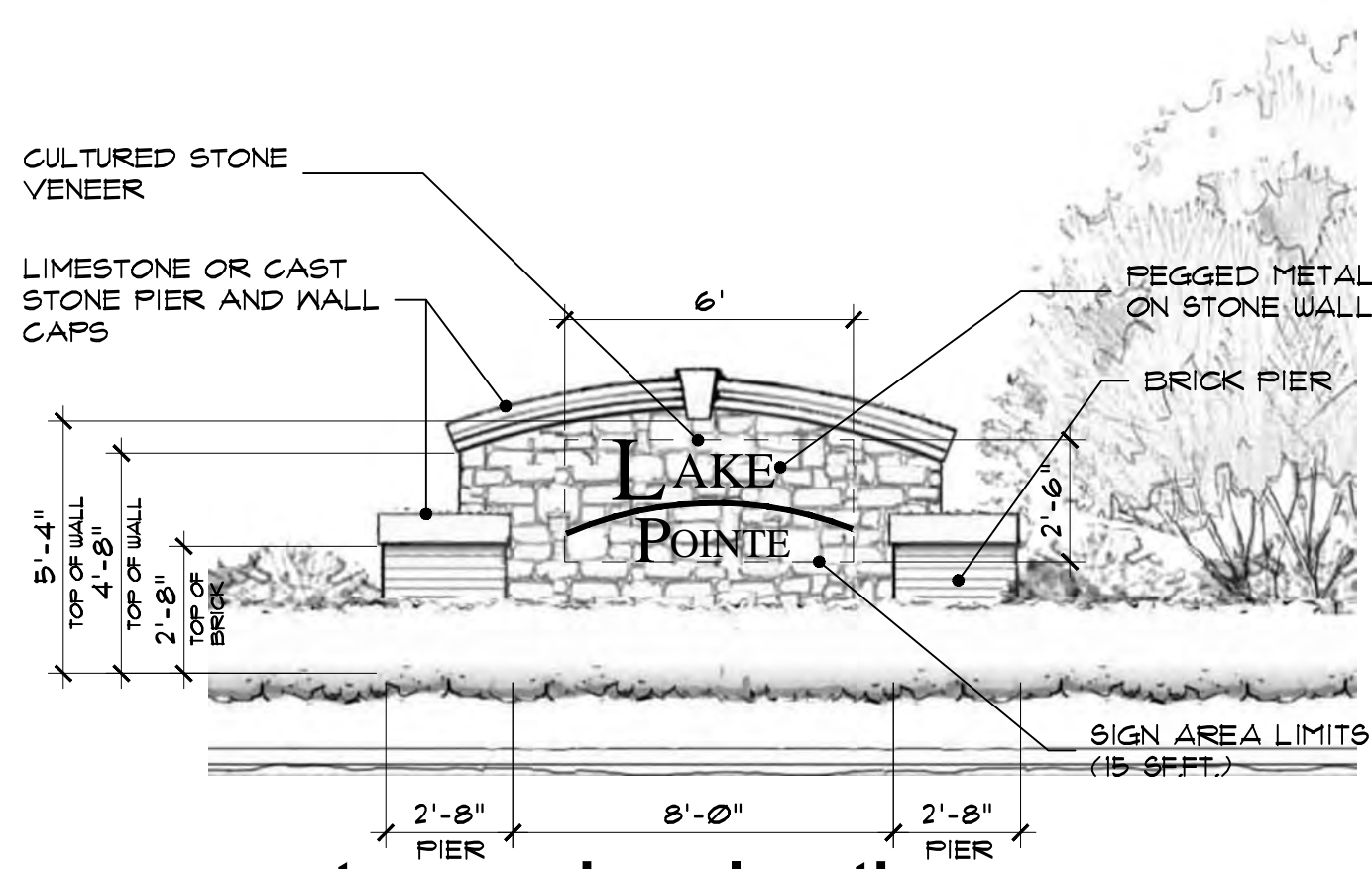
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project no:
LS24.026.02

sheet no:
LS-5 of 7

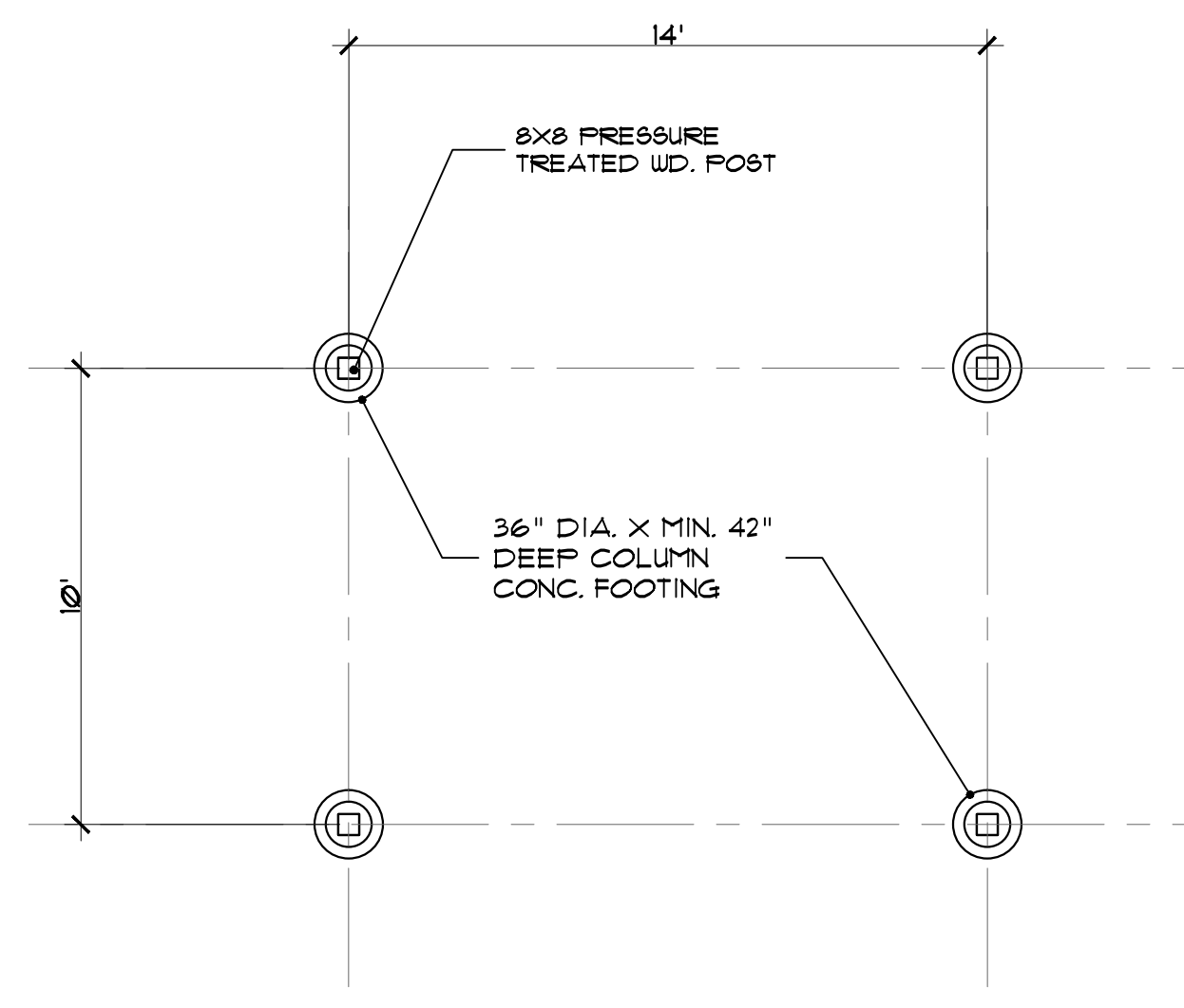


5A entrance sign site plan
 SCALE 1"=20'-0"

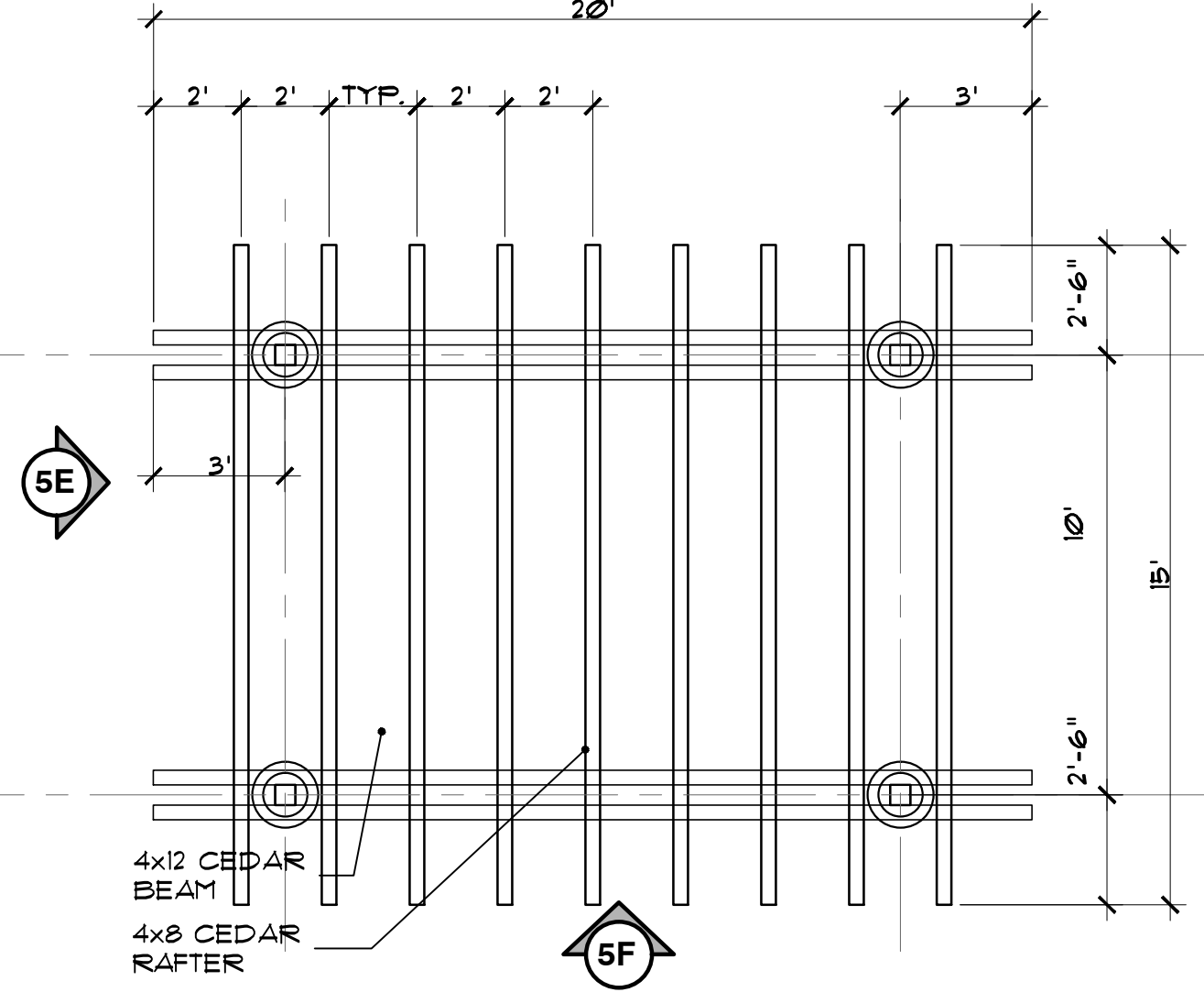


5B entrance sign elevation
 SCALE 1"=4'-0"

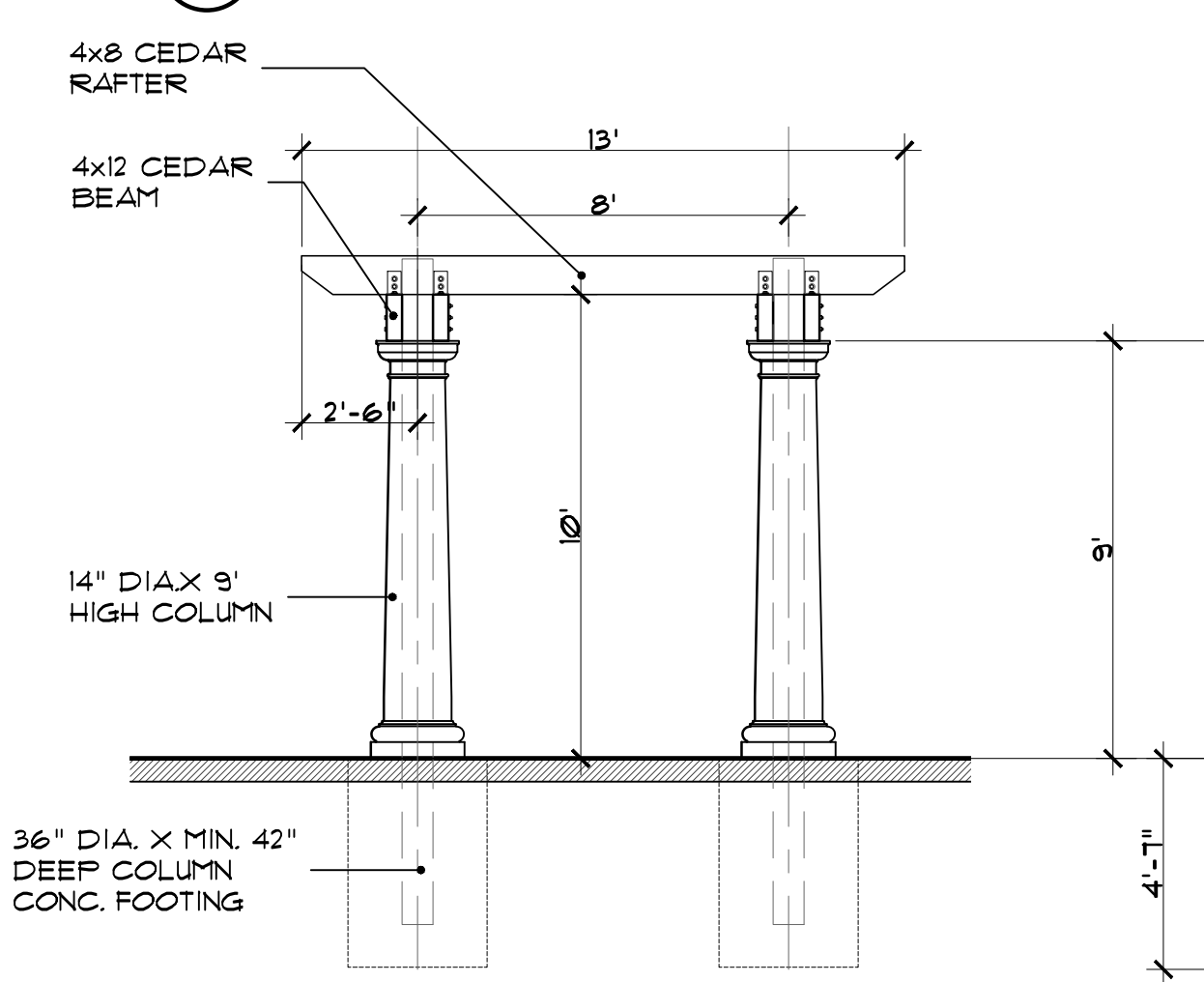
- signage monument notes:**
1. LOCATE AND STAKE ALL EXISTING AND PROPOSED UTILITIES PRIOR TO CONSTRUCTION. COORDINATE ANY ADJUSTMENTS WITH ARCHITECT.
 2. ALL INFORMATION CONTAINED HEREIN IS SUBJECT TO APPROVAL, AND PERMITS PERMITS TO BE OBTAINED PRIOR TO CONSTRUCTION.
 3. SEE LANDSCAPE PLAN FOR PROPOSED PLANTINGS ADJACENT TO PROPOSED ENTRY SIGN MONUMENTS
 4. VERIFY SOIL BEARING CAPACITY PRIOR TO TO ENTRY SIGN MONUMENT & PIER CONSTRUCTION. IF SOIL BEARING CAPACITY FALLS BELOW STANDARD REQUIREMENTS, CONSULT STRUCTURAL ENGINEER FOR RECOMMENDATION OF FINAL ENTRY MONUMENT & PIER FOOTING DESIGN.



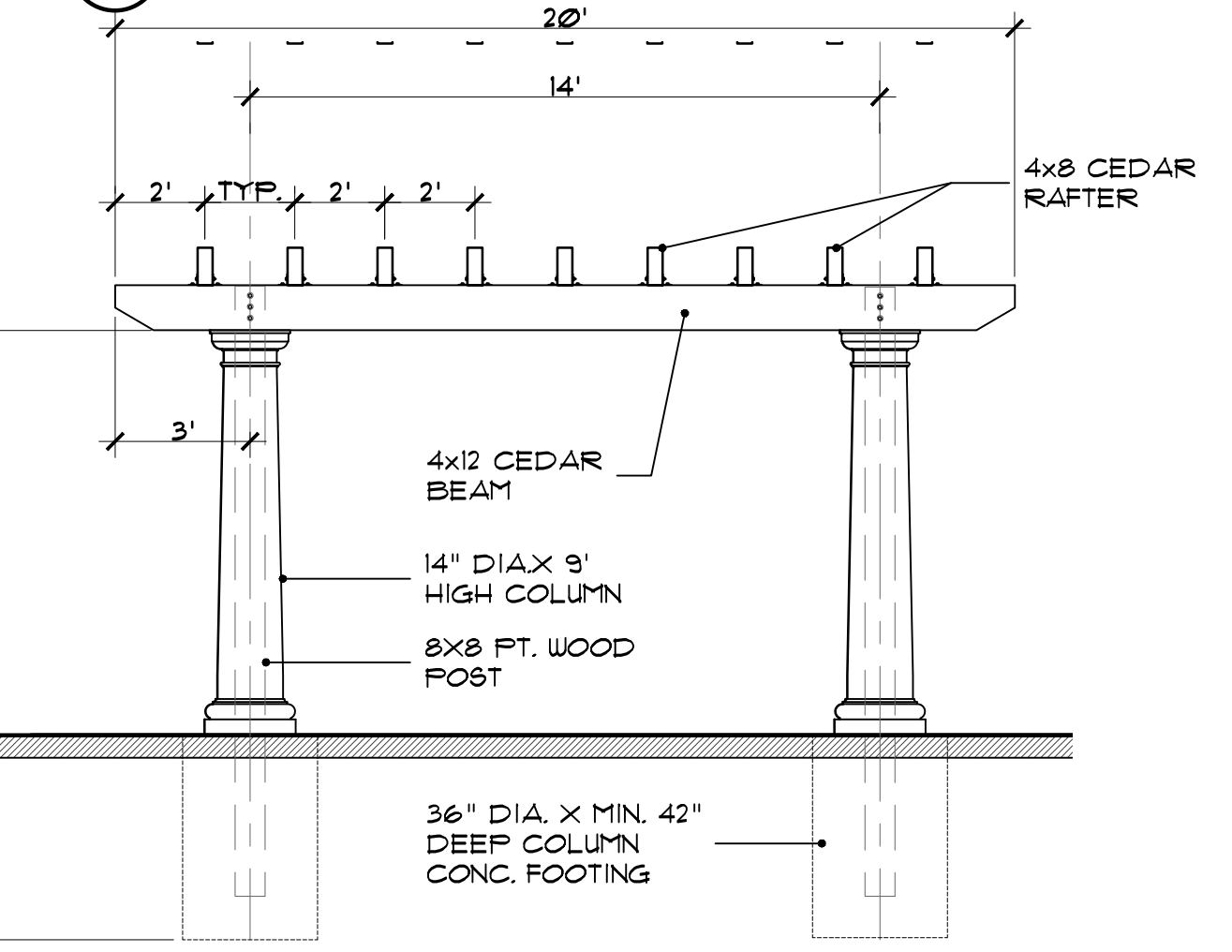
5C pergola foundation plan
 SCALE 1/4"=1'-0"



5D pool trellis-pergola plan
 SCALE 1/4"=1'-0"



5E pergola elevation view
 SCALE 1/4"=1'-0"



5F pergola elevation view
 SCALE 1/4"=1'-0"



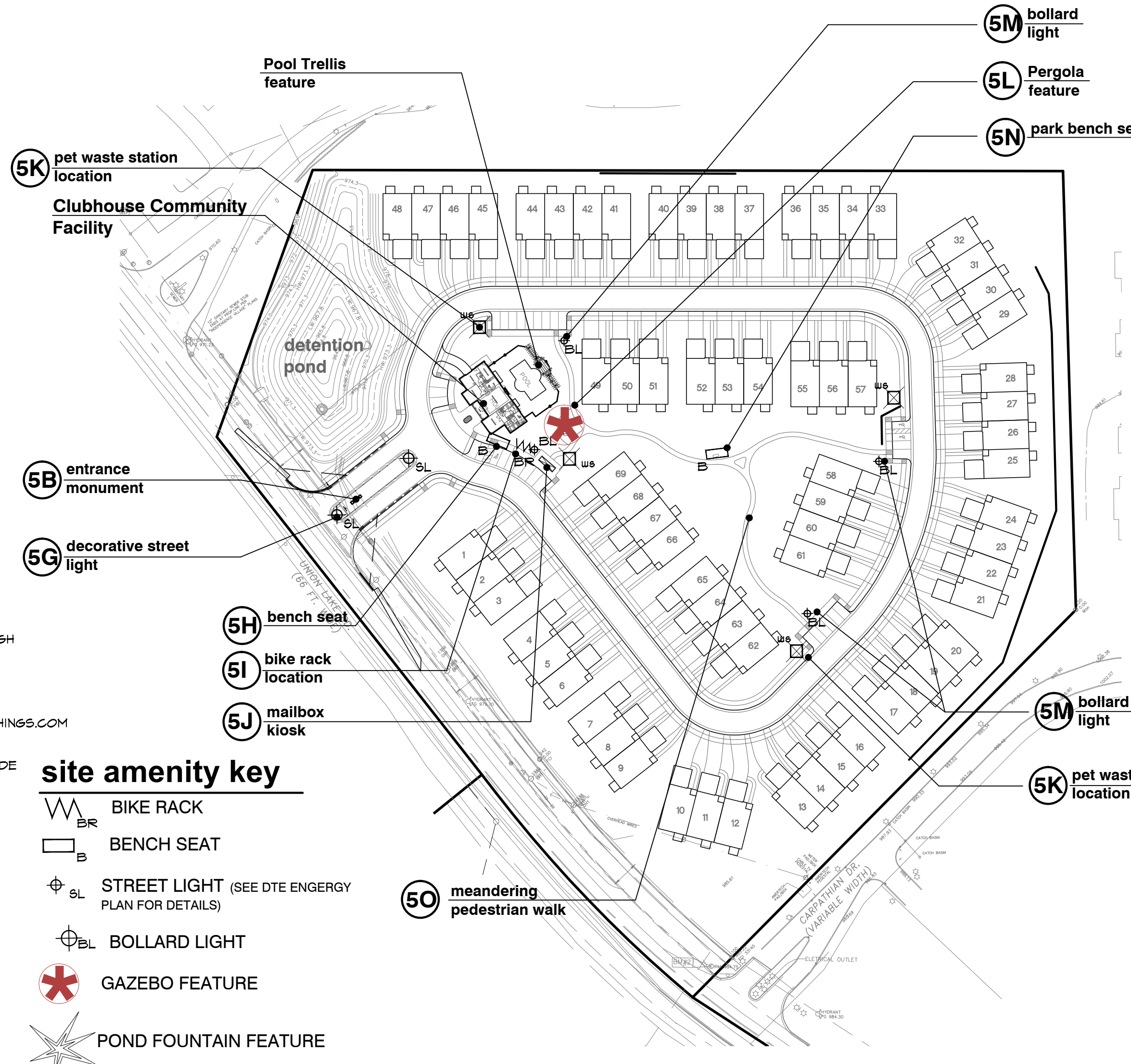
5G decorative pole & light
 (1-CONDITION)
 DTE OUTDOOR LIGHTING ACORN SERIES - 60 WATTS, LED, 4000K OR EQUAL



5H bench seat
 (1-CONDITION)
 MANUFACTURED BY ANOVA, INC.
 211 NORTH LINDBERGH BLVD. SUITE 200 ST. LOUIS, MISSOURI 63141-1804
 TOLL FREE NO. (800)231-1827 WWW.ANOVAFURNISHINGS.COM
 MODEL NO. LENC6 DESCRIPTION: 6' WIDE CONTOUR BENCH FINISH: Black



5I bicycle rack
 (1-CONDITION)
 BIKE RACK BY DUMOR INC. MODEL NO. 130-20 (8-2 SURFACE PLATE MOUNT) 2 3/8" O.D. BLACK POWDER-COATED LOOP OR EQUAL



- site amenity key**
- BR BIKE RACK
 - B BENCH SEAT
 - SL STREET LIGHT (SEE DTE ENRGY PLAN FOR DETAILS)
 - BL BOLLARD LIGHT
 - GZ GAZEBO FEATURE
 - PF POND FOUNTAIN FEATURE

site amenity reference location map
 SCALE 100' = 1'-0"



5J mailbox kiosk
 (1-LOCATIONS)



5L pergola feature
 (1-CONDITION)
 STICK BUILT OR KIT FORM. TO BE BUILT BY MANUFACTURER STANDARDS



5N park bench seating
 (1-CONDITIONS)
 6' WIDE PARK BENCH SEAT BY DUMOR, INC. MODEL NO. 34-60D (8-1) SUPPORT: 8-1 EMBEDMENT FINISH: BLACK POWDER-COATED



5K pet waste station
 TOTAL OF 4-CONDITIONS
 BY ZERO WASTE USA 12316 WORLD TRADE DRIVE #102 SAN DIEGO, CA. 92128 PH. 800-784-2568 WWW.ZEROWASTEUSA.COM
 MODEL NO. JJB006-BLACK DESCRIPTION: ENTRY DOG WASTE STATION (73"H X 13"W) FINISH: BLACK



5M bollard light
 (4-CONDITIONS)
 BY LITHONIA LIGHTS OR EQUAL MODEL: DSXB LED (D-SERIES LED BOLLARD 8" DIA X 42" HGT.) OR EQUAL.
 ASYMMETRIC (12LED) 22 WATTS, 4000K



5O meandering pedestrian walk
 5' WIDE MEANDERING WALK

lighting note:
 ALL FRONT PORCH LIGHTS AND COACH LIGHTS WILL UTILIZE 75 WATT BULBS.



client:
JMF WHITE LAKE, LLC.
 1700 W. BIG BEAVER ROAD SUITE 120
 TROY, MI 48084

project:
LAKE POINTE

project location:
 White Lake Twp., Michigan

Union Lake Road
 sheet title:
POOL DECK PLAN

job no./issue/revision date:

LS19.124.11	TWP.	11-12-2019
LS19.124.12	TWP.	12-27-2019
LS20.089.10	TWP.	10-14-2020
LS21.009.01	SPA	1-18-2021
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LS21.009.03	SPA	3-22-2021
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project no:
LS24.026.02

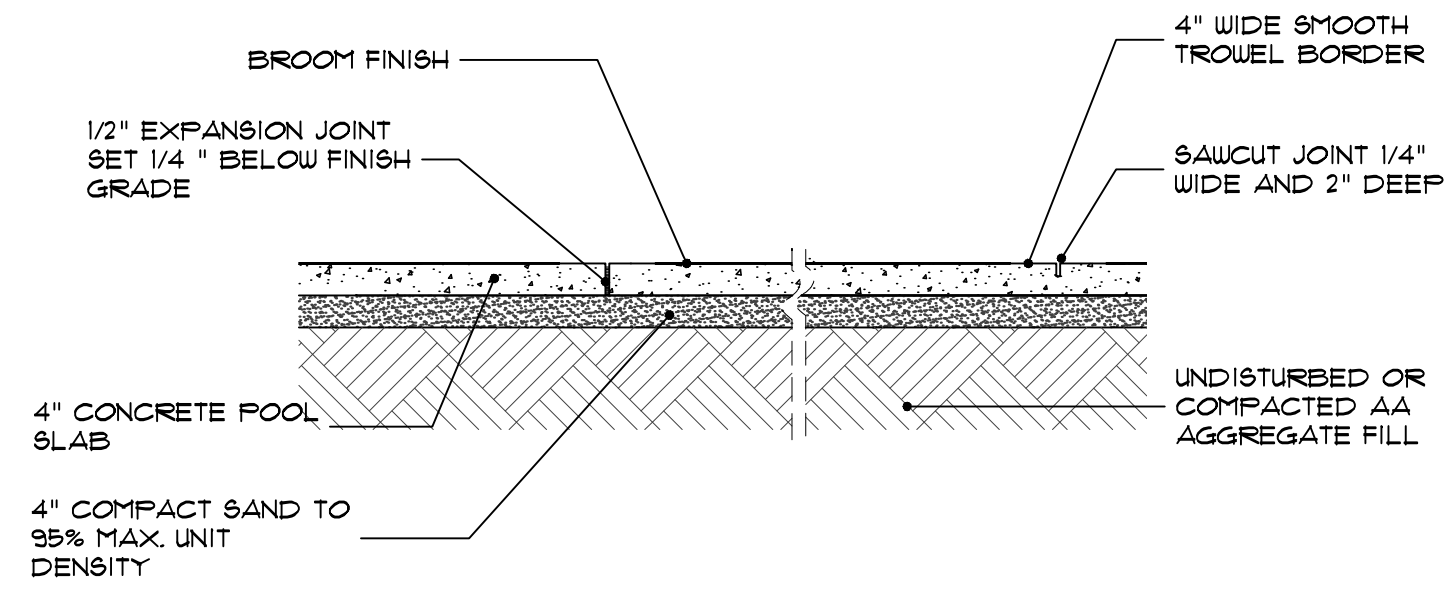
sheet no:
LS-6 of 7

swimming pool notes

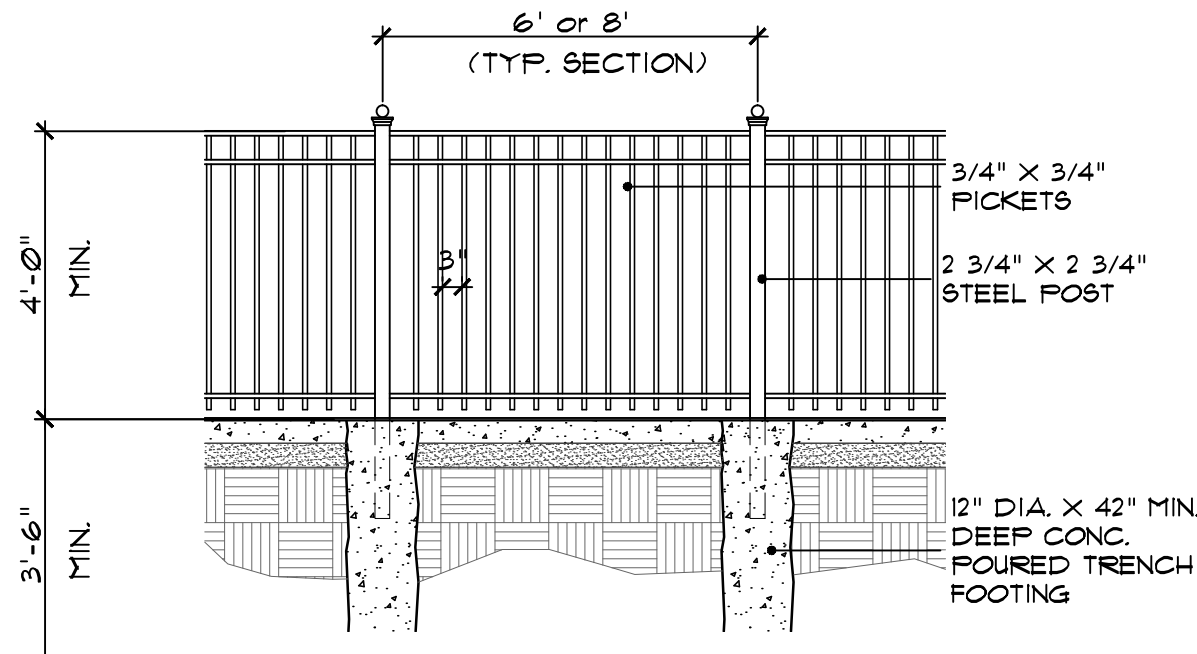
- THIS DRAWING ONLY PROVIDES THE LOCATION AND SHAPE OF THE PROPOSED SWIMMING POOL, DECK, AND / OR SPA. ALL STRUCTURAL AND ELECTRICAL REQUIREMENTS, CONSTRUCTION DETAILS, MATERIAL DETAILS, FINAL POOL FENCE LOCATION, AND OTHER RELATED INFORMATION ARE THE RESPONSIBILITY OF THE DESIGN BUILD FIRM OR CONTRACTOR.
- THE DESIGN BUILD FIRM / CONTRACTOR SHALL PREPARE DETAILED PLANS, DRAWINGS AND SPECIFICATIONS TO BE SUBMITTED TO THE OWNER FOR REVIEW AND APPROVAL. THE DESIGN BUILD FIRM / POOL CONTRACTOR SHALL BE RESPONSIBLE TO MAKE APPLICATION TO AND OBTAIN POOL CONSTRUCTION PERMITS AND APPROVALS FROM LOCAL GOVERNING MUNICIPALITIES AND THE STATE.
- CONSTRUCTION SUPERVISION AND SITE SAFETY SHALL BE THE FULL RESPONSIBILITY OF THE CONTRACTOR AND SHALL MEET ALL MUNICIPAL AND STATE REQUIREMENTS AND REGULATIONS.

THIS DRAWING IS NOT FOR CONSTRUCTION PURPOSES, SEE ABOVE.

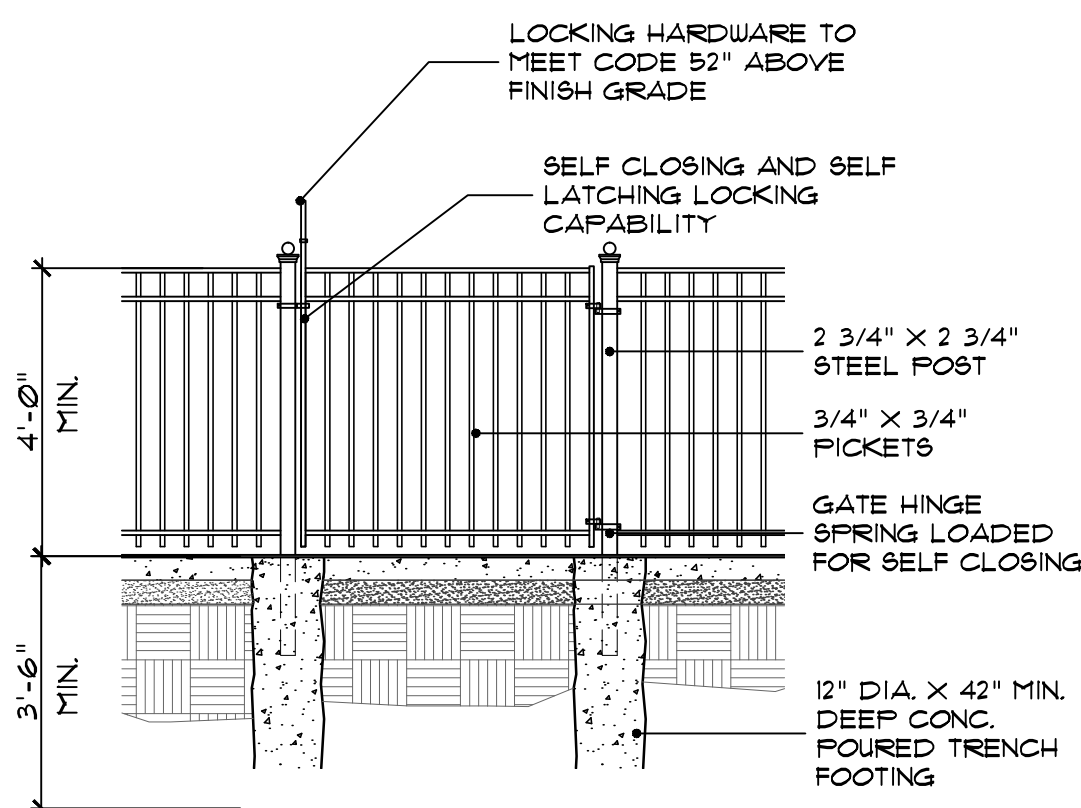
- POOL DECK TO PITCH AWAY FROM POOL AND WALLS WITH NO PUDDLING TO OCCUR



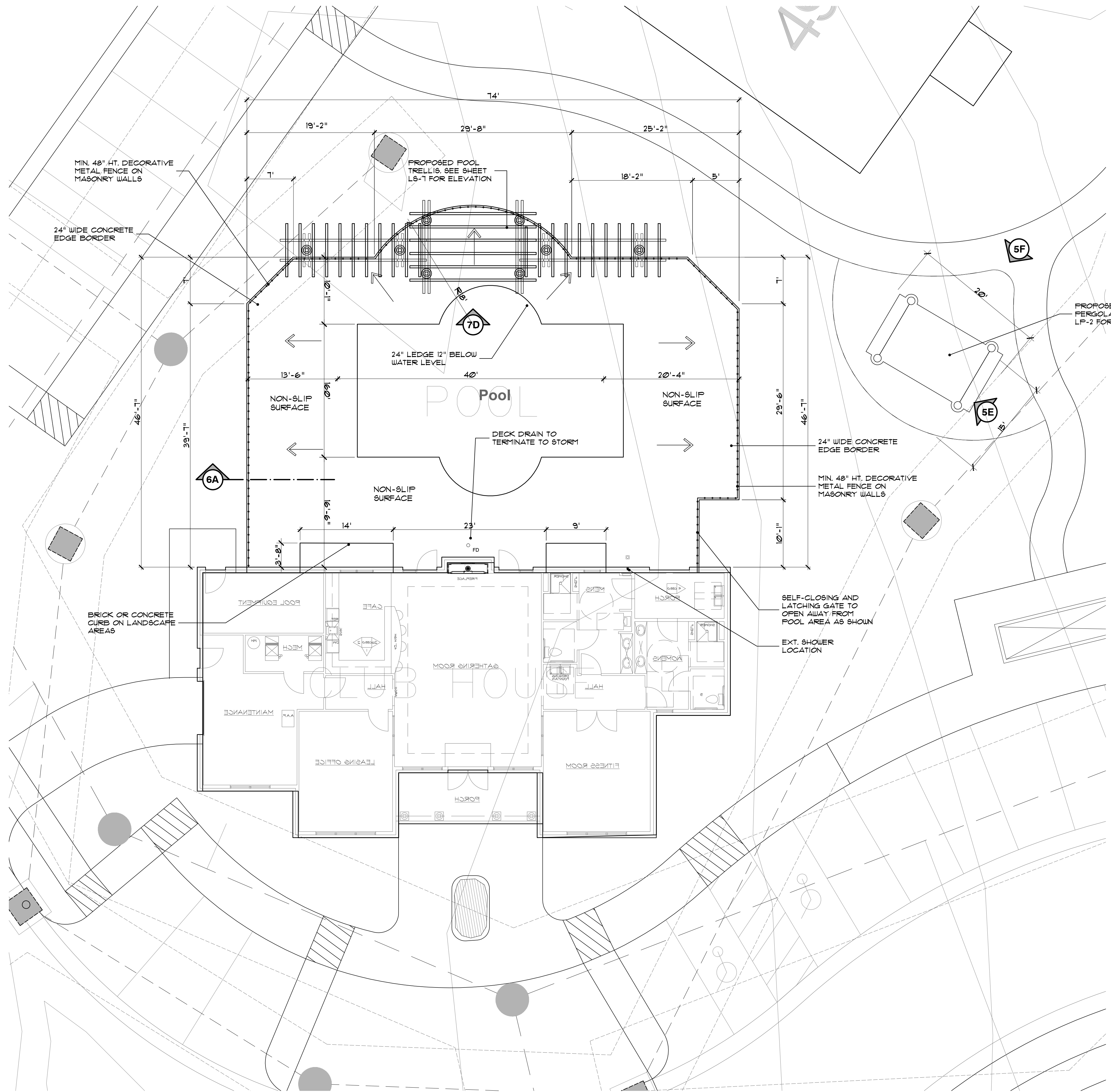
6A concrete pool deck
 SCALE: 1/2"=1'-0"



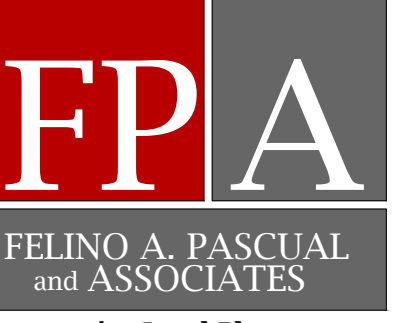
6B pool fence detail
 SCALE: 3/8\"/>



6C pool fence gate detail
 SCALE: 3/8\"/>



6D pool deck plan
 SCALE: 1/8\"/>



FELINO A. PASCUAL and ASSOCIATES

Community Land Planner and registered Landscape Architect 24333 Orchard Lake Rd, Suite G Farmington Hills, MI 48336 ph. (248) 557-5588 fax. (248) 557-5416

seal:



client:

JMF WHITE LAKE, LLC. 1700 W. BIG BEAVER ROAD SUITE 120 TROY, MI 48084

project:

LAKE POINTE

project location:

White Lake Twp., Michigan

Union Lake Road

sheet title:

POOL PERGOLA \ TRELLIS ELEVATIONS & DETAILS

job no./issue/revision date:

LS19.124.11	TWP.	11-12-2019
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LS24.026.02	TWP. COMMENTS	2-7-2024

drawn by:

JP, DK

checked by:

FP

date:

1-30-2024

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project no:

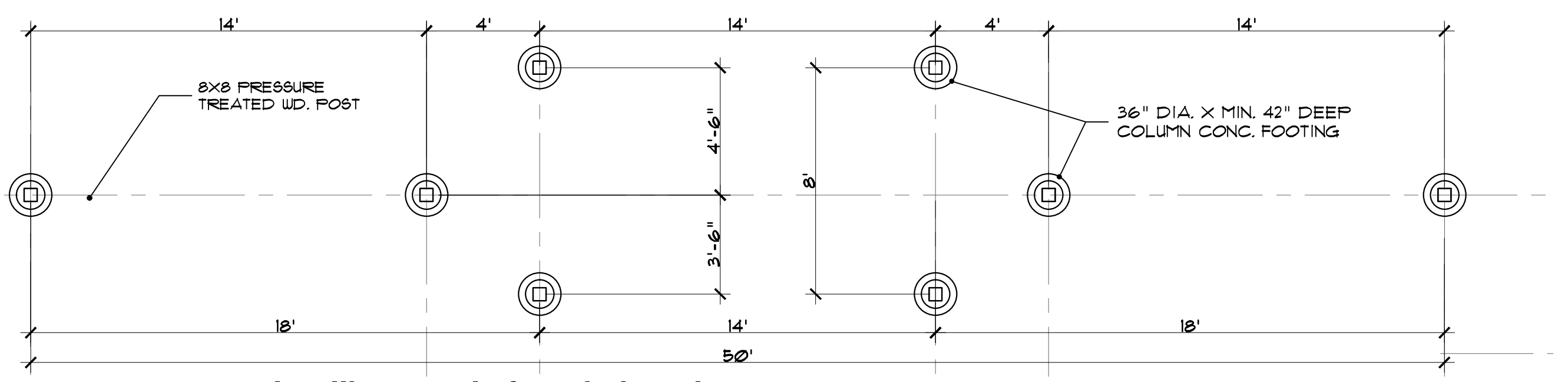
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sheet no:

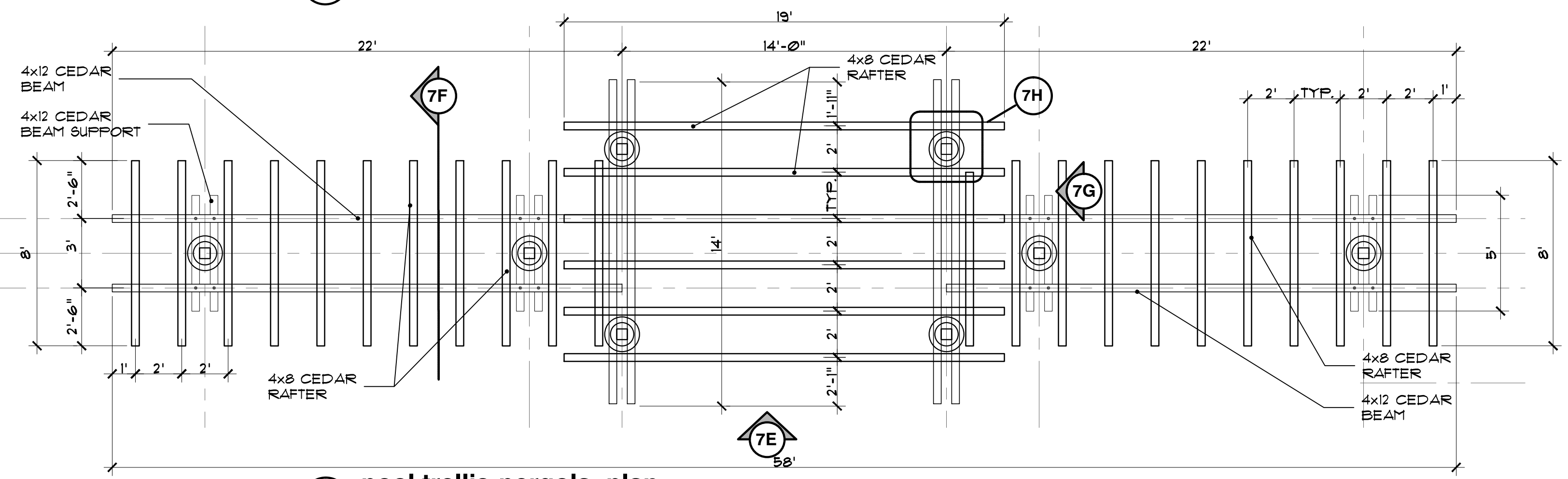
LS-7 of 7

general notes:

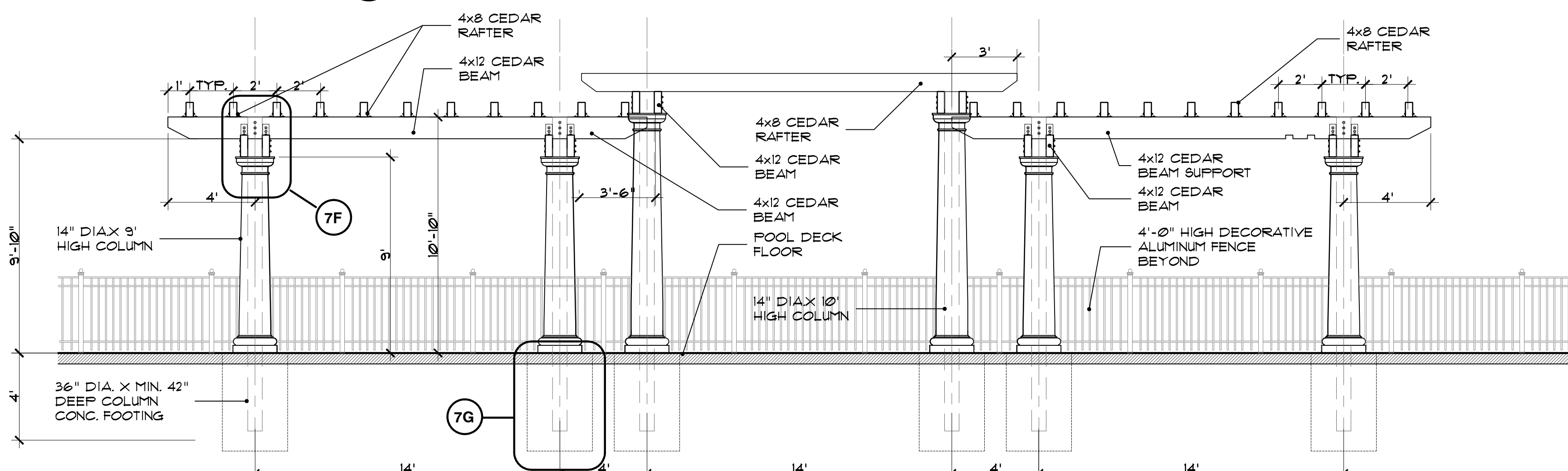
- ALL INFORMATION CONTAINED HEREIN IS SUBJECT TO APPROVAL, AND PERMITS TO BE OBTAINED PRIOR TO CONSTRUCTION FROM ALL NECESSARY AGENCIES.
- CONTRACTOR SHALL VISIT THE SITE, INSPECT EXISTING CONDITIONS, REVIEW PROPOSED PLANS AND RELATED WORK. CONTACT THE OWNER WITH ANY CONCERNS OR DISCREPANCY BETWEEN THE PLANS AND/OR SITE CONDITIONS.
- PRIOR TO BEGINNING OF CONSTRUCTION ON ANY WORK, CONTRACTORS SHALL VERIFY LOCATIONS OF ALL ON SITE UTILITIES, GAS, ELECTRIC, TELEPHONE, CABLE. ANY DAMAGE OR INTERRUPTION OF SERVICES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. COORDINATE ALL RELATED WORK ACTIVITIES WITH OTHER TRADES AND REPORT ANY UNACCEPTABLE JOB CONDITIONS TO OWNER PRIOR TO COMMENCING. CONTACT MISS DIG AT 811 OR 800-482-7171 BEFORE YOU DIG
- DO NOT SCALE DRAWINGS. USE FIGURED DIMENSIONS ONLY
- VERIFY SOIL BEARING CAPACITY PRIOR TO ANY POST FOOTING CONSTRUCTION. IF SOIL BEARING CAPACITY FALLS BELOW STANDARD REQUIREMENTS, CONSULT STRUCTURAL ENGINEER FOR RECOMMENDATION OF FINAL POST FOOTING DESIGN.
- ALL EXPOSED SAW CUT AREAS OF CEDAR WOOD LUMBER TO BE SEALED WITH WOOD PRESERVATIVE AS REQUIRED INCLUDING TRIMMED ENDS PER DRAWINGS.
- ALL BRACKETS, FASTENERS, COMPOSITE SCREWS, NAILS, BOLTS, SHALL BE GALVANIZED OR ZINC COATED WITH ACG AND CBA RATED FORMULATIONS.
- GRADES BY OTHERS. FINAL GRADES TO PROVIDE POSITIVE DRAINAGE
- CONSTRUCTION SUPERVISION AND SITE SAFETY SHALL BE THE FULL RESPONSIBILITY OF THE CONTRACTOR AND SHALL MEET ALL MUNICIPAL AND STATE REQUIREMENTS AND REGULATIONS.
- FOOTINGS SHALL BEAR ON FIRM, UNDISTURBED SOIL WITH AN ASSUMED SAFE BEARING CAPACITY OF 2000 P.S.I. IF SOIL OF THIS CAPACITY IS NOT FOUND AT THE ELEVATIONS INDICATED, FOOTINGS SHALL BE ENLARGED OR LOWERED AT THE DIRECTION OF THE STRUCTURAL ENGINEER. VERIFY FOUNDATION SOIL BEARING PRESSURE IN FIELD BY SOILS ENGINEER
- PROVIDE NECESSARY SHEETING SHORING BRACING, ETC. AS REQUIRED DURING EXCAVATIONS TO PROTECT SIDES OF EXCAVATIONS.
- MINIMUM CONCRETE STRENGTH TO BE 3000 P.S.I. @ 28 DAYS. U.O.N. ± SLABS SHALL BE 3500 P.S.I. MIN. U.O.N. ± EXPOSED CONCRETE SHALL BE 4000 P.S.I. WITH 6% ± 1% ENTRAINED AIR U.O.N.
- ALL CONCRETE WORK AND PLACEMENT SHALL CONFORM TO THE LATEST RECOMMENDATIONS OF A.C.I.
- PROVIDE MINIMUM 3" CONCRETE COVER FOR REINFORCEMENT BARS BELOW GRADE AND MINIMUM 2" CONCRETE COVER FOR REINFORCEMENT BARS ABOVE GRADE.



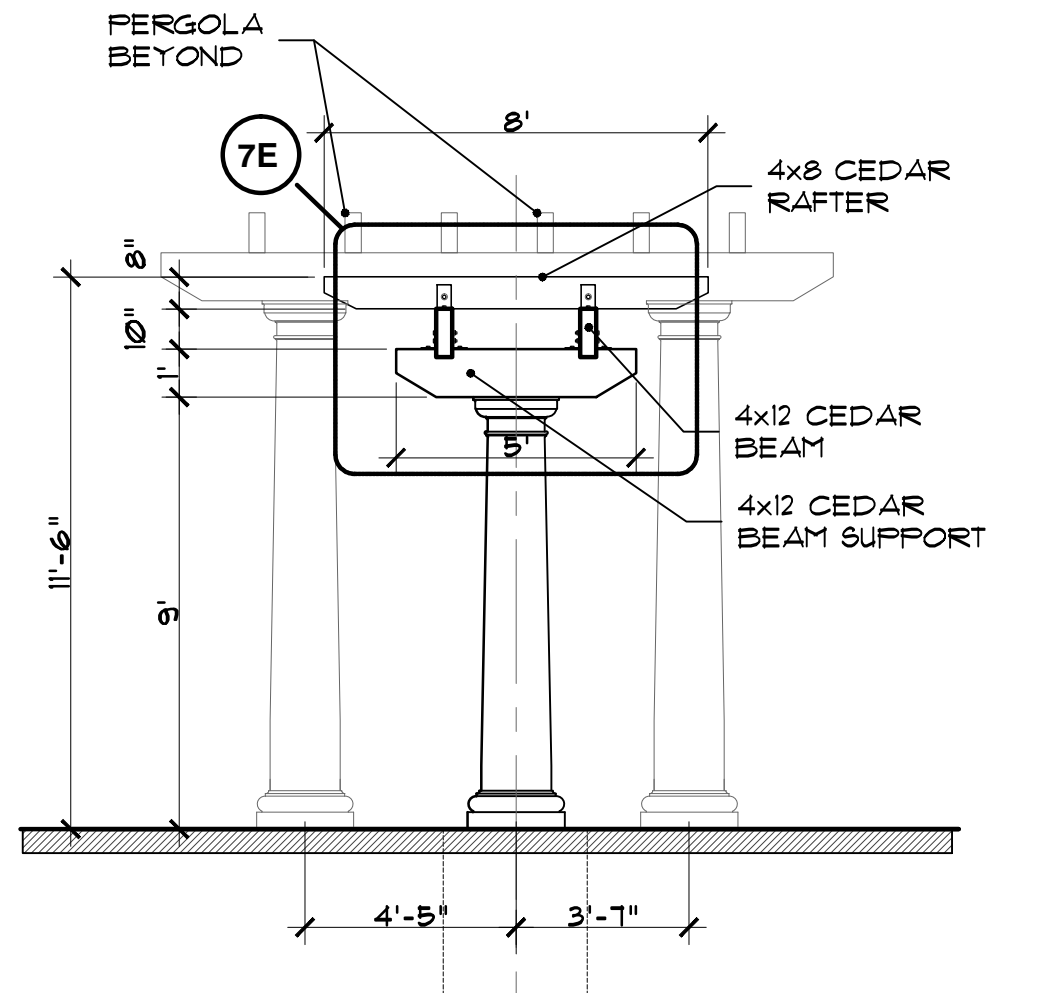
7A pool trellis-pergola foundation plan SCALE 1/4" = 1'-0"



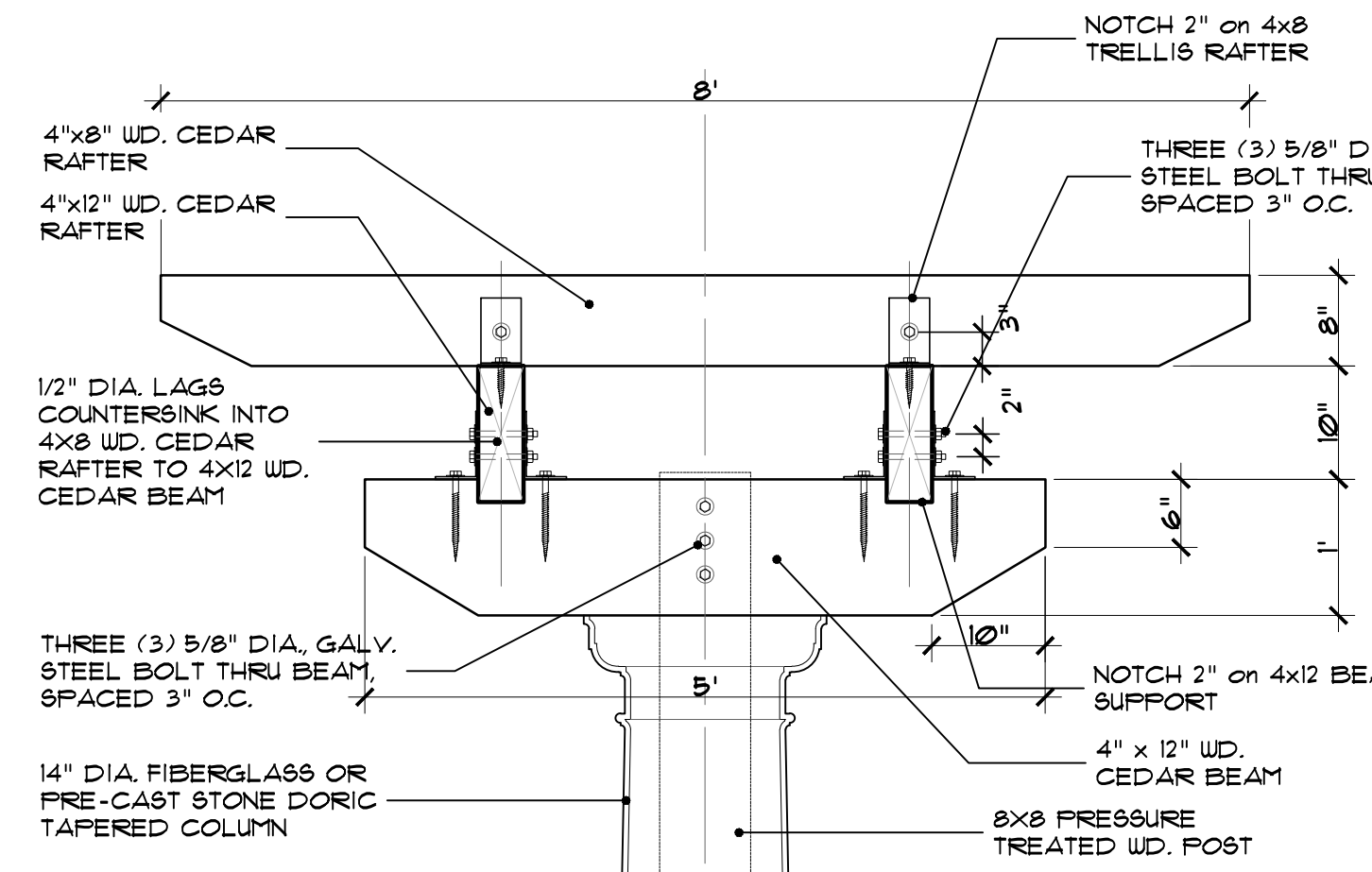
7B pool trellis-pergola plan SCALE 1/4" = 1'-0"



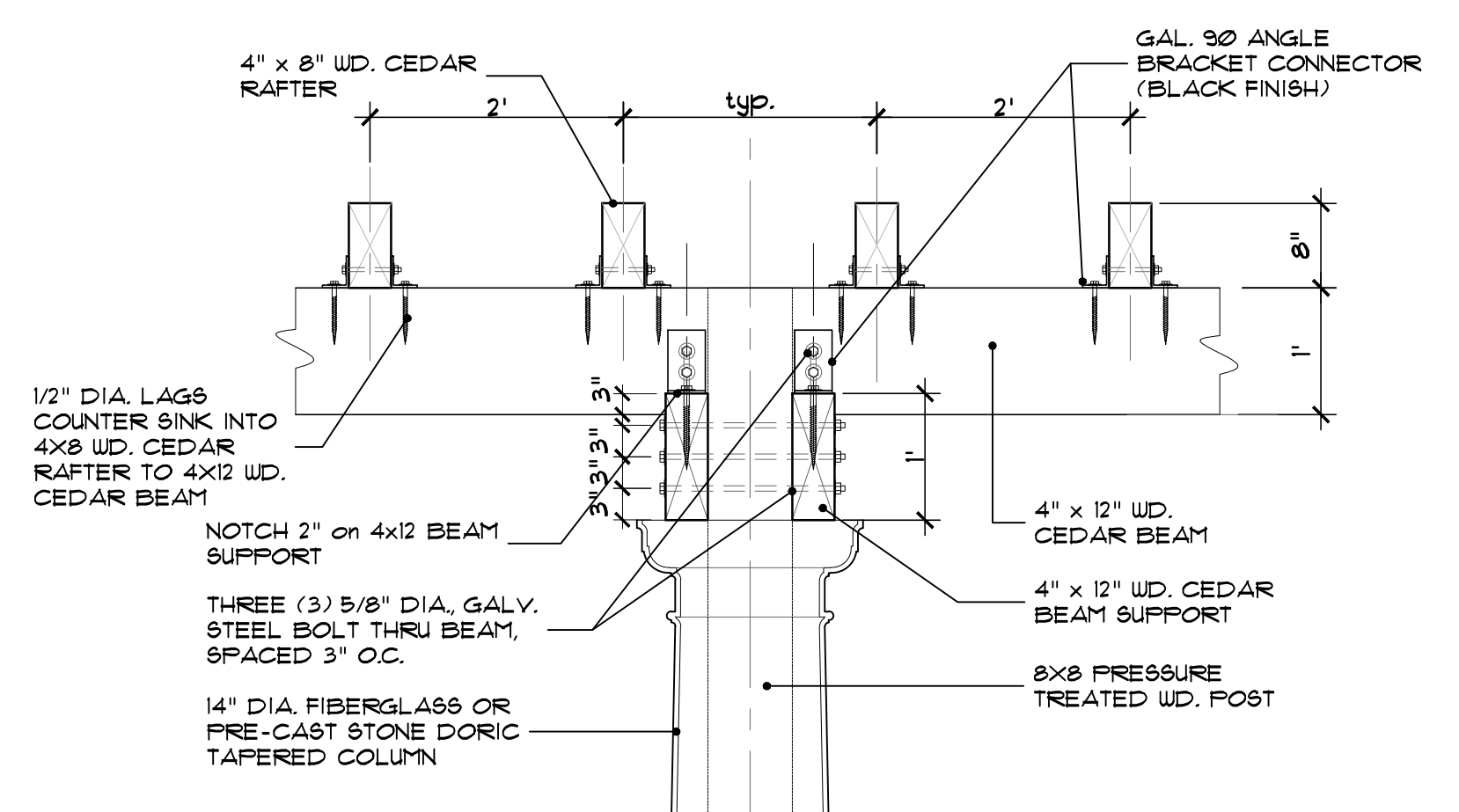
7C pool trellis-pergola elevation view SCALE 1/4" = 1'-0"



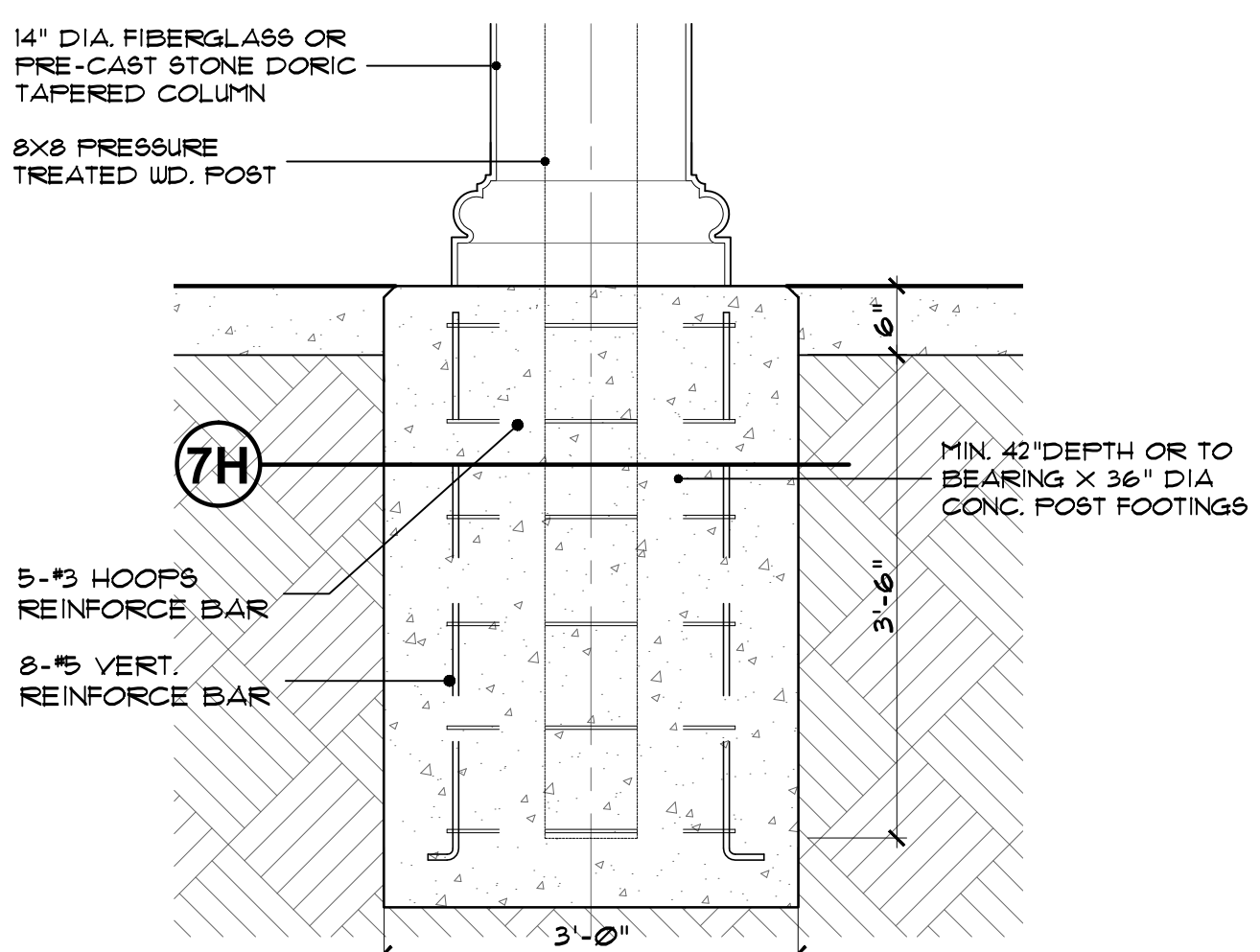
7D pool trellis-pergola elevation view SCALE 1/4" = 1'-0"



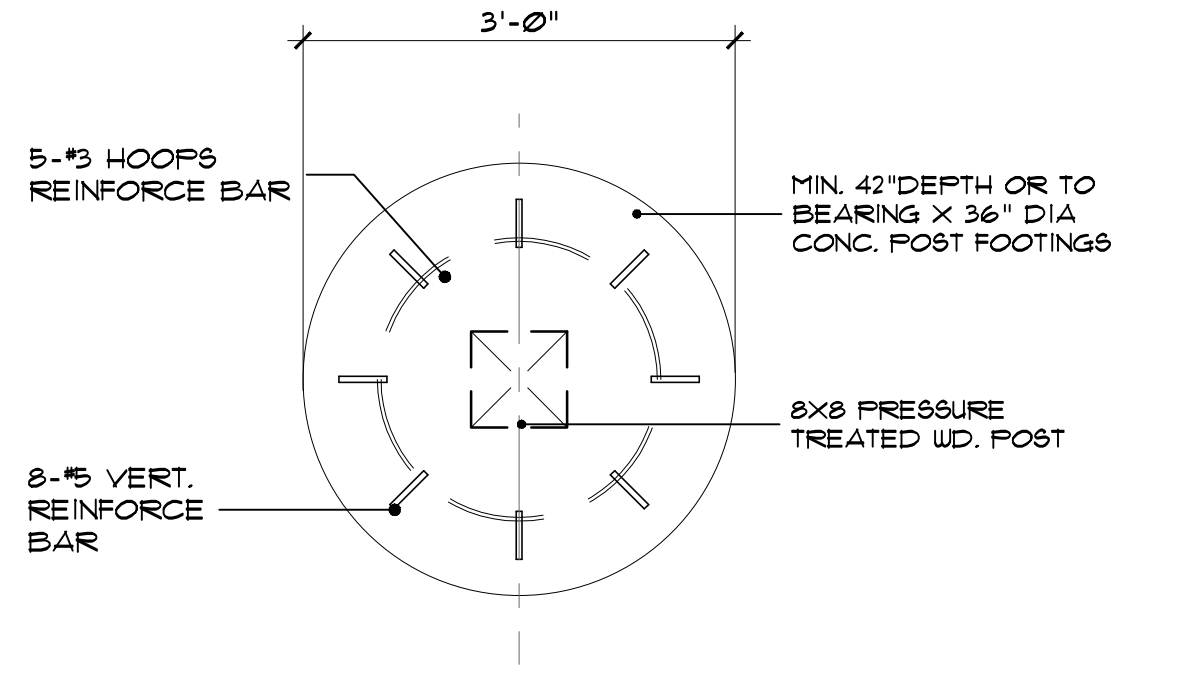
7E trellis connection detail SCALE: 3/4" = 1'-0"



7F pergola connection detail SCALE: 3/4" = 1'-0"



7G pergola footing detail SCALE: 3/4" = 1'-0"



7H pergola footing detail SCALE: 3/4" = 1'-0"

seal:
 client:
JMF WHITE LAKE, LLC.
 1700 W. BIG BEAVER ROAD SUITE 120
 TROY, MI 48084

project:
LAKE POINTE
 project location:
 White Lake Twp., Michigan

Union Lake Road
 sheet title:
IRRIGATION PLAN

job no./issue/revision date:
 LS24.026.02 2-7-2024
 LS24.026.02 irrigation 2-21-2024

drawn by:
JP, DK, PH
 checked by:
FP
 date:
2-3-2024

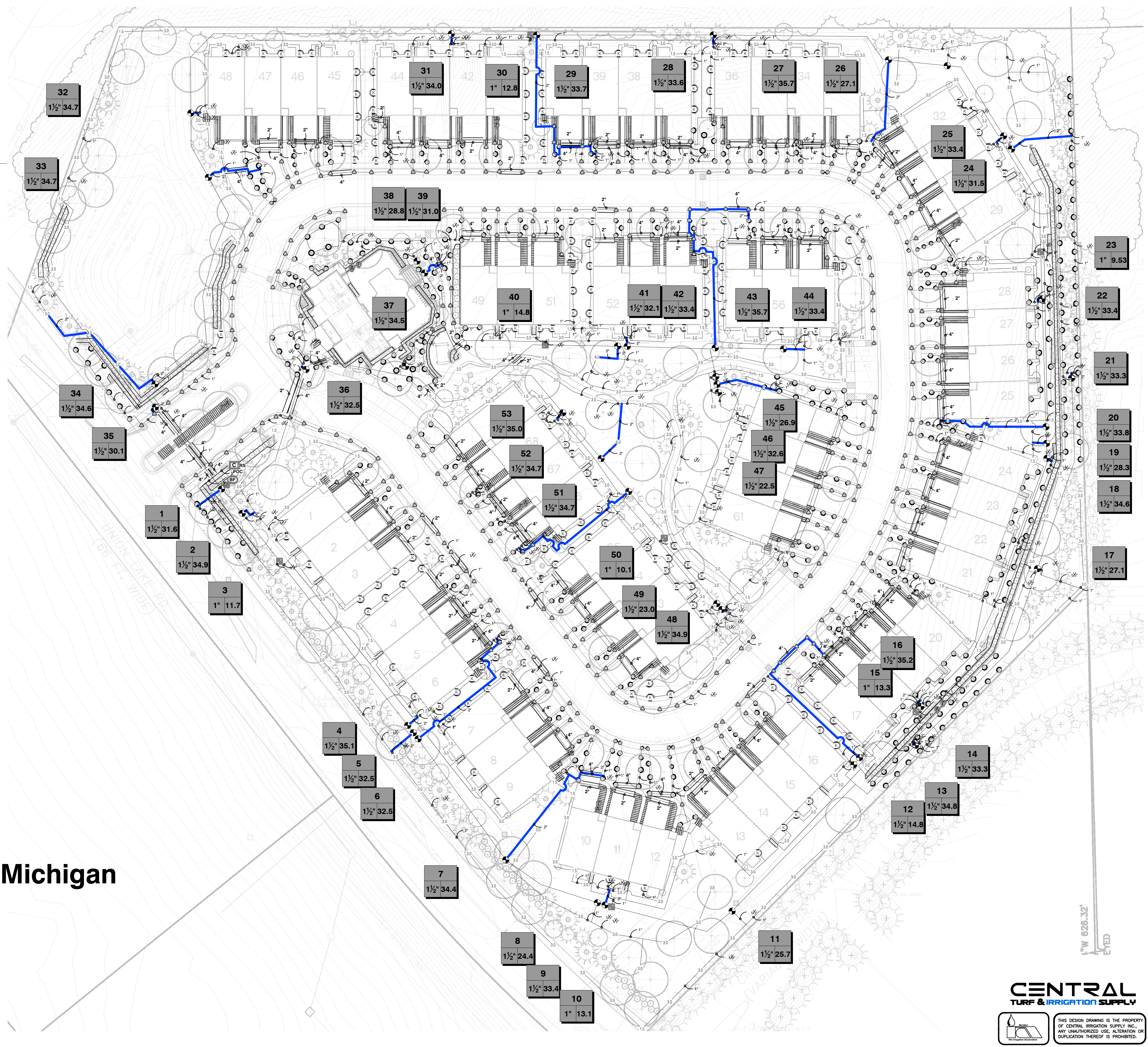
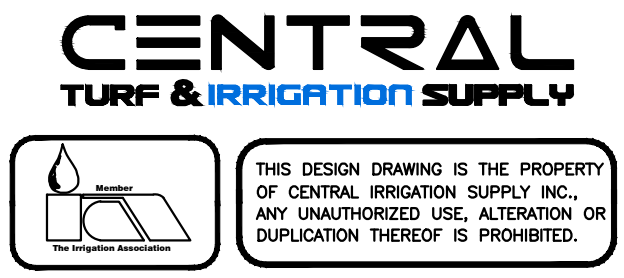
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project no:
LS24.032.02

sheet no:
IRR-1 of 4

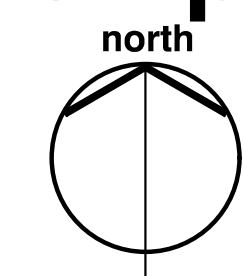


IRRIGATION SCHEDULE

SYMBOL	MANUFACTURER/MODEL	QTY
	Rain Bird 1804 15 Strip Series	371
	Rain Bird 1804 8 Series MPR	58
	Rain Bird 1804 10 Series MPR	193
	Rain Bird 1804 12 Series MPR	25
	Rain Bird 1804 15 Series MPR	227
	Rain Bird 1804 ADJ	4
	Hunter MP2000 PROS-04-PRS40-CV	181
SYMBOL	MANUFACTURER/MODEL	QTY
1.5	Rain Bird 5004-PC 1.5	59
3.0	Rain Bird 5004-PC 3.0	184
6.0	Rain Bird 5004-PC 6.0	4
SYMBOL	MANUFACTURER/MODEL	QTY
	Rain Bird XCZ-100-IVMO 1"	7
	Flush Valve	7
	Drip Air Relief Valve	7
	Area to Receive Dripline	8,245 l.f.
	Rain Bird XFD-06-18	4,284 l.f.
SYMBOL	MANUFACTURER/MODEL	QTY
	Rain Bird IVM-PGA Globe 1-1/2"	46
	Rain Bird 44-RC 1"	1
	Febco 765 2"	1
	Rain Bird ESPLXIVM	1
	Rain Bird WR2-RC	1
	Point of Connection	1
	Irrigation Lateral Line: Polyethylene Pipe 100 PSI 1"	23,698 l.f.
	Irrigation Lateral Line: Polyethylene Pipe 100 PSI 1 1/2"	4,756 l.f.
	Irrigation Lateral Line: PVC Class 160 SDR 26 2"	1,688 l.f.
	Irrigation Mainline: PVC Class 160 SDR 26 2 1/2"	4,030 l.f.
	Pipe Sleeve: PVC Class 160 SDR 26 2"	724.4 l.f.
	Pipe Sleeve: PVC Class 160 SDR 26 4"	1,086 l.f.
	Valve Callout	
#	Valve Number	
# #	Valve Flow	
# #	Valve Size	

irrigation plan for:
Lakepointe
White Lake Township, Michigan

note:
 unless noted otherwise, numerical value on landscape quantities specified on plan take precedence over graphic representation.



scale: 0' 20' 40' 80' 120'
 1" = 40' - 0"

seal:

client:

JMF WHITE LAKE, LLC.
 1700 W. BIG BEAVER
 ROAD SUITE 120
 TROY, MI 48084

project:

**LAKE
 POINTE**

project location:
 White Lake Twp.,
 Michigan

Union Lake Road
 sheet title:

IRRIGATION PLAN

job no./issue/revision date:

LS24.026.02 UPDATES COMMENTS 2-7-2024
 LS24.026.02 irrigation 2-21-2024

drawn by:
JP, DK, PH

checked by:
FP

date:
2-3-2024

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project no:

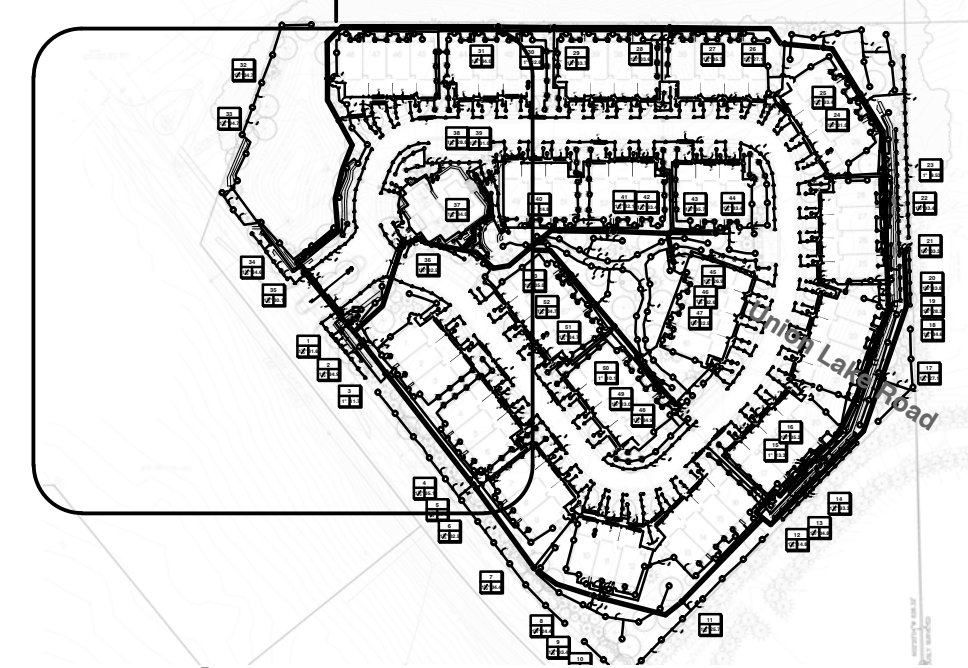
LS24.032.02

sheet no:

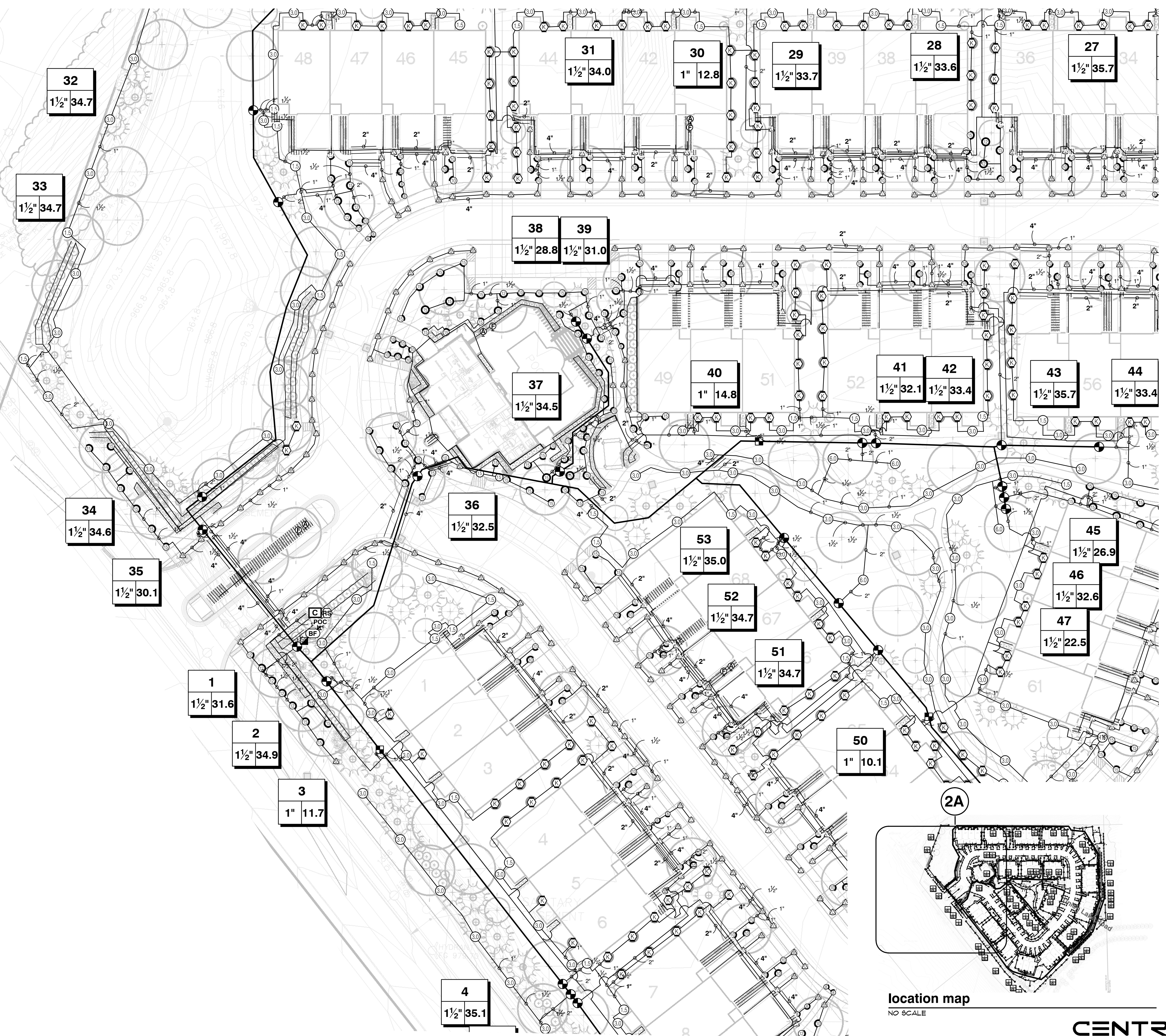
IRR-2 of 4

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location map
 NO SCALE



IRRIGATION SCHEDULE

SYMBOL	MANUFACTURER/MODEL	QTY
△	Rain Bird 1804 15 Strip Series	371
○	Rain Bird 1804 8 Series MPR	58
○	Rain Bird 1804 10 Series MPR	193
○	Rain Bird 1804 12 Series MPR	25
○	Rain Bird 1804 15 Series MPR	227
○	Rain Bird 1804 ADJ	4
⊗	Hunter MP2000 PROS-04-PRS40-CV	181
SYMBOL	MANUFACTURER/MODEL	QTY
⊙	Rain Bird 5004-PC 1.5	59
⊙	Rain Bird 5004-PC 3.0	184
⊙	Rain Bird 5004-PC 6.0	4
SYMBOL	MANUFACTURER/MODEL	QTY
■	Rain Bird XCZ-100-IVMQ 1"	7
⊕	Flush Valve	7
⊕	Drip Air Relief Valve	7
≡≡≡	Area to Receive Dripline	8,245 l.f.
≡≡≡	Rain Bird XFD-06-18	4,284 l.f.
SYMBOL	MANUFACTURER/MODEL	QTY
⊙	Rain Bird IVM-PGA Globe 1-1/2"	46
⊙	Rain Bird 44-RC 1"	1
⊙	Febco 765 2"	1
⊙	Rain Bird ESPLXIVM	1
⊙	Rain Bird WR2-RC	1
POC	Point of Connection	1
—	Irrigation Lateral Line: Polyethylene Pipe 100 PSI 1"	23,698 l.f.
—	Irrigation Lateral Line: Polyethylene Pipe 100 PSI 1 1/2"	4,756 l.f.
—	Irrigation Lateral Line: PVC Class 160 SDR 26 2"	1,688 l.f.
—	Irrigation Mainline: PVC Class 160 SDR 26 2 1/2"	4,030 l.f.
—	Pipe Sleeve: PVC Class 160 SDR 26 2"	724.4 l.f.
—	Pipe Sleeve: PVC Class 160 SDR 26 4"	1,086 l.f.
Valve Callout		
⊕	Valve Number	
⊕	Valve Flow	
⊕	Valve Size	

2A IRRIGATION PLAN
 SCALE: 1"=30'-0"



FELINO A. PASCUAL and ASSOCIATES
Community Land Planner and registered Landscape Architect
24333 Orchard Lake Rd, Suite G
Farmington Hills, MI 48336
ph. (248) 557-5588
fax. (248) 557-5416

seal:

client:
JMF WHITE LAKE, LLC.
1700 W. BIG BEAVER ROAD SUITE 120
TROY, MI 48084

project:
LAKE POINTE

project location:
White Lake Twp., Michigan

Union Lake Road
sheet title:
IRRIGATION PLAN

job no./issue/revision date:
LS24.026.02 ^{UPDATES} COMMENTS 2-7-2024
LS24.026.02 irrigation 2-21-2024

drawn by:
JP, DK, PH
checked by:
FP
date:
2-3-2024

notice:
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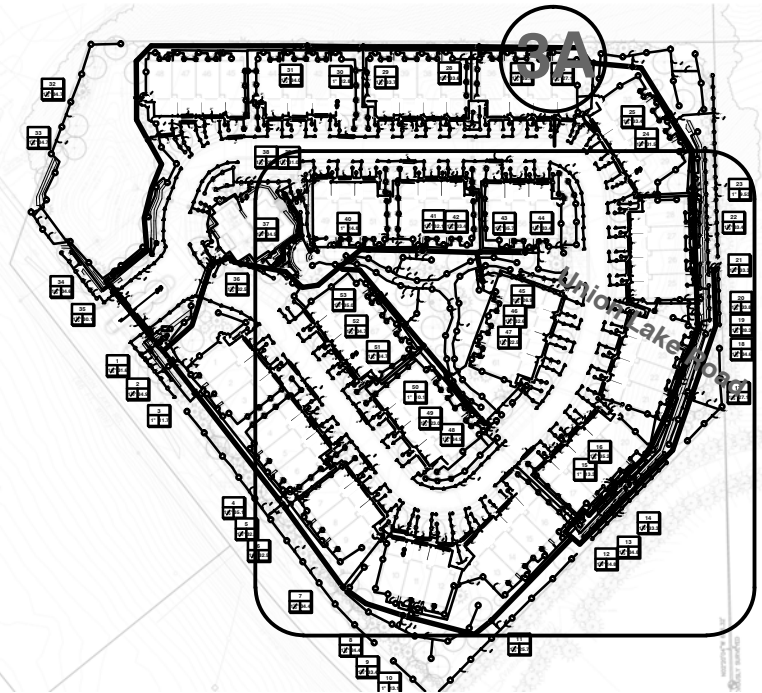
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project no:
LS24.032.02

sheet no:
IRR-3 of 4



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location map
NO SCALE



3A IRRIGATION PLAN
SCALE: 1"=30'-0"

220'04" W 626.32'
SURVEYED

seal:

client:

JMF WHITE LAKE, LLC.
 1700 W. BIG BEAVER
 ROAD SUITE 120
 TROY, MI 48084

project:

**LAKE
 POINTE**

project location:

White Lake Twp. ,
 Michigan

Union Lake Road

sheet title:

**IRRIGATION
 NOTES & DETAILS**

job no./issue/revision date:

LS24.026.02 ^{UPDATES} COMMENTS 2-7-2024
 LS24.026.02 irrigation 2-21-2024

drawn by:

JP, DK, PH

checked by:

FP

date:

2-3-2024

notice:

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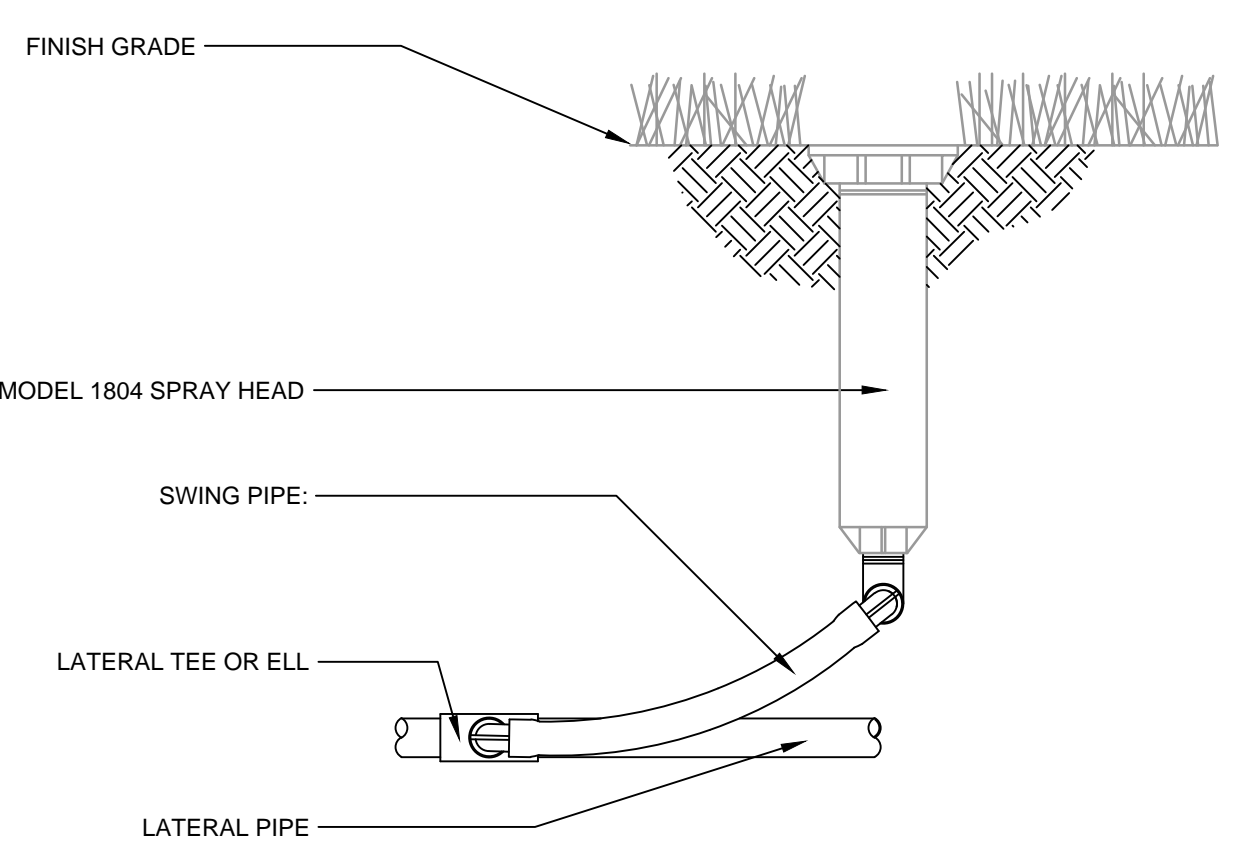
project no:

LS24.032.02

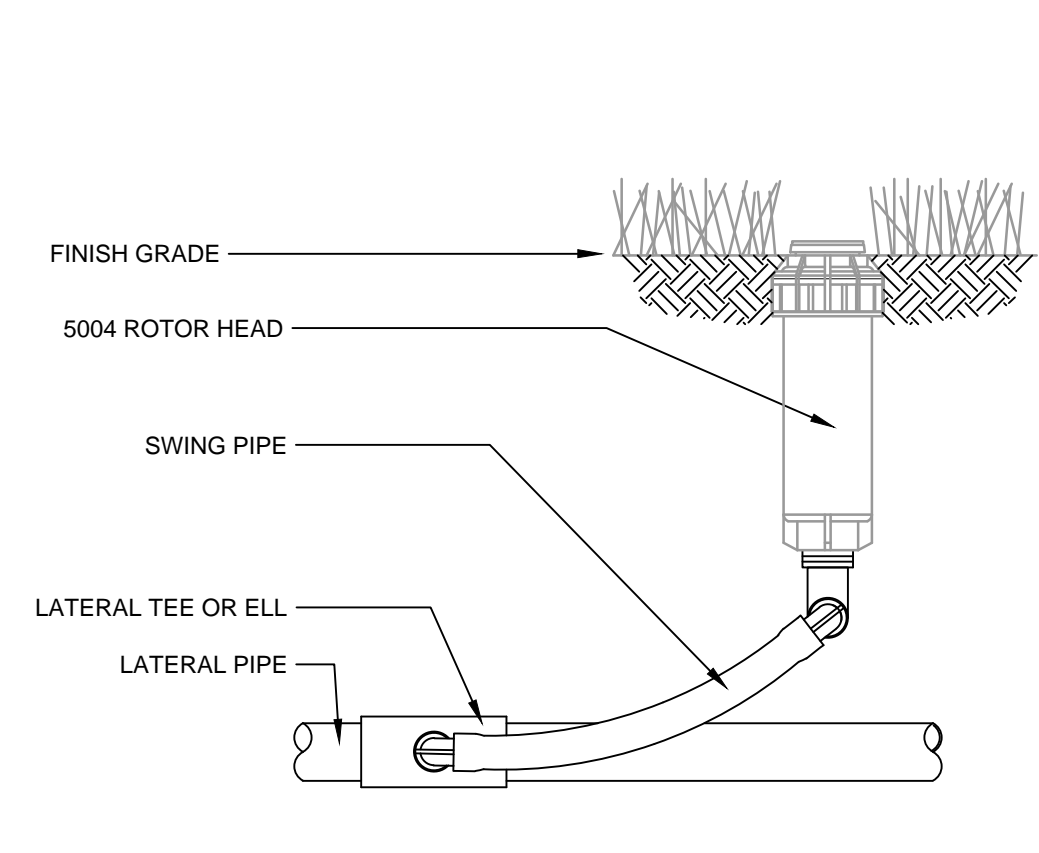
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IRR-4 of 4

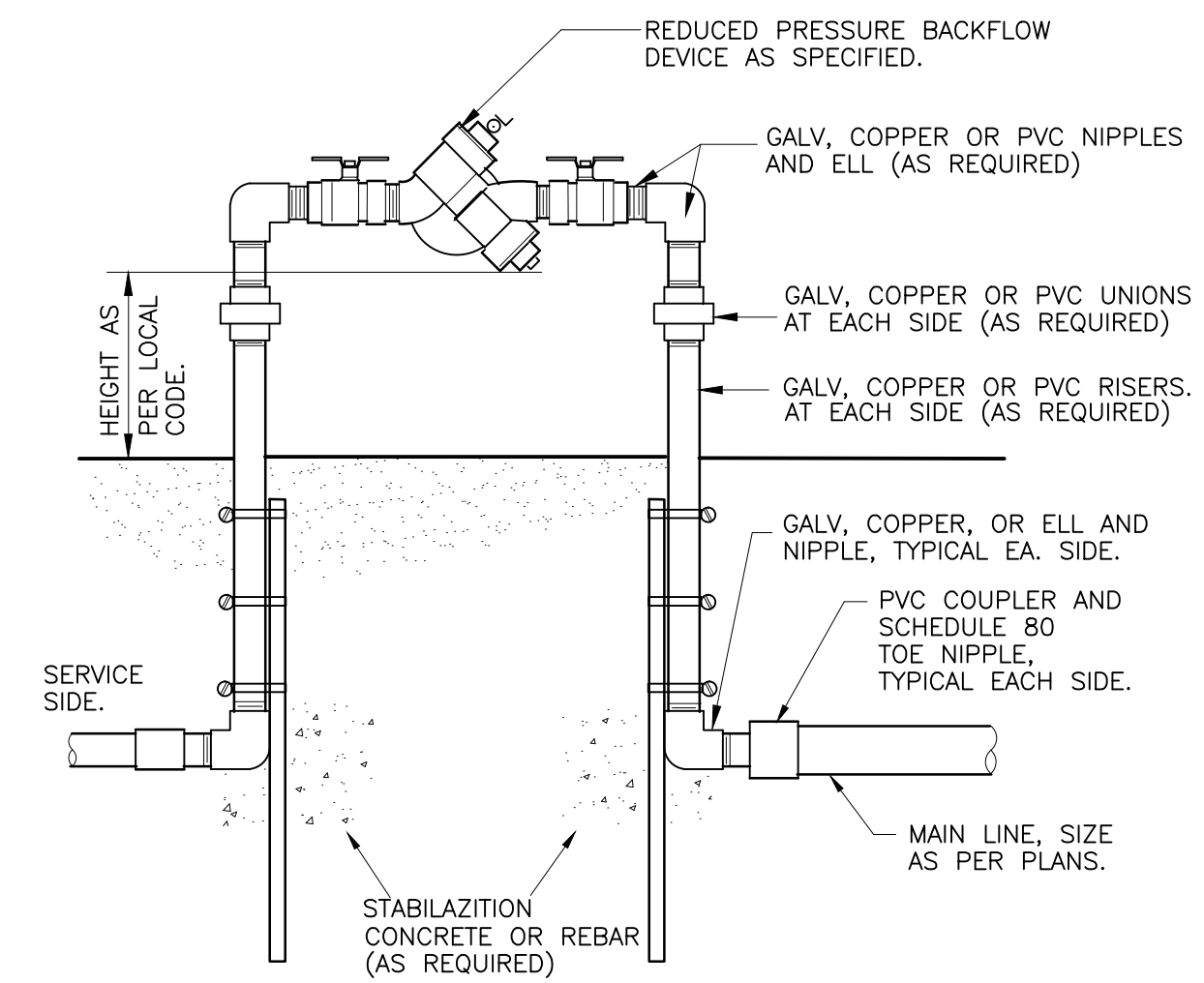
INSTALLATION MAY DIFFER PER LOCAL CODE



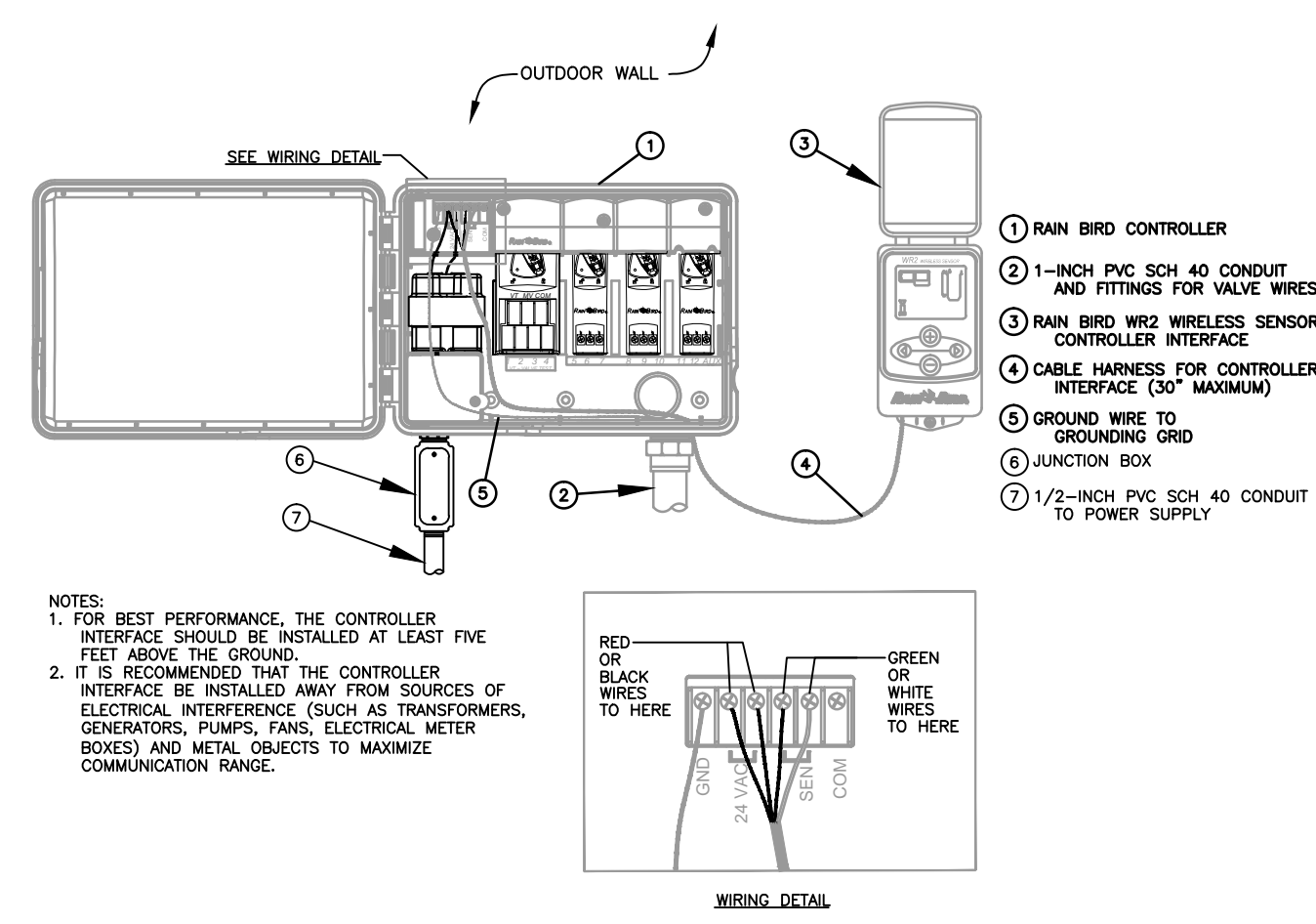
1 1804 SPRAY HEAD WITH SWING PIPE
 S1-SP-RAI-01



2 5004 ROTOR HEAD WITH SWING PIPE
 NTS S1-RO-RAI-01



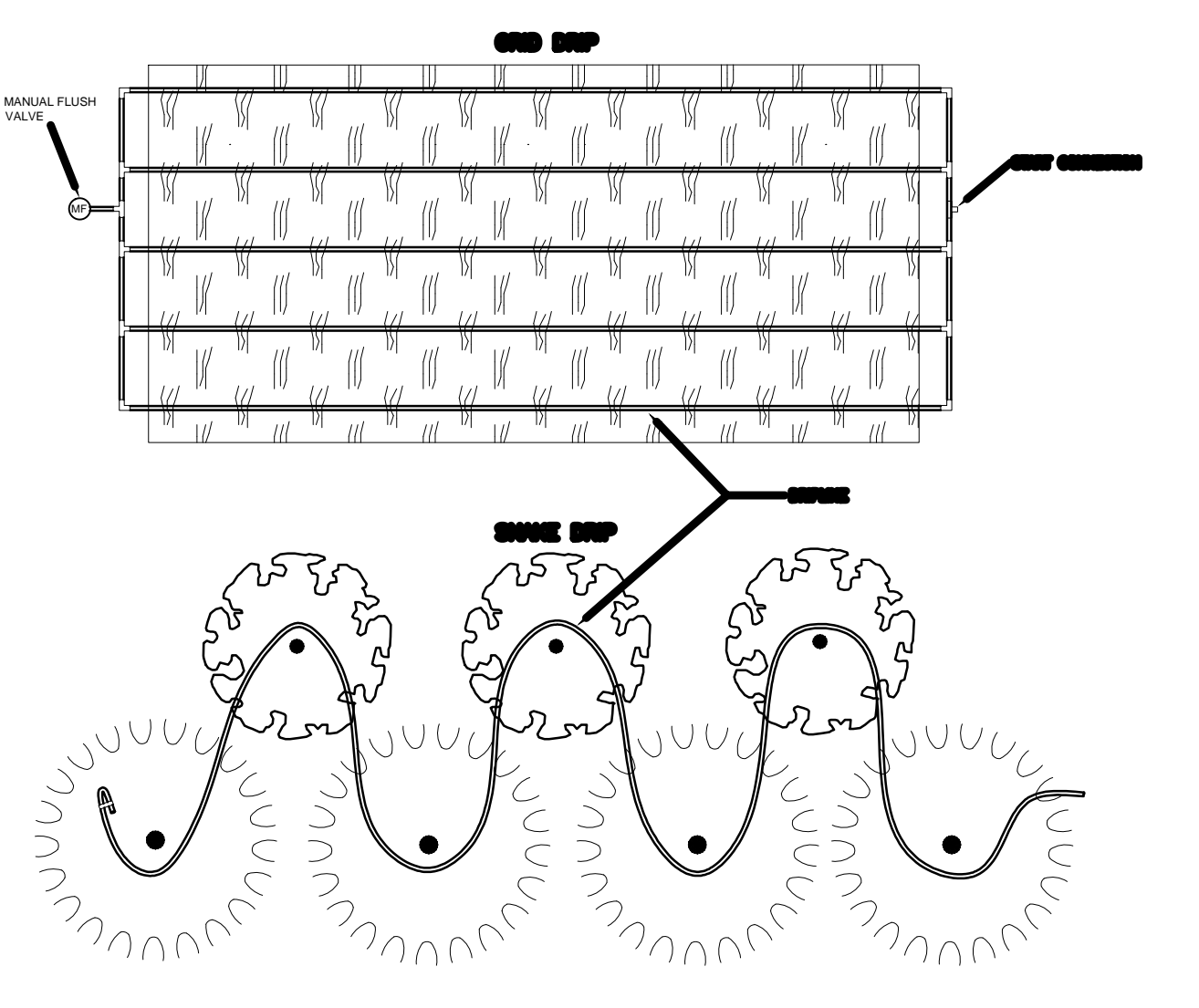
3 REDUCED PRESSURE BACKFLOW DEVICE STANDARD
 S1-BA-01



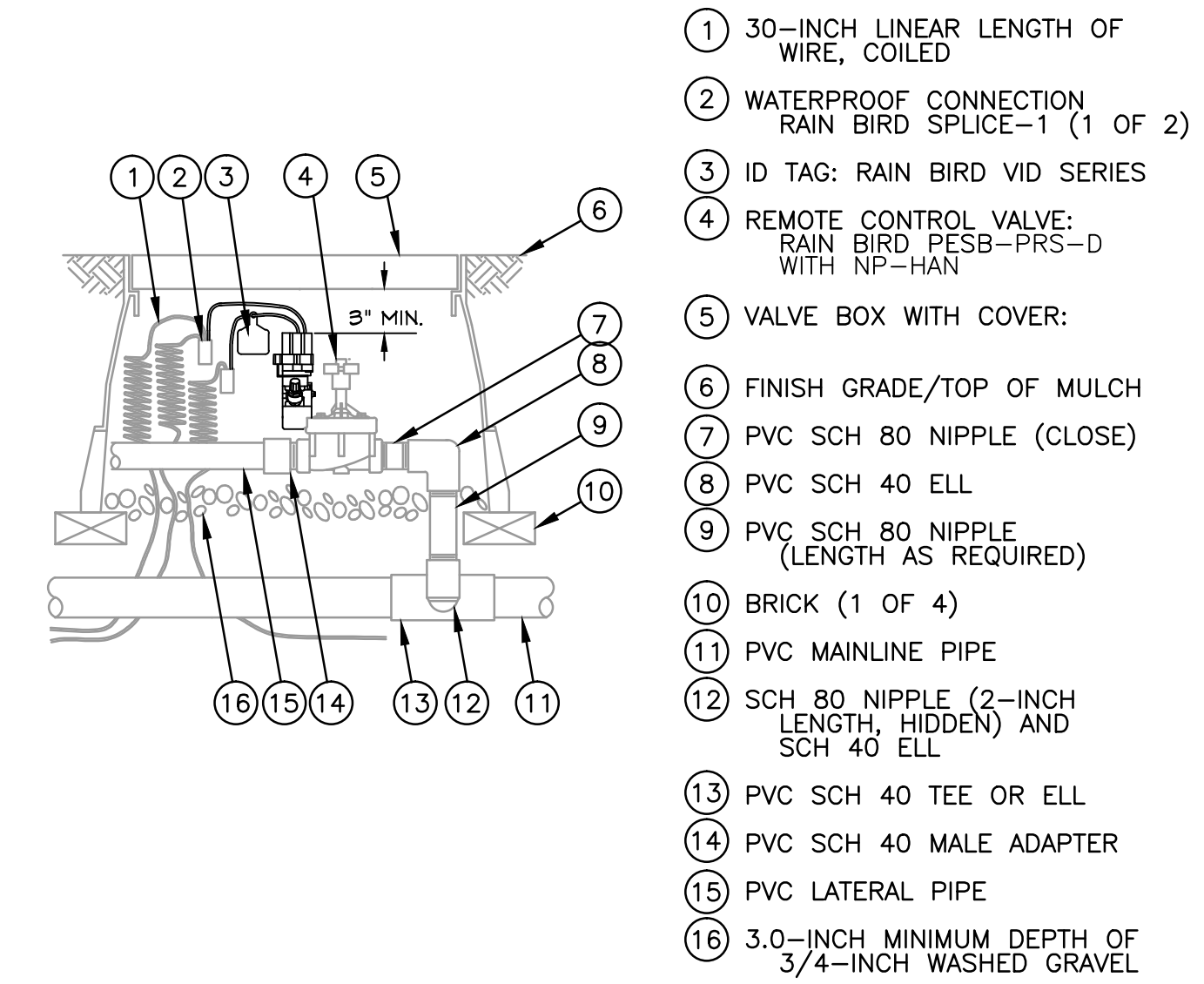
00 WR2 WIRELESS RAIN SENSOR
 NTS

IRRIGATION SPECIFICATIONS

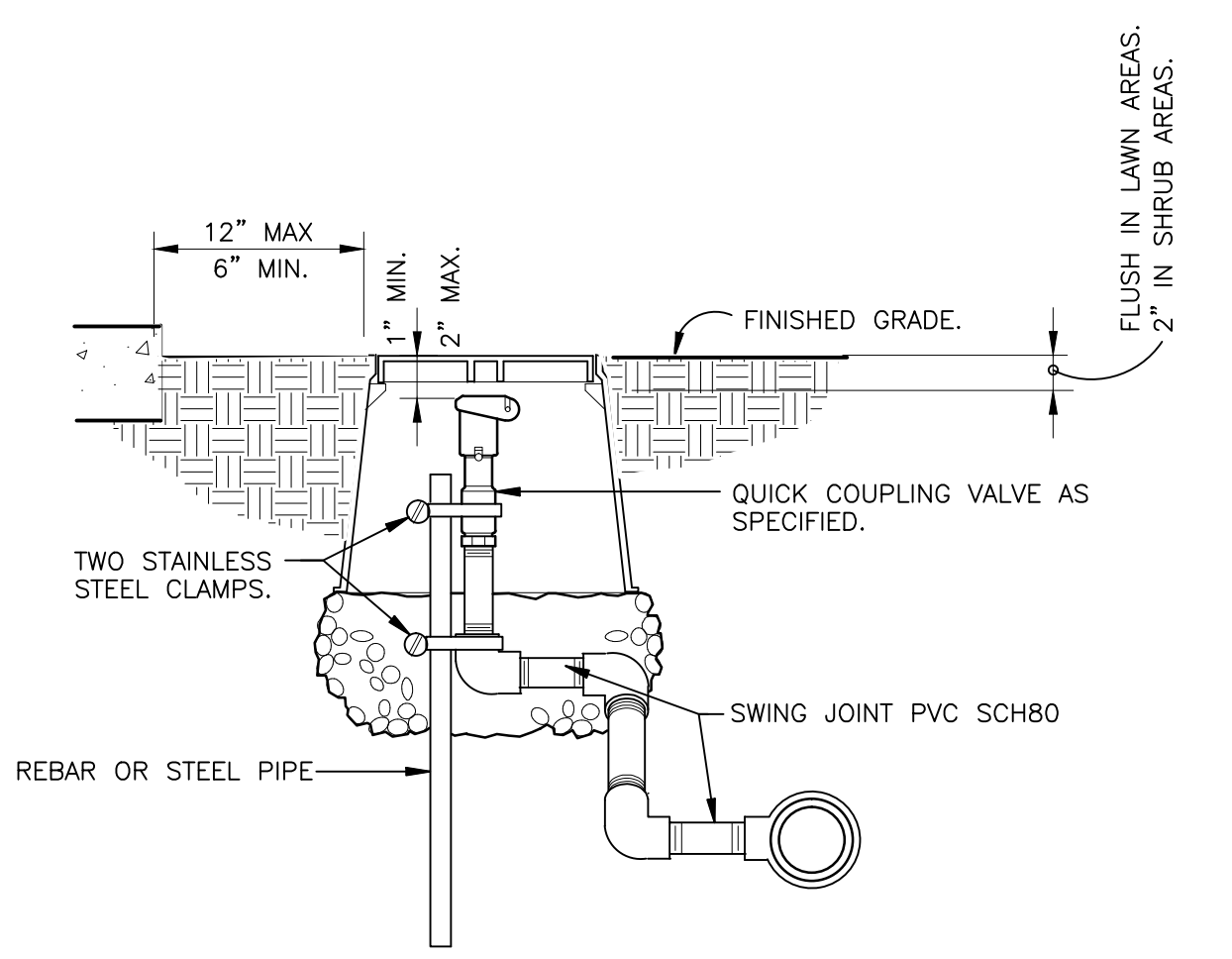
- IRRIGATION SYSTEM DESIGN BASED ON 75 GPM AT 69 PSI.
- IRRIGATION DESIGN IS FROM THE POINT OF CONNECTION(POC) ONLY. THE DESIGN IS BASED ON GALLONS PER MINUTE(GPM)AND POUNDS PER SQUARE INCH(PSI)FURNISHED BY OTHERS.
- IRRIGATION CONTRACTOR IS TO VERIFY POINT OF CONNECTION IN THE FIELD. INSTALLER IS TO CONFIRM THE MINIMUM DISCHARGE REQUIREMENTS OF THE POINT OF CONNECTION AS INDICATED ON THE LEGEND PRIOR TO INSTALLATION.
- THE PRESSURE REQUIREMENT AT THE POINT OF CONNECTION IS BASED ON NO MORE THAN 5 FEET OF ELEVATION CHANGE IN THE AREAS OF IRRIGATION.
- ALL PRODUCTS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND ACCORDING TO LOCAL BUILDING, ELECTRICAL, AND PLUMBING CODES.
- IRRIGATION CONTRACTOR WILL ARRANGE INSPECTIONS REQUIRED BY LOCAL AGENCIES AND ORDINANCES DURING THE COURSE OF CONSTRUCTION AS REQUIRED. ALL WIRING TO BE PER LOCAL CODE. BACKFLOW PREVENTION TO BE PER LOCAL CODE.
- LOCATION OF IRRIGATION COMPONENTS SHOWN ON DRAWING IS APPROXIMATE. ACTUAL PLACEMENT MAY VARY SLIGHTLY AS REQUIRED TO ACHIEVE FULL, EVEN COVERAGE.
- ALL SPRINKLER HEADS SHALL BE INSTALLED PERPENDICULAR TO FINISH GRADES. EXCEPT AS OTHERWISE INDICATED.
- INSTALL IRRIGATION MAINS WITH A MINIMUM 18" OF COVER BASED ON FINISH GRADES. INSTALL IRRIGATION LATERALS WITH MINIMUM 12" OF COVER BASED ON FINISH GRADES.
- PIPE LOCATIONS ARE DIAGRAMMATIC. VALVES AND MAINLINE SHOWN IN PAVED AREAS ARE FOR GRAPHIC CLARITY ONLY.
- THE IRRIGATION CONTRACTOR SHALL COMPLY WITH PIPE SIZES AS INDICATED.
- ALL WIRE SPLICES OR CONNECTIONS SHALL BE MADE WITH APPROVED WATERPROOF WIRE CONNECTIONS AND BE IN A VALVE OR SPLICE BOX.
- ALL CONTROL WIRING DOWNSTREAM OF THE CONTROLLER IS TO BE 2 WIRE, UL APPROVED DIRECT BURY.
- THE DESIGN IS BASED ON THE SITE INFORMATION AND/OR DRAWING SUPPLIED WITH THE DESIGN CRITERIA BEING SET (AREA TO BE IRRIGATED, EQUIPMENT MANUFACTURER AND MODEL TO BE USED, WATER SOURCE INFORMATION, ELECTRICAL POWER AVAILABILITY, ETC...). SITEONE LANDSCAPE SUPPLY BEARS NO RESPONSIBILITY OR LIABILITY FOR ANY ERRORS IN DESIGN OR INSTALLATION THAT ARISE DUE TO INACCURACIES IN THE ABOVE REFERENCED INFORMATION SUPPLIED TO SITEONE LANDSCAPE SUPPLY LANDSCAPES IN RELATION TO THIS PROJECT, UNLESS OTHERWISE NOTED.



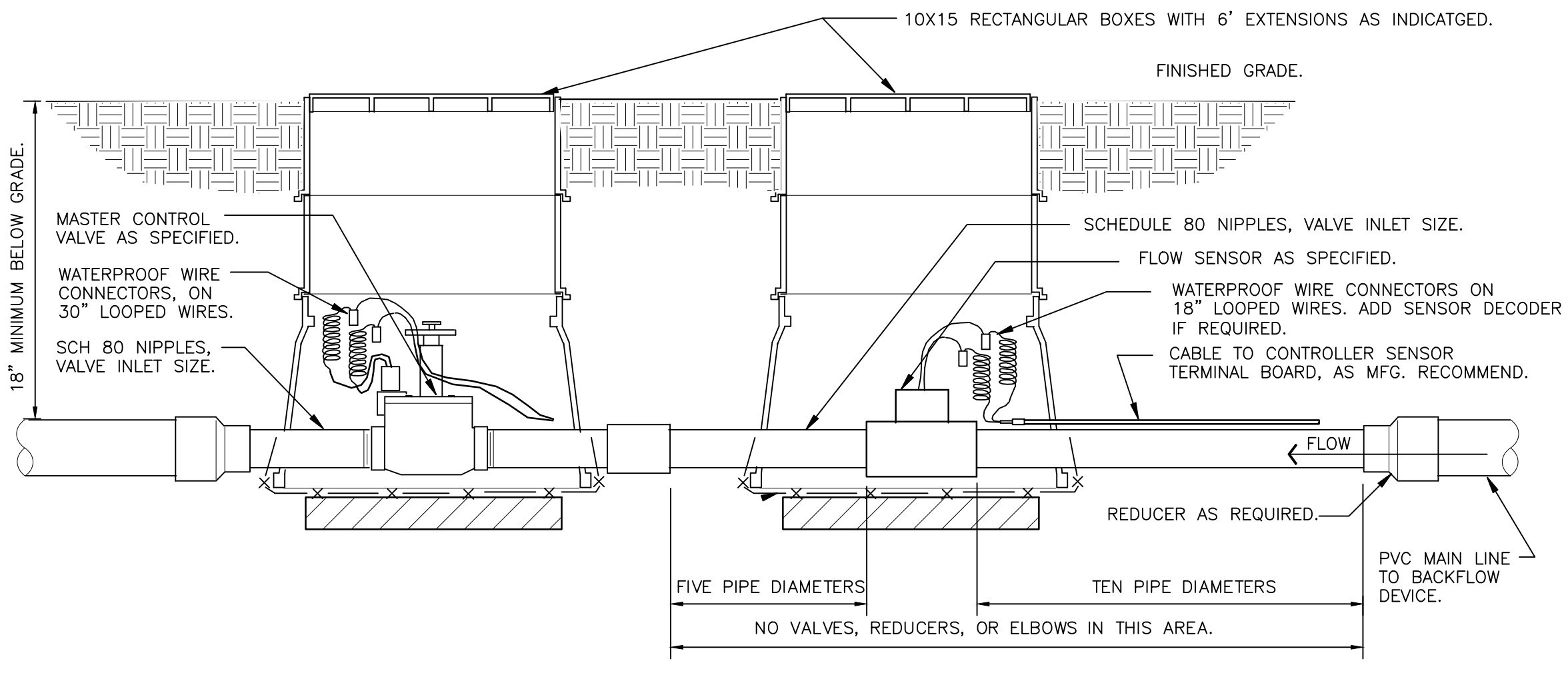
5 TYPICAL DRIP TUBING LAYOUT
 NTS



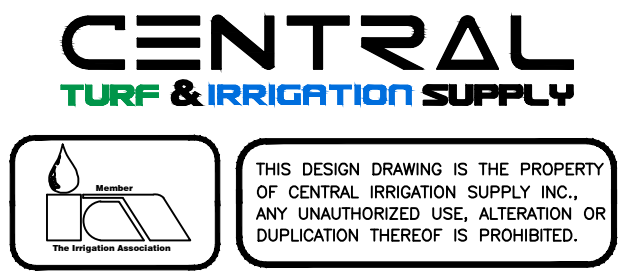
6 PEB SERIES ELECTRIC VALVE
 S1-VA-RAI-03

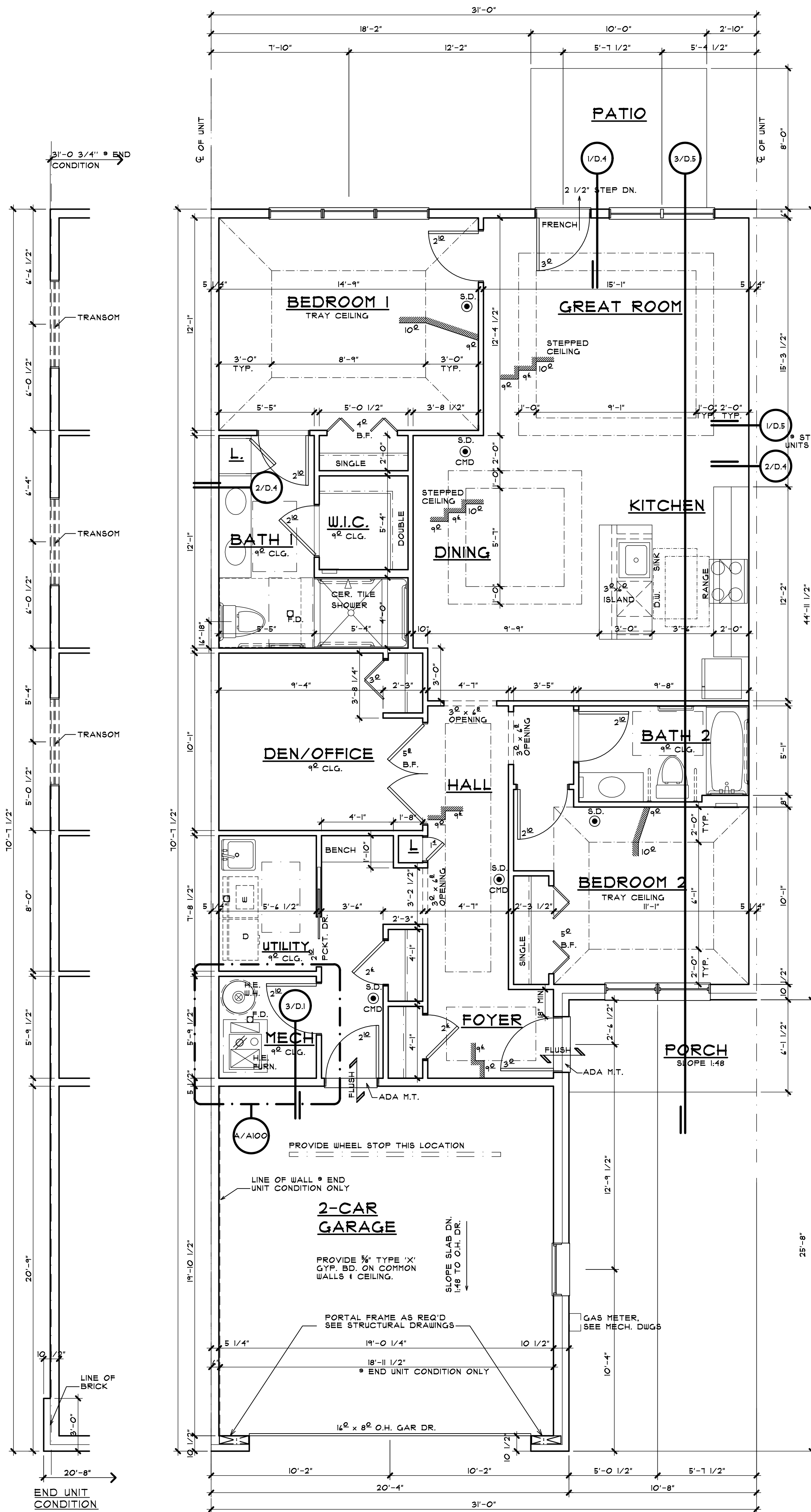


8 QUICK COUPLING VALVE IN BOX
 S1-QU-01

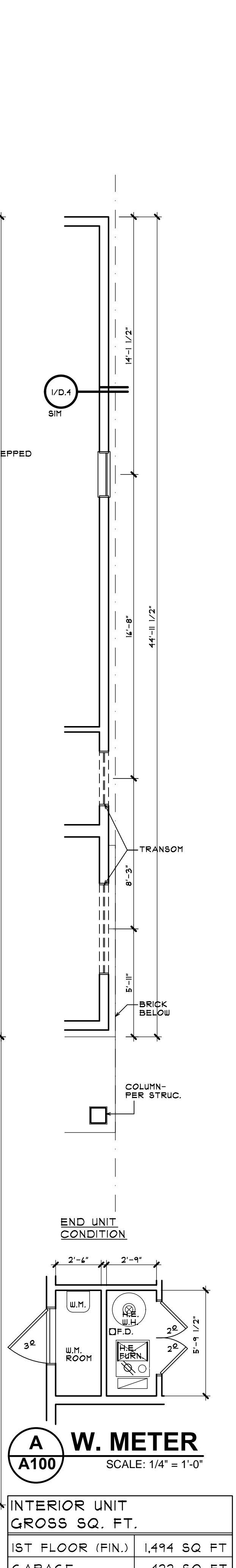


9 MASTER VALVE/FLOW SENSOR ASSEMBLY
 S1-MI-03



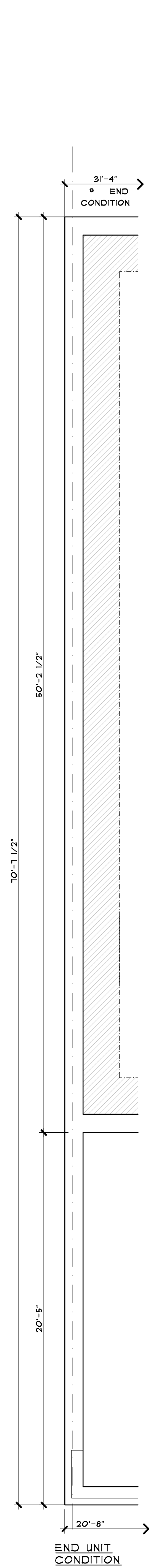


2 TYP. UNIT FIRST FLOOR PLAN
A100 SINGLE STORY DWELLING UNIT - TYPE 'B'

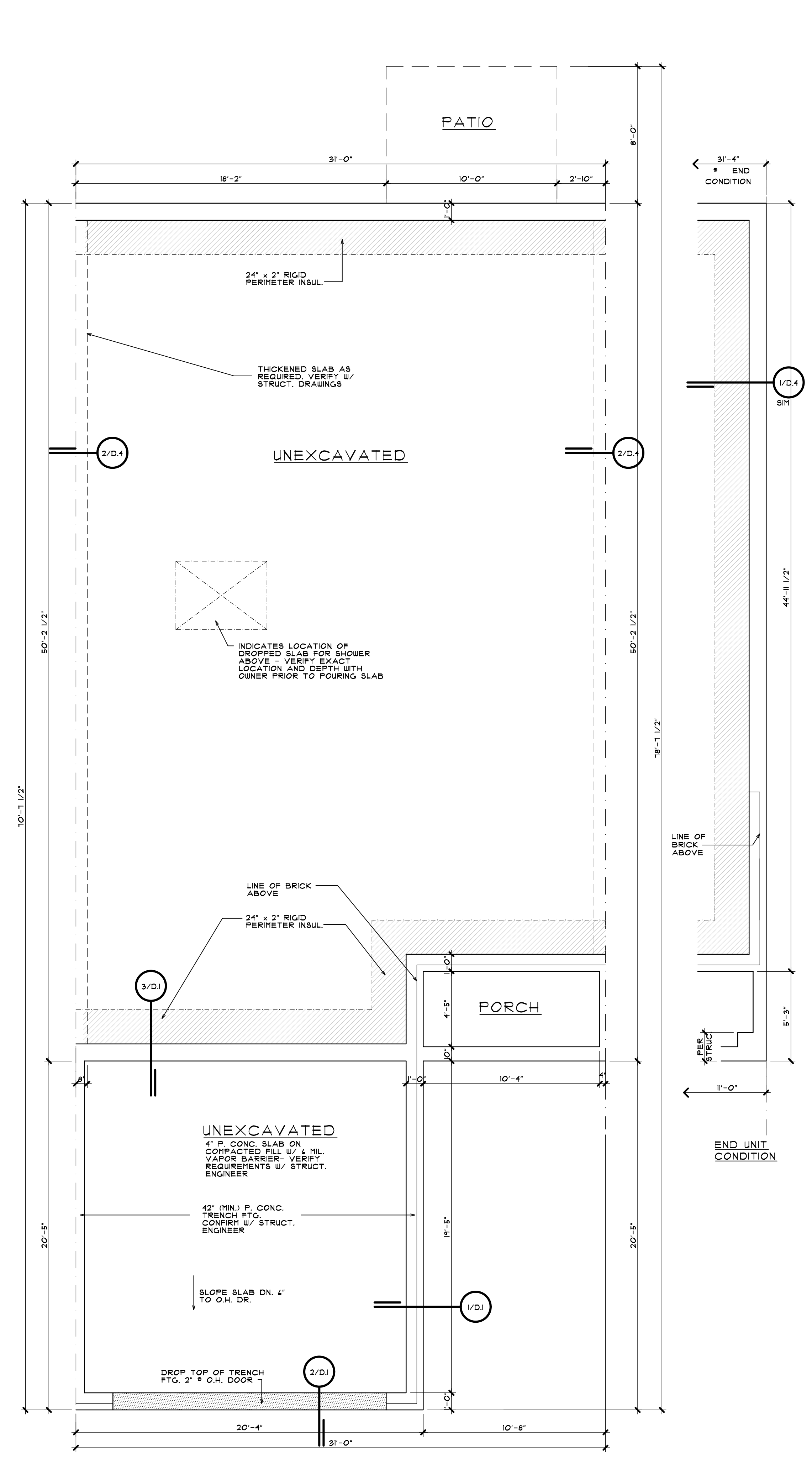


A W. METER
 SCALE: 1/4" = 1'-0"
INTERIOR UNIT GROSS SQ. FT.
 1ST FLOOR (FIN.) 1,494 SQ FT
 GARAGE 422 SQ FT

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



1 TYP. UNIT FOUNDATION PLAN
A100 SINGLE STORY DWELLING UNIT - TYPE 'B'



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

- NOTES**
- ALL EXTERIOR TRIM TO BE ALUMINUM UNWRAPPED OR VINYL. VERIFY EXACT LOCATIONS FOR EACH MATERIAL WITH OWNER PRIOR TO CONSTRUCTION.
 - PROVIDE PEEP HOLES AND DEAD BOLTS AT ALL FRONT ENTRY DOORS. SEE BUILDER FOR SPECIFICATIONS.
 - ALL DRYWALL TO BE PREPPED & READY TO BE PAINTED INCLUDING THE GARAGE.
 - BRICK ROWLOCK SILLS MAY BE REPLACED WITH PRECAST STONE OR CONCRETE. VERIFY WITH BUILDER PRIOR TO CONSTRUCTION.
 - NOTE: FUTURE GRAB BARS SHOWN AT WATER CLOSETS, TUBS & SHOWERS. PROVIDE BLOCKING ONLY AT TIME OF OCCUPANCY.
 - NOTE: ALL GYP. BOARD INSTALLED IN ROUGH BY ROUGH CARPENTERS MUST BE MOISTURE RESISTANT TYPE APPROVED FOR INSTALLATION DURING THE ROUGH FRAMING PROCESS.
 - NOTE: ROUGH CARPENTER TO VERIFY ALL TUB AND SHOWER SIZES PRIOR TO ROUGH IN.
 - NOTE: SEE STRUCTURAL ENGINEERING PLANS (BY OTHERS) FOR ALL STRUCTURAL INFORMATION. ALL FOUNDATION INFORMATION REGARDING BEARING CAPACITY OF SOIL CAN VARY ON A BUILDING BY BUILDING BASIS.

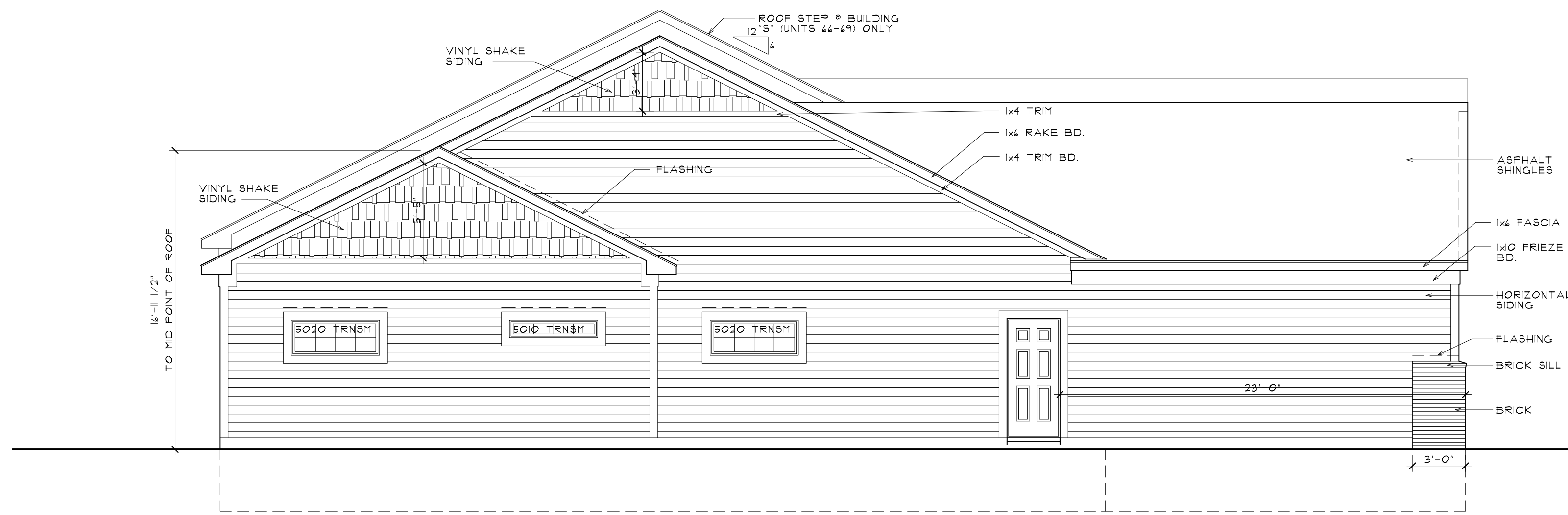
ALL INTERIOR PARTITION DIMENSIONS ARE 3/16" UNLESS NOTED OTHERWISE.

BEFORE CONSTRUCTION OBTAIN WINDOW & DOOR ROUGH OPENING SIZES FROM WINDOW/DOOR SUPPLIER.

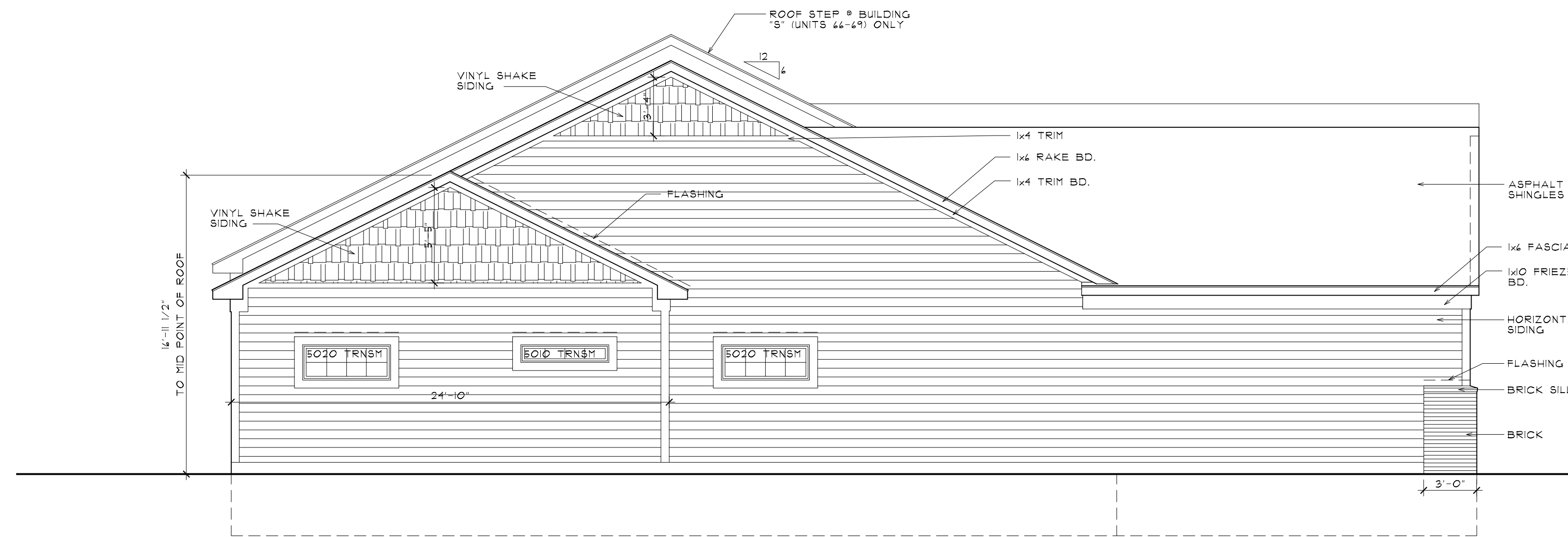
SEE SHEETS N-1 - N-4 FOR ADDITIONAL NOTES REGARDING DRAWINGS & CONSTRUCTION.

SEE SHEETS D-1 - D-4 FOR ADDITIONAL DETAILS REGARDING DRAWINGS & CONSTRUCTION.

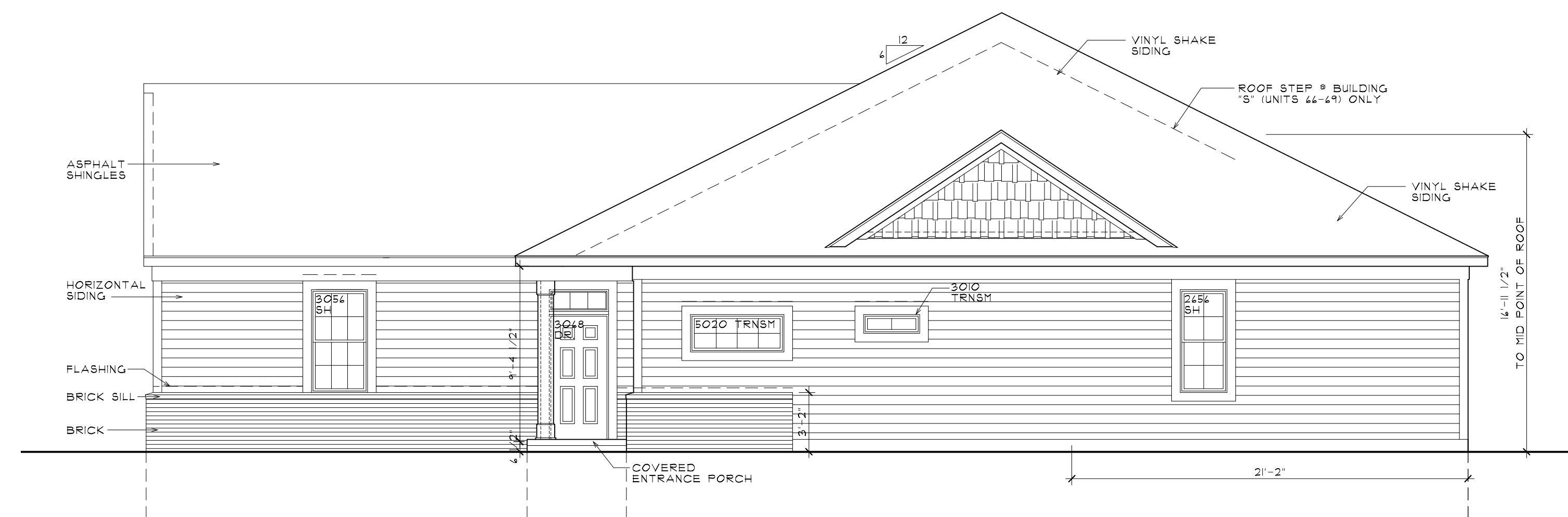
DO NOT SCALE THESE DRAWINGS. USE CALCULATED DIMENSIONS. IF VARIATIONS OCCUR CONTACT ARCHITECT FOR CLARIFICATION.



4 TYP. LEFT SIDE ELEVATION
A101 WITH METER ROOM SCALE: 3/16" = 1'-0"



4 TYP. LEFT SIDE ELEVATION
A101 SINGLE STORY DWELLING UNIT - TYPE 'B' SCALE: 3/16" = 1'-0"



3 TYP. RIGHT SIDE ELEVATION
A101 SINGLE STORY DWELLING UNIT - TYPE 'B' SCALE: 3/16" = 1'-0"

WINDOW SILLS

IN DWELLING UNITS, WHERE THE OPENING OF AN OPERABLE WINDOW IS LOCATED MORE THAN 12" ABOVE FINISHED GRADE OR SURFACE BELOW, THE LOWEST PART OF THE CLEAR OPENING OF THE WINDOW SHALL BE A MINIMUM OF 24 INCHES ABOVE THE FINISHED FLOOR OF THE ROOM IN WHICH THE WINDOW IS LOCATED. GLAZING BETWEEN THE FLOOR AND 24" SHALL BE FIXED OR HAVE OPENINGS THROUGH WHICH A 4 INCH DIAMETER SPHERE CANNOT PASS.

EXCEPTIONS:
 1. WINDOWS WHOSE OPENINGS WILL NOT ALLOW A 4" DIA. SPHERE TO PASS THROUGH THE OPENING WHERE THE OPENING IS IN ITS LARGEST OPENED POSITION.
 2. OPENINGS THAT ARE PROVIDED WITH WINDOW GUARDS THAT COMPLY WITH ASTM F2090.

SEE 1/4" SCALE PLANS FOR SIDE ELEVATION SHEET A 101

PROPOSED VENT AREA: REQUIRED PER EACH UNIT

VENT AREA RATIO 1:150
 ATTIC AREA = 1488 SQ.FT. (1/150)
 VENT AREA = 9.9 SQ.FT. x 144 = 1426 SQ.IN.
 50% SOFFIT AND 50% RIDGE = 713 SQ.IN. EACH

VENT AREA PROVIDED * RIDGE

CONTINUOUS SOFFIT TYPE * 18 SQ.IN. PER FT. = X LIN.FT.
 LOUVER AT RIDGE TYPE * 54 SQ.IN. EA. = 14 UNITS
 TOTAL VENTING AT RIDGE = 156 SQ.IN.

VENT AREA PROVIDED * SOFFIT

CONTINUOUS SOFFIT TYPE * 9 SQ.IN. PER FT. = X LIN.FT.
 LOUVER TYPE 8"x 14" w/o BRICK * 54 SQ.IN. EA. = 14 UNITS
 TOTAL VENTING AT SOFFIT = 156 SQ.IN.

NOTES

ALL EXTERIOR TRIM TO BE ALUMINUM WRAPPED OR VINYL. VERIFY EXACT LOCATIONS FOR EACH MATERIAL WITH OWNER PRIOR TO CONSTRUCTION.

PROVIDE PREP HOLES AND DEAD BOLTS AT ALL FRONT ENTRY DOORS. SEE BUILDER FOR SPECIFICATIONS.

ALL DRYWALL TO BE READY TO BE PAINTED

BRICK ROWLOCK SILLS MAY BE REPLACED WITH PRECAST STONE OR CONCRETE. VERIFY WITH BUILDER PRIOR TO CONSTRUCTION.

FIXED GLASS WINDOWS IN GABLES TO HAVE OPAQUE FINISH ON INTERIOR OF GLASS SO FRAMING OF ROOF NOT VISIBLE FROM EXTERIOR.

PROVIDE RECESS LIGHT IN SOFFIT ABOVE DOOR ENTRY - CONNECT TO PHOTO CELL.

NOTE: VERIFY TYPE OF TRIM w/ OWNER PRIOR TO CONSTRUCTION. OWNER MAY CHOOSE 2x TRIM WRAPPED IN ALUMINUM OR VINYL TRIM BOARDS.

OVERHANGS & DRAINAGE

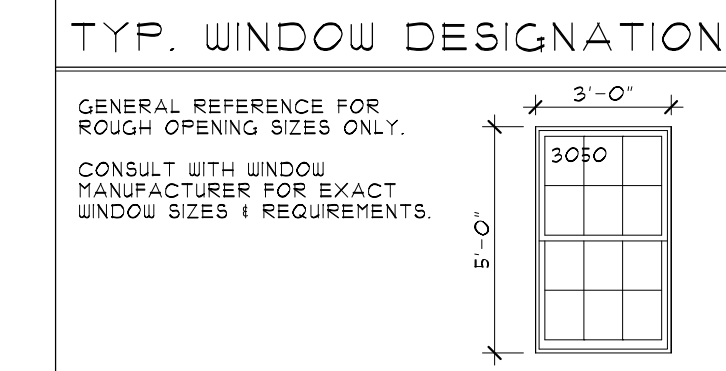
PROVIDE GUTTERS AND DOWNSPOUTS FOR DRAINAGE OF ROOF WATER. DOWNSPOUTS ARE TO BE CONNECTED TO THE STORM WATER COLLECTION SYSTEM. SEE CIVIL ENGINEERING DRAWINGS FOR CONNECTION DETAILS & LOCATIONS.

DOWNSPOUT LOCATIONS ARE T.B.D. BY BUILDER.

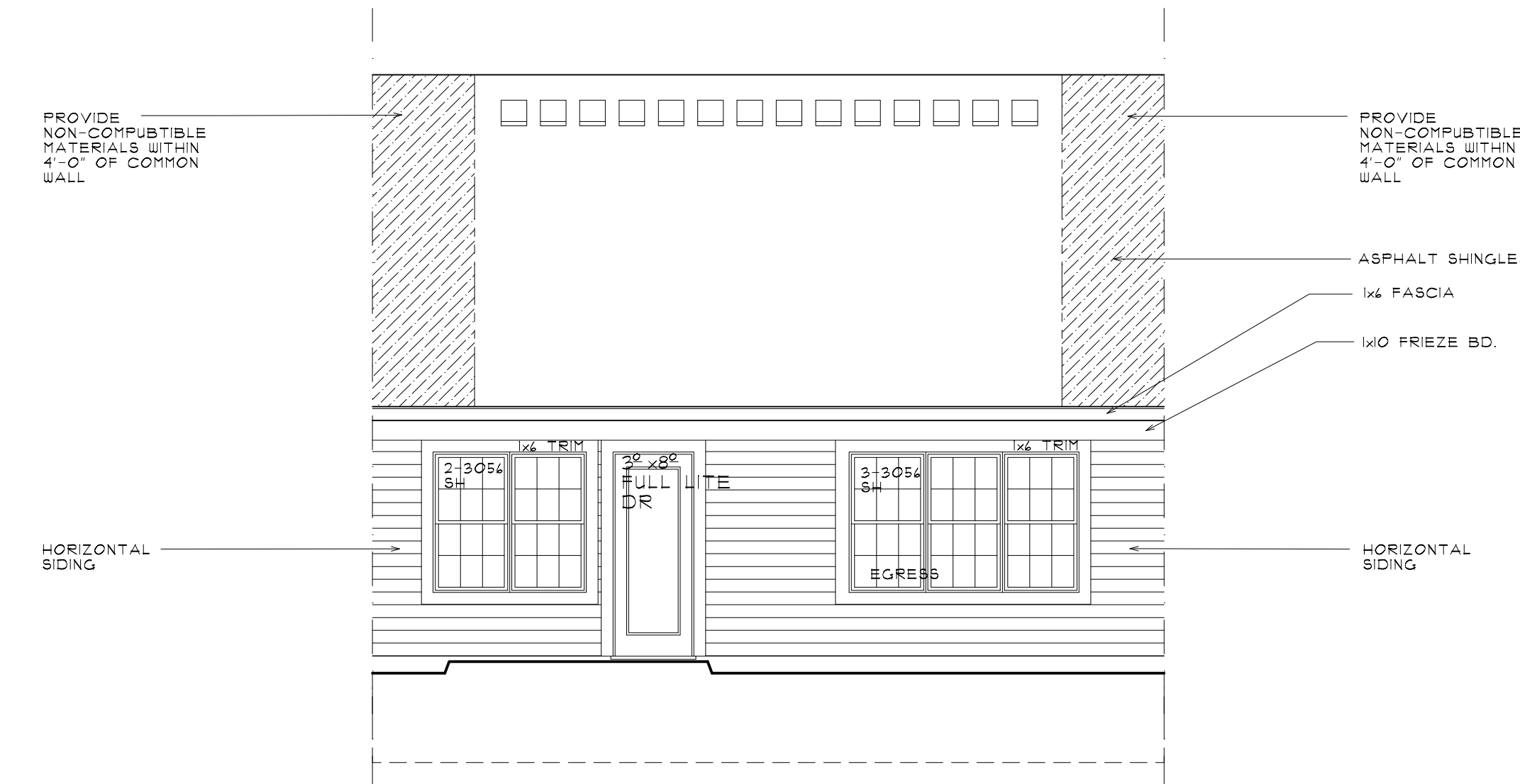
UNLESS NOTED OTHERWISE OVERHANG DIMENSIONS ARE 12" FROM FRAME. RAKE DIMENSIONS ARE 4" AT BRICK AND 1" AT SIDING.

EGRESS WINDOW

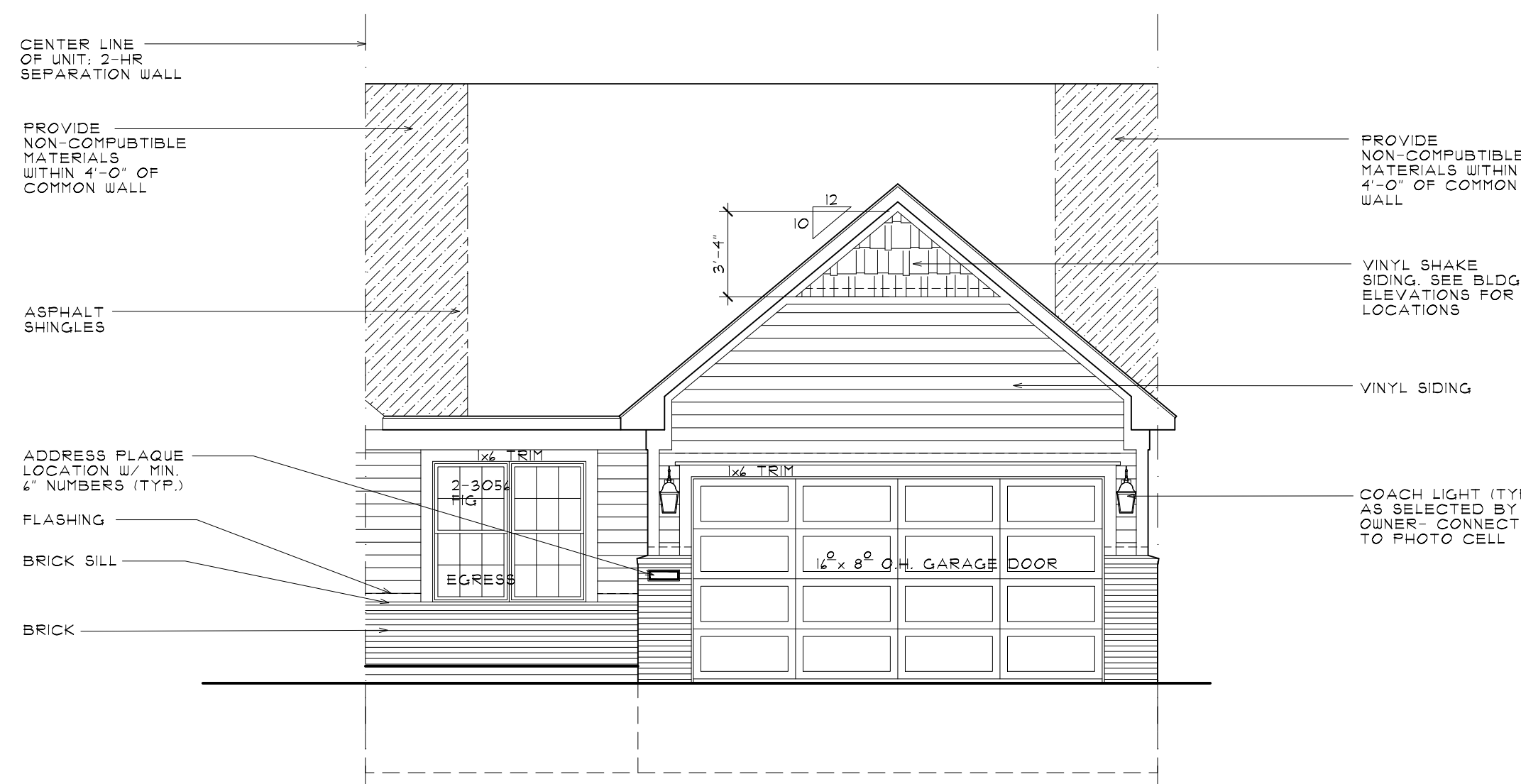
EVERY SLEEPING ROOM SHALL HAVE AT LEAST ONE OPERABLE WINDOW OR EXTERIOR DOOR APPROVED FOR EMERGENCY EGRESS OR RESCUE. THE UNIT(S) MUST BE OPERABLE FROM THE INSIDE TO A FULL CLEAR OPENING WITHOUT THE USE OF SEPARATE TOOLS. WHERE WINDOWS ARE PROVIDED AS A MEANS OF EGRESS OR RESCUE, THEY SHALL HAVE SILL HEIGHT OF NOT MORE THAN 44 INCHES ABOVE THE FLOOR. ALL EGRESS OR RESCUE WINDOWS FROM SLEEPING ROOMS MUST HAVE A MINIMUM NET CLEAR OPENING HEIGHT DIMENSION SHALL BE 24 INCHES AND WIDTH OF 20 INCHES.



NOTE: SEE AS-1 FOR INDIVIDUAL BUILDING COLOR SCHEME



2 TYP. REAR ELEVATION
A101 SINGLE STORY DWELLING UNIT - TYPE 'B' SCALE: 3/16" = 1'-0"



1 TYP. FRONT ELEVATION
A101 SINGLE STORY DWELLING UNIT - TYPE 'B' SCALE: 3/16" = 1'-0"

ALL INTERIOR PARTITION DIMENSIONS ARE 3 1/2" UNLESS NOTED OTHERWISE.

BEFORE CONSTRUCTION OBTAIN WINDOW & DOOR ROUGH OPENING SIZES FROM WINDOW/DOOR SUPPLIER.

SEE SHEETS N-1 - N-4 FOR ADDITIONAL DETAILS REGARDING DRAWINGS & CONSTRUCTION.

SEE SHEETS OJ-D-4 FOR ADDITIONAL NOTES REGARDING DRAWINGS & CONSTRUCTION.

DO NOT SCALE THESE DRAWINGS. USE CALCULATED DIMENSIONS. IF VARIATIONS OCCUR CONTACT ARCHITECT FOR CLARIFICATION.

Item A.

Alexander V. Bogaerts + Associates, P.C. • Architecture • Planning • Interior Design

2445 Franklin Road
 Bloomfield Hills, MI 48302
 248 • 334 • 5000

SHEET TITLE
 UNIT ELEVATIONS

CLIENT/PROJECT
 LAKE POINTE
 MULTIFAMILY COMMUNITY
 WHITE LAKE, MICHIGAN

DRAWN BY
 MS/DA
 CAD FILENAME
 2216.DWG
 CHECKED BY

JOB NUMBER
 2216
 DATE

SHEET NUMBER
 A101

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 ALEXANDER V.
 BOGAERTS + ASSOC.

■ PRELIMINARY
 08-19-19

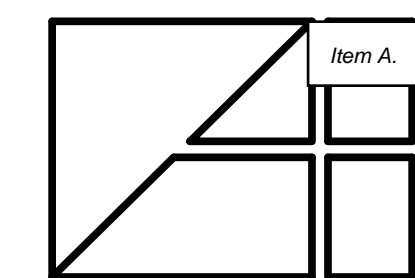
□ BIDS

■ PERMITS
 06-16-21

□ CONSTRUCTION

REVISIONS
 22-10-18 OWNER
 COMMENT RESPONSE
 2024 02 06

S:\CURRENT\1\client\1\unit\WHITE LAKE\LAKE POINTE\04 DRAWINGS\2216 ELEV.dwg, 2/6/2024, 2:25:12 PM

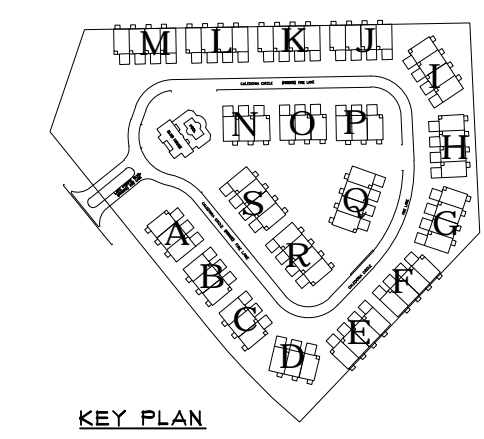


Interior Design
 2445 Franklin Road
 Bloomfield Hills, MI 48302
 248 • 334 • 5000

CLIENT/PROJECT
 LAKE POINTE
 MULTIFAMILY COMMUNITY
 WHITE LAKE, MICHIGAN

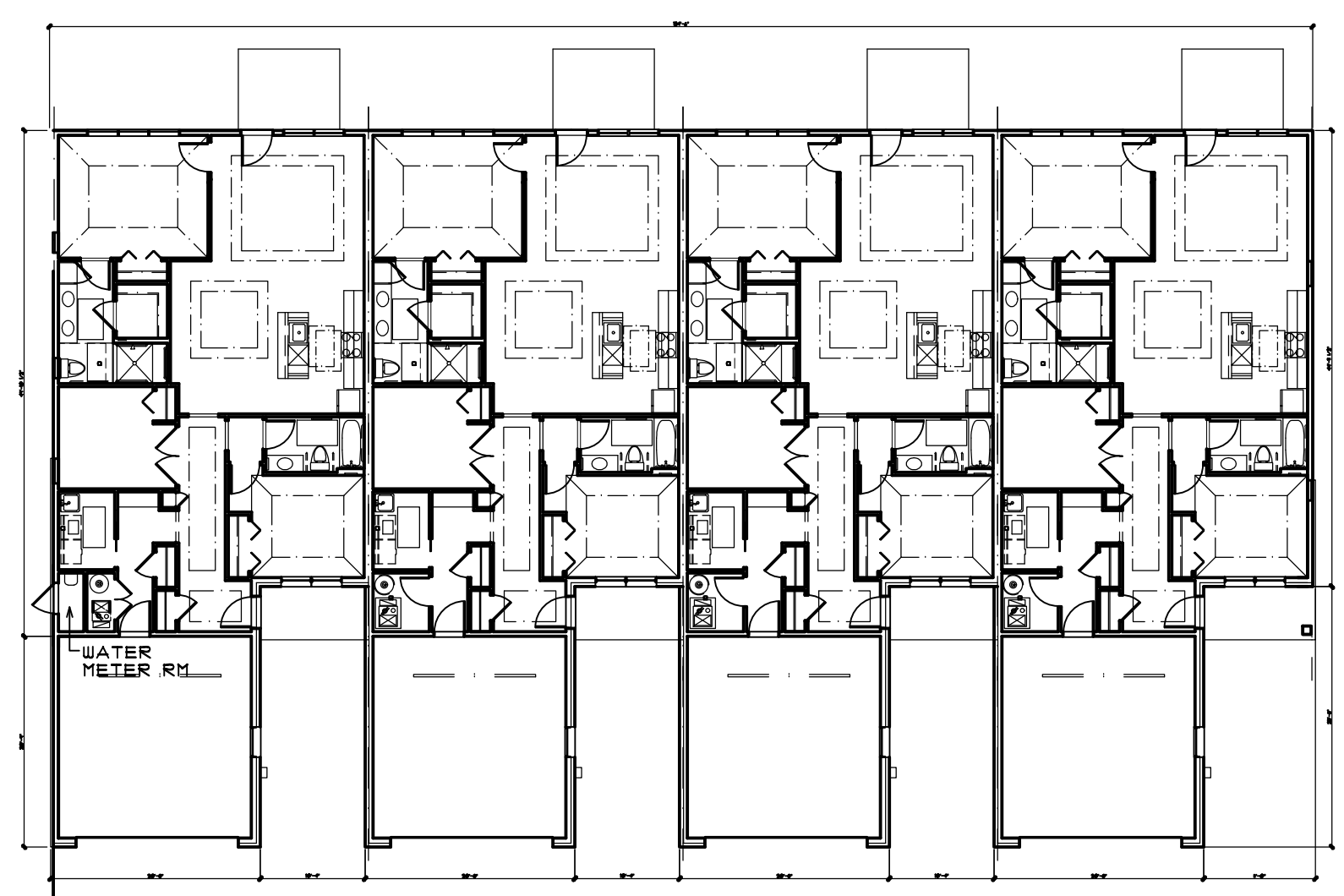
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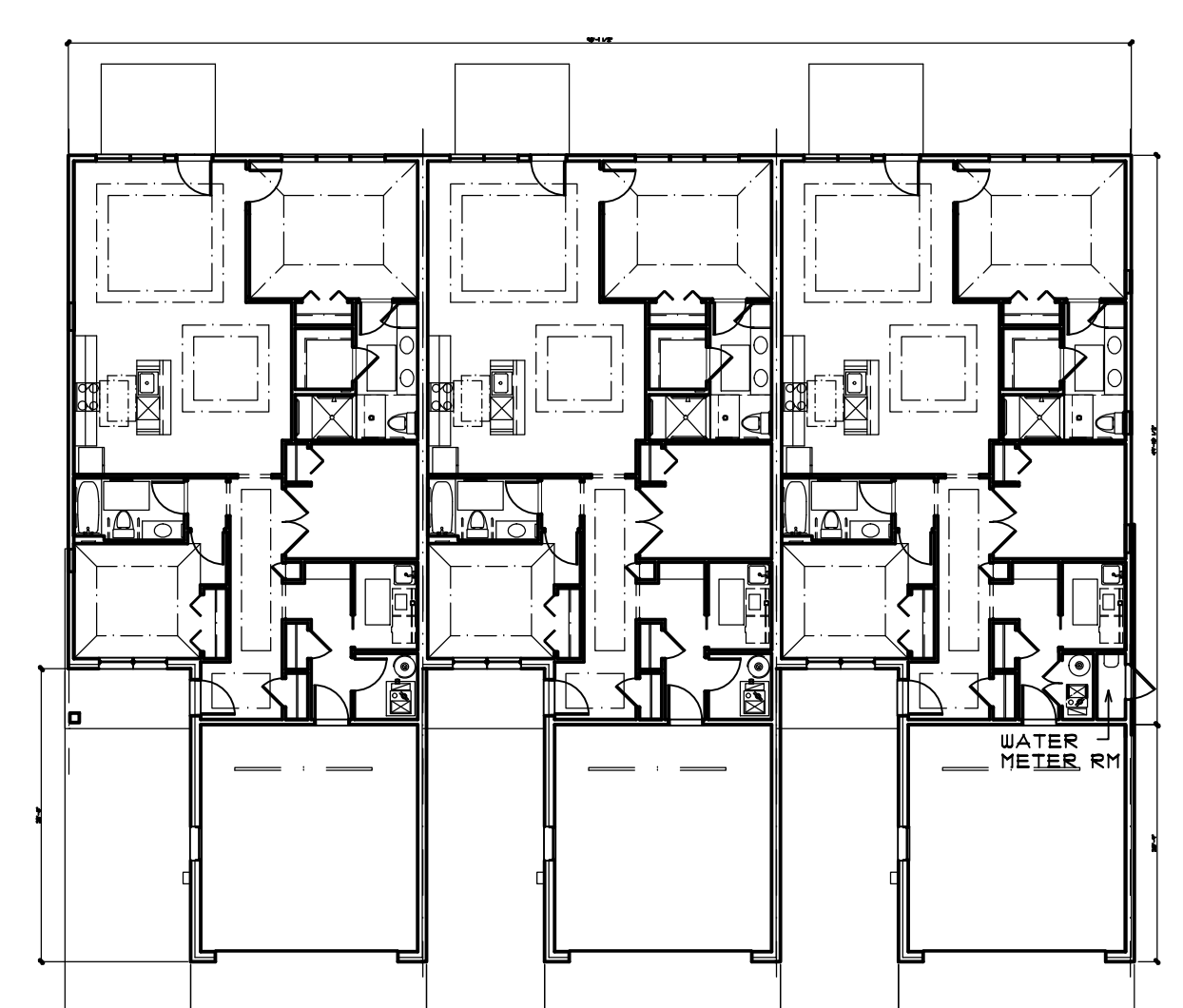


NOTE:
 • REFER TO 1/4" SCALE UNIT PLANS FOR ALL NOTES, DIMENSIONS, DETAILS AND ALL ADDITIONAL INFORMATION NOT SHOWN.
 • SEE STRUCTURAL ENGINEERING PLANS (BY OTHERS) FOR ALL STRUCTURAL INFORMATION. ALL FOUNDATION INFORMATION REGARDING BEARING CAPACITY OF SOIL CAN VARY ON A BUILDING BY BUILDING BASIS.
 • REFER TO CIVIL ENGINEERING PLANS (BY OTHERS) FOR ADDITIONAL INFORMATION ON BUILDING STEPS & GRADING INFORMATION.

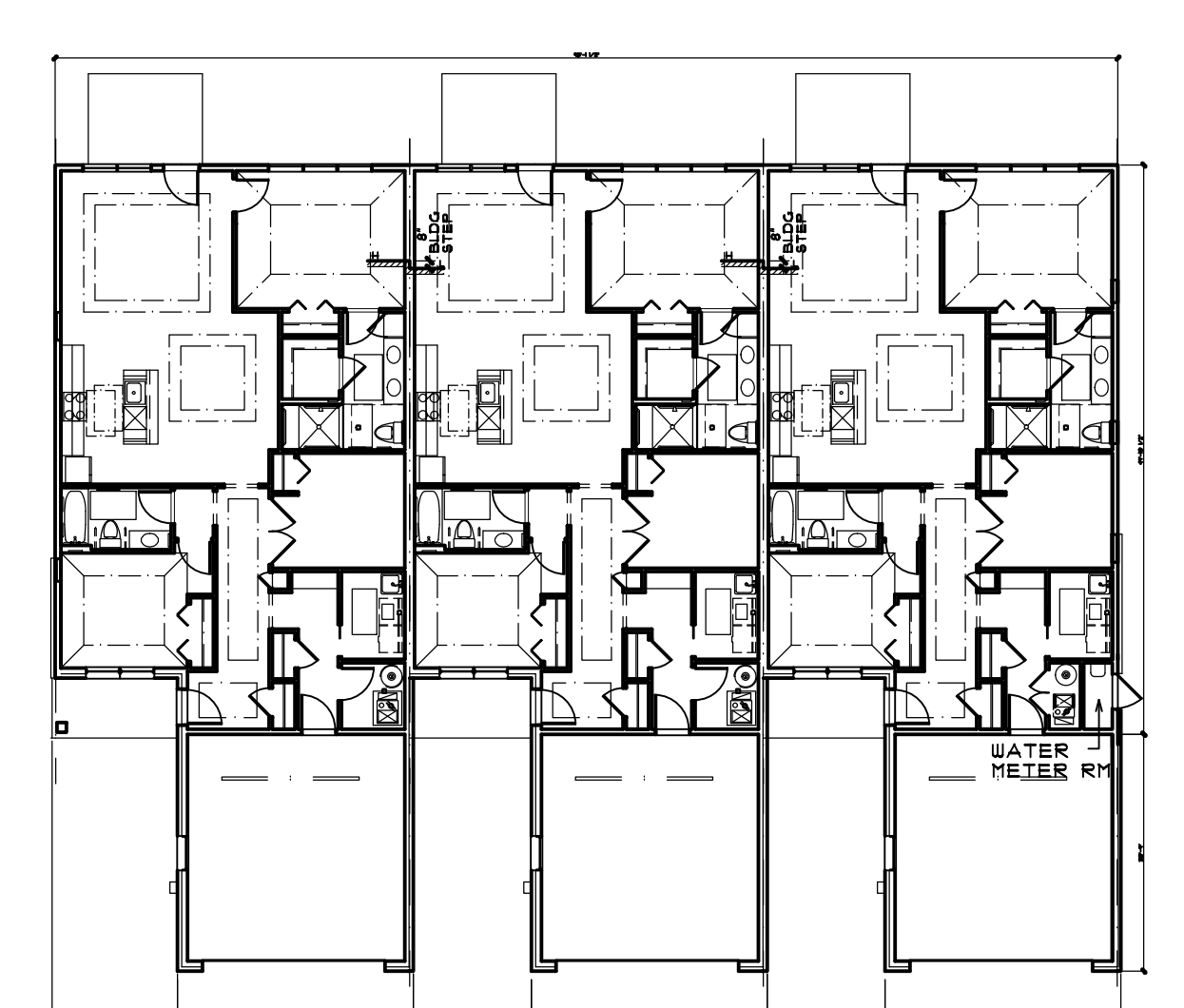
 NOTE: CONFIRM WATER METER ROOM LOCATION W/ CIVIL PRIOR TO CONSTRUCTION.



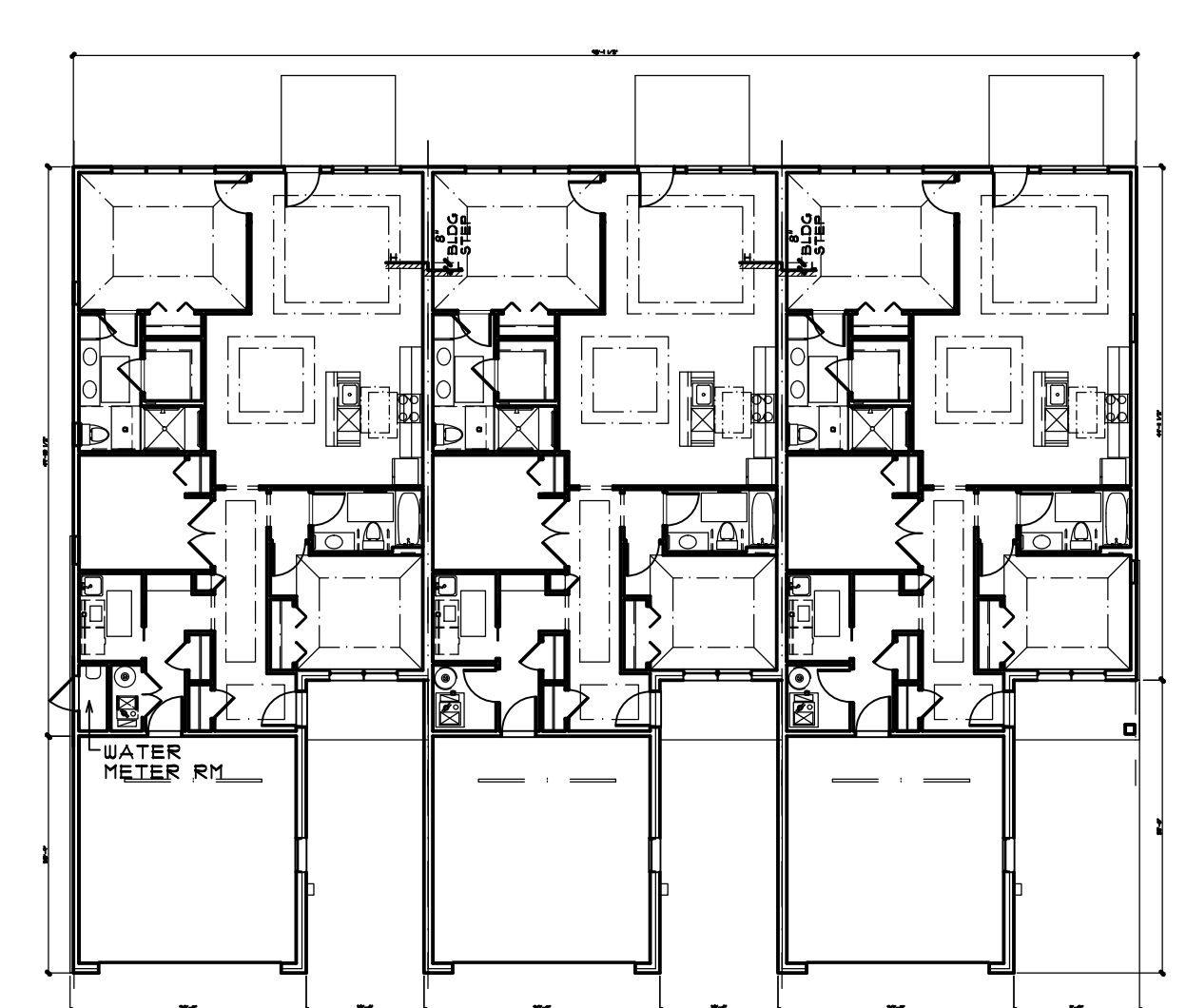
8 BLDG E (UNITS 13-16)
 A200 FIRST FLOOR PLAN SCALE: 1/16" = 1'-0"



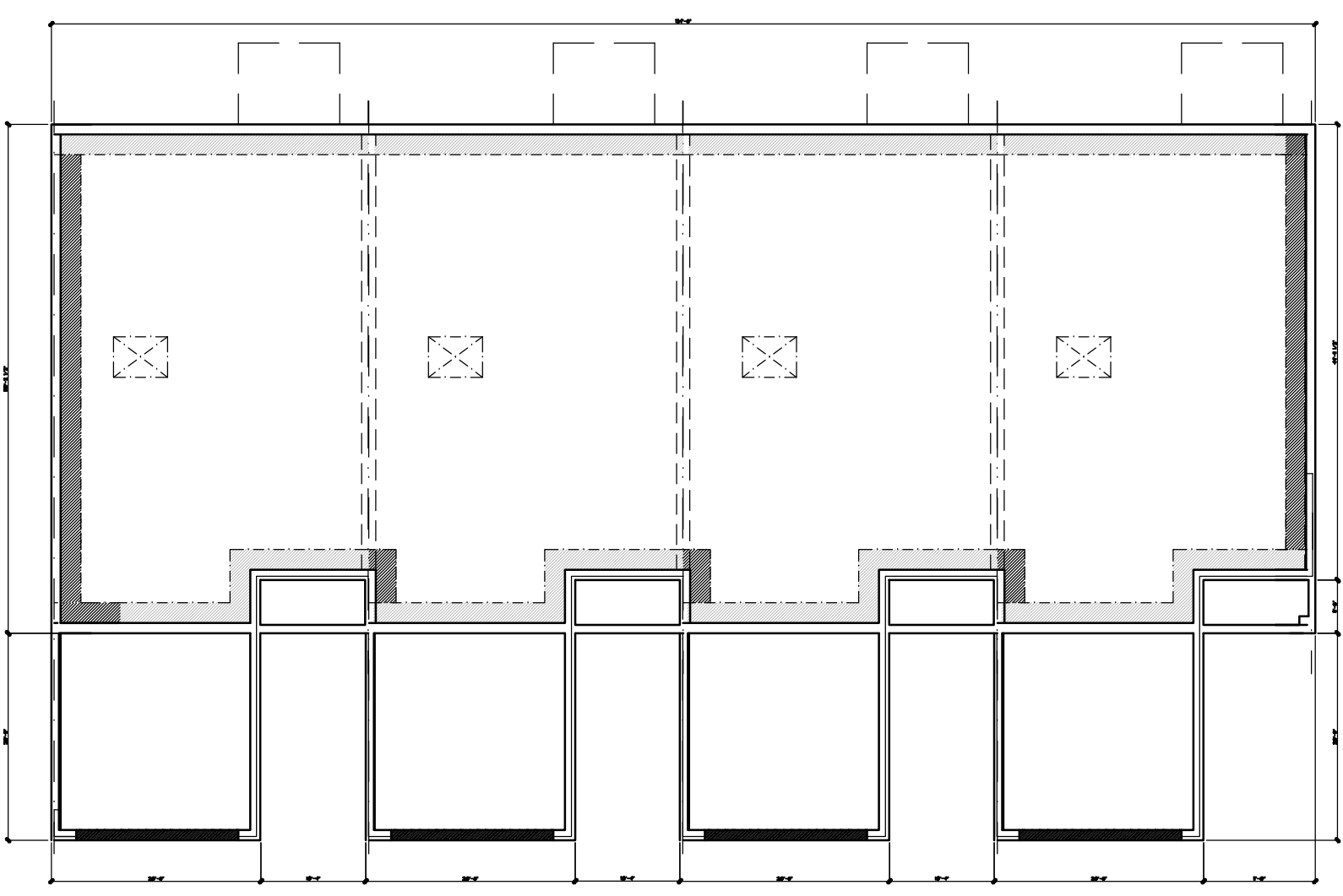
6 BLDG C,D,N,O - FIRST FLOOR PLAN
 A200 (UNITS 7-9, 10-12, 49-51, 52-54) SCALE: 1/16" = 1'-0"



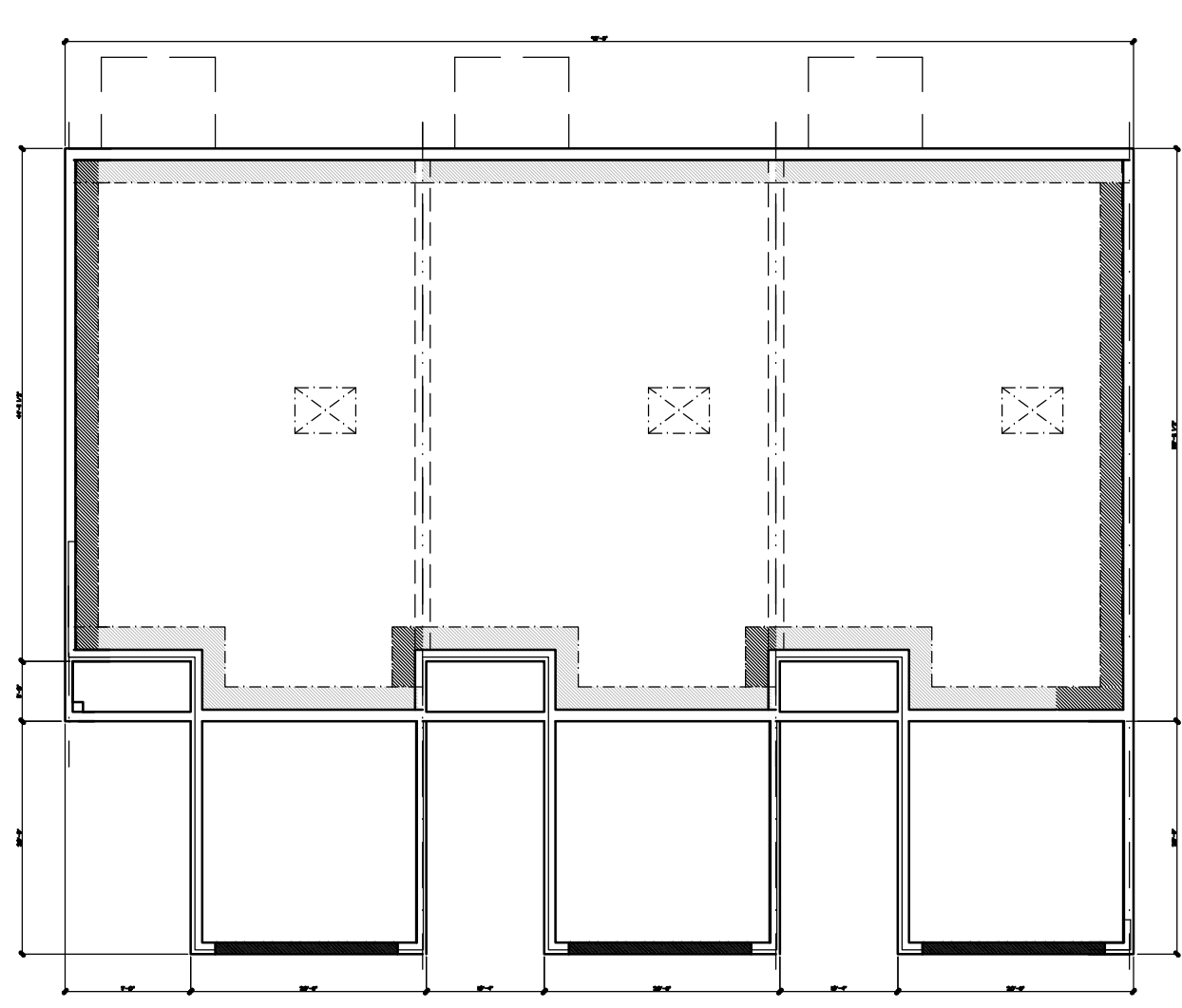
4 BLDG B (UNITS 4-6)
 A200 FIRST FLOOR PLAN SCALE: 1/16" = 1'-0"



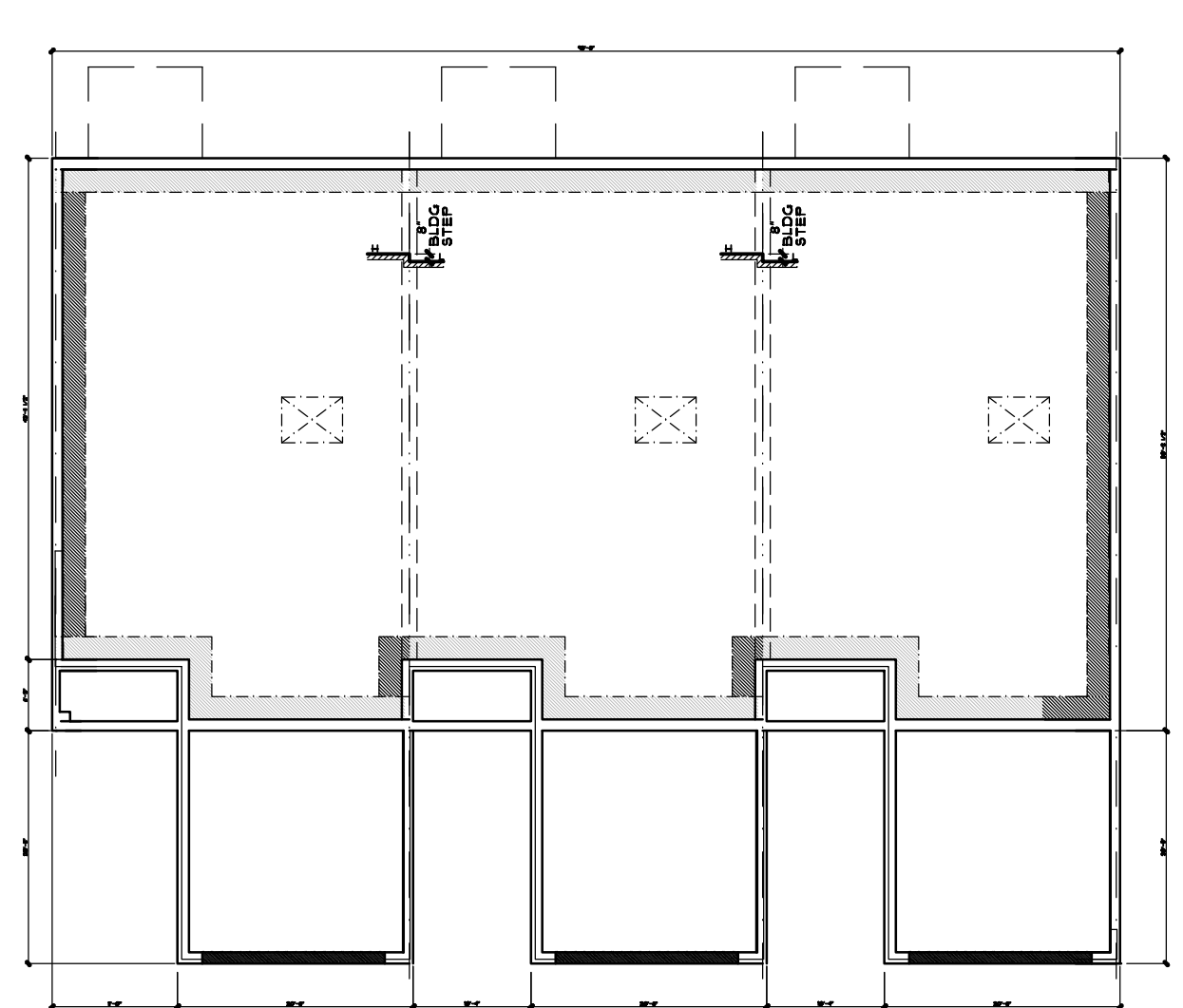
2 BLDG A (UNITS 1-3)
 A200 FIRST FLOOR PLAN SCALE: 1/16" = 1'-0"



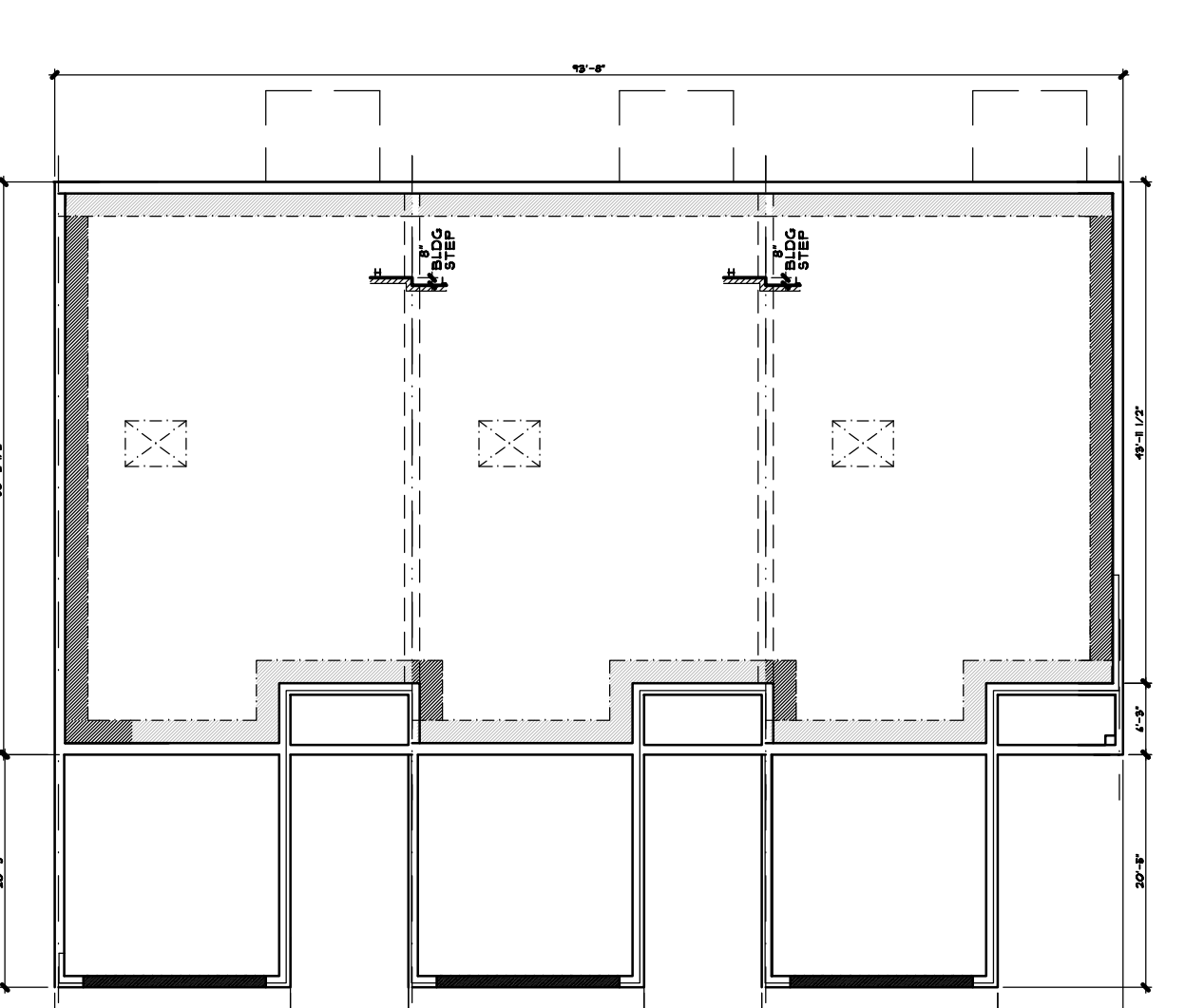
7 BLDG E (UNITS 13-16)
 A200 FOUNDATION PLAN SCALE: 1/16" = 1'-0"



5 BLDG C,D,N,O - FOUNDATION PLAN
 A200 (UNITS 7-9, 10-12, 49-51, 52-54) SCALE: 1/16" = 1'-0"



3 BLDG B (UNITS 4-6)
 A200 FOUNDATION PLAN SCALE: 1/16" = 1'-0"



1 BLDG A (UNITS 1-3)
 A200 FOUNDATION PLAN SCALE: 1/16" = 1'-0"

ALL INTERIOR PARTITION DIMENSIONS ARE 3 1/2" UNLESS NOTED OTHERWISE.

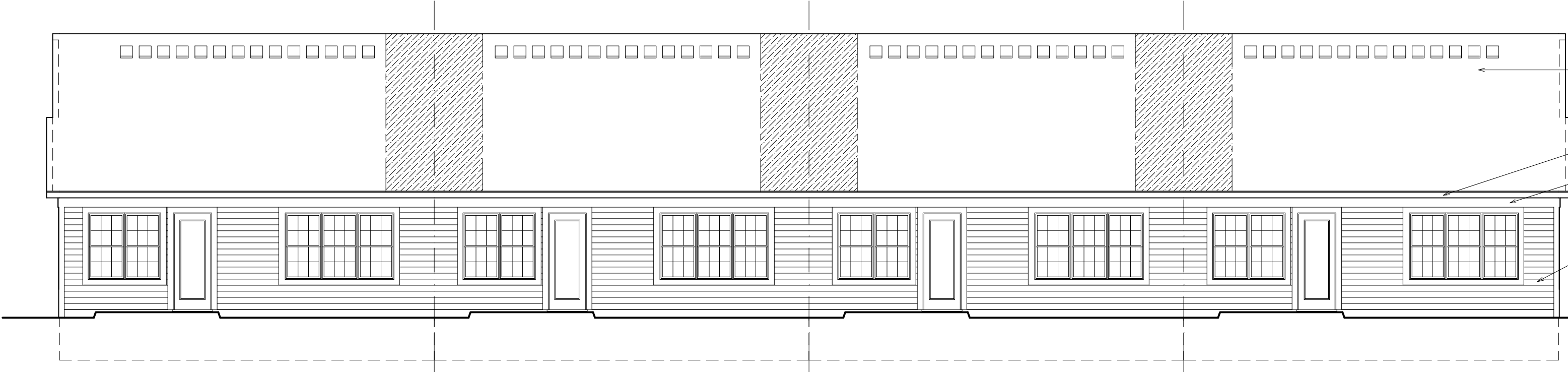
BEFORE CONSTRUCTION OBTAIN WINDOW & DOOR ROUGH OPENING SIZES FROM WINDOW/DOOR SUPPLIER.

SEE SHEETS N-1 - N-4 FOR ADDITIONAL NOTES REGARDING DRAWINGS & CONSTRUCTION.

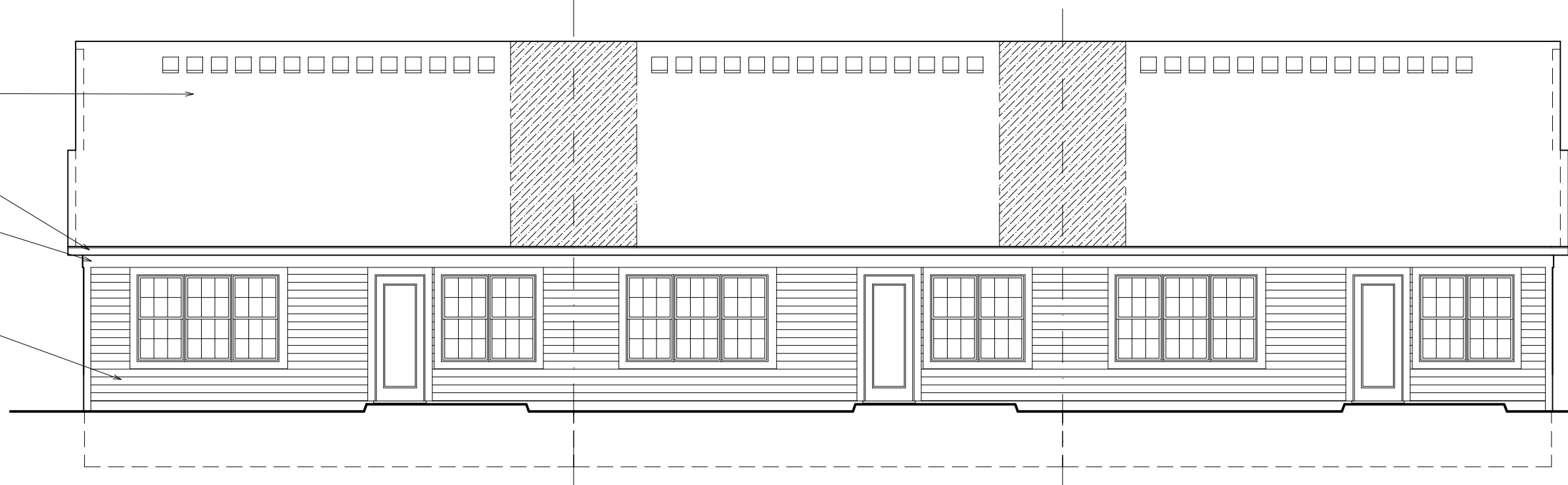
SEE SHEETS D.J-D.4 FOR ADDITIONAL DETAILS REGARDING DRAWINGS & CONSTRUCTION.

DO NOT SCALE THESE DRAWINGS. USE CALCULATED DIMENSIONS. IF VARIATIONS OCCUR CONTACT ARCHITECT FOR CLARIFICATION.

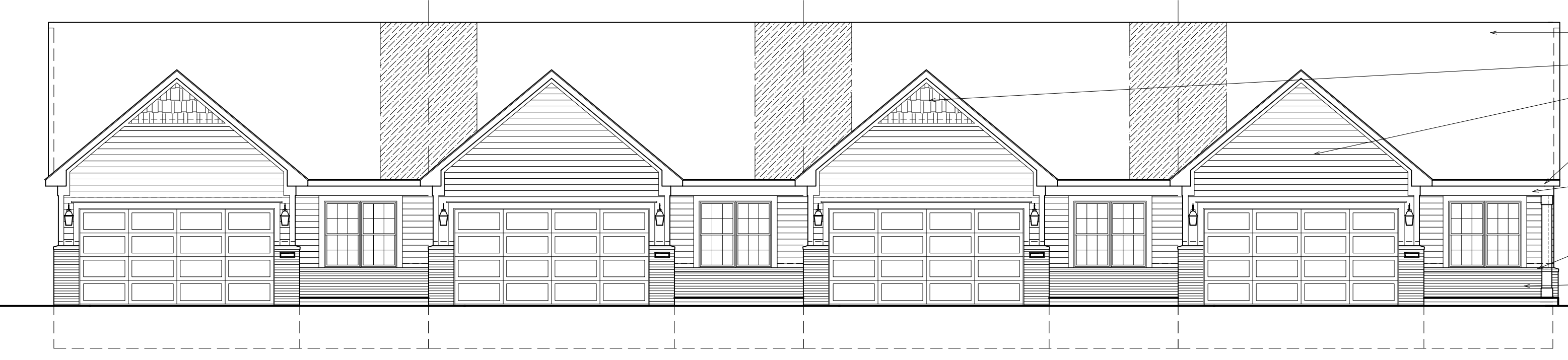
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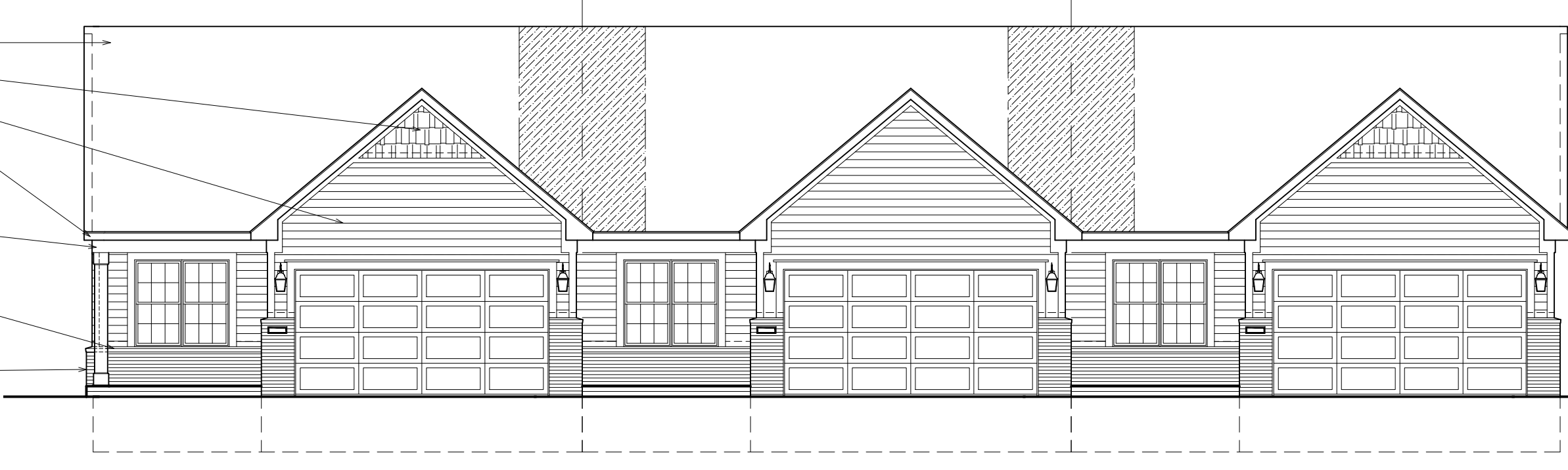
8 BUILDING E (UNITS 13-16) - REAR ELEVATION
 A201 SINGLE STORY TYPE "B" SCALE: 1/8" = 1'-0"



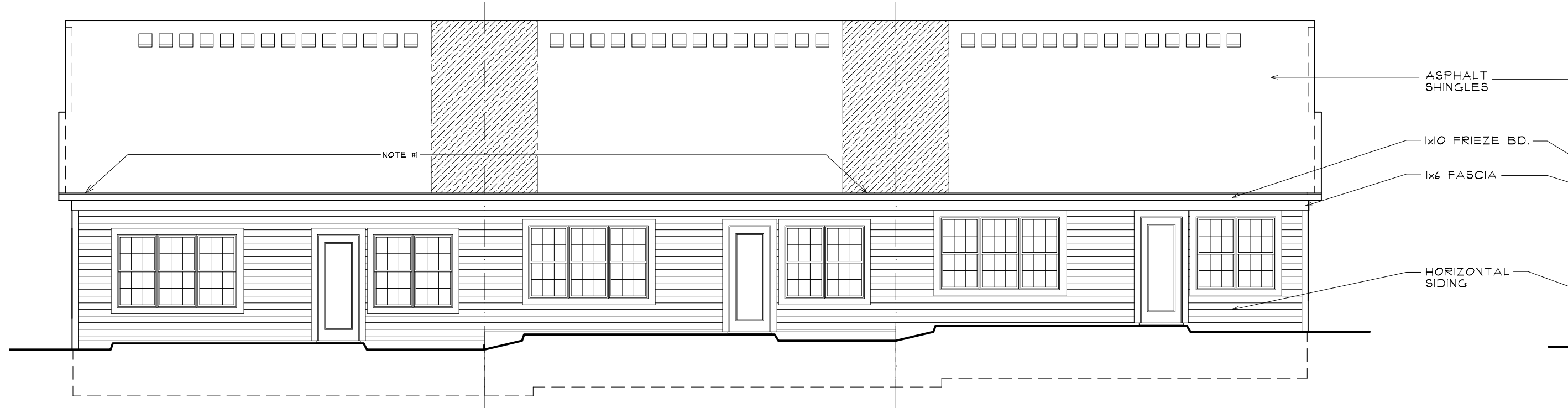
6 BUILDINGS C, D, N, O - REAR ELEVATION
 A201 SINGLE STORY TYPE "B" - (UNITS 7-9, 10-12, 49-51, 52-54) SCALE: 1/8" = 1'-0"



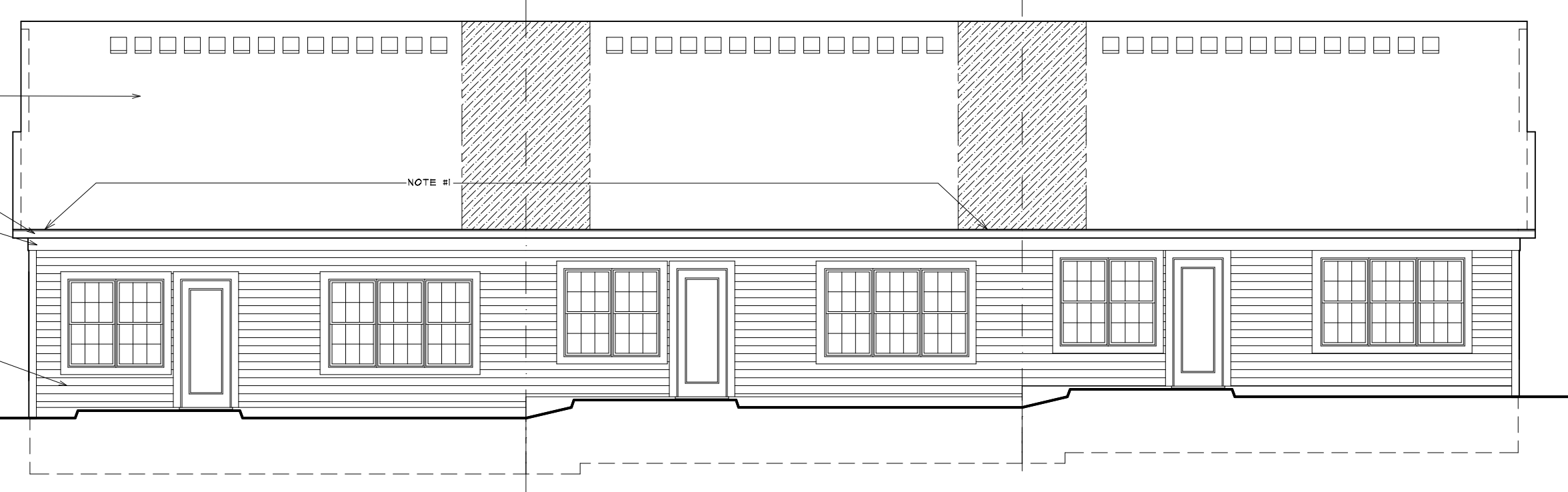
7 BUILDING E (UNITS 13-16) - FRONT ELEVATION
 A201 SINGLE STORY TYPE "B" SCALE: 1/8" = 1'-0"



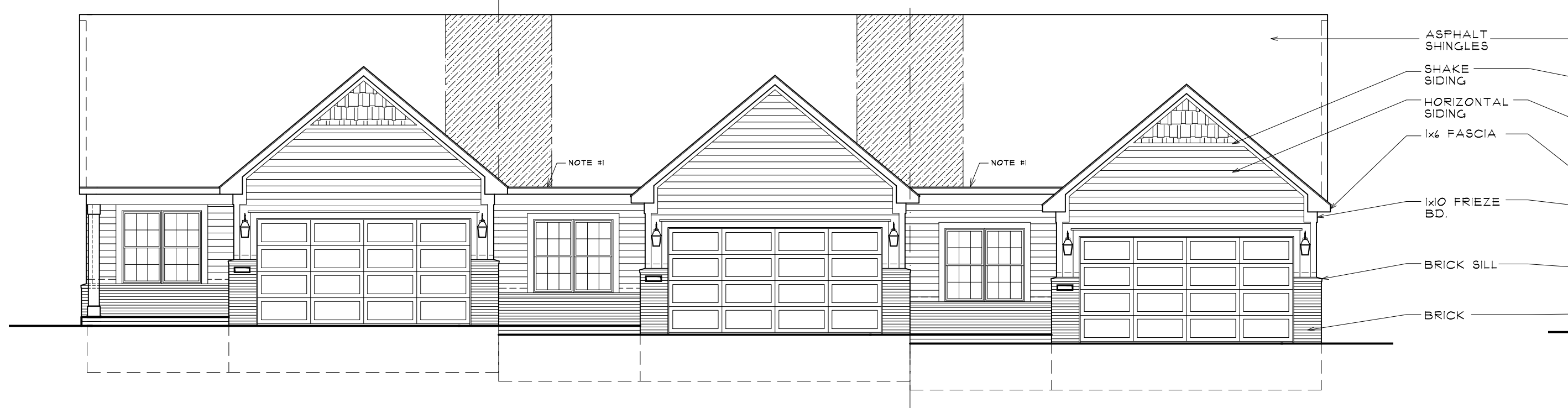
5 BUILDINGS C, D, N, O - FRONT ELEVATION
 A201 SINGLE STORY TYPE "B" - (UNITS 7-9, 10-12, 49-51, 52-54) SCALE: 1/8" = 1'-0"



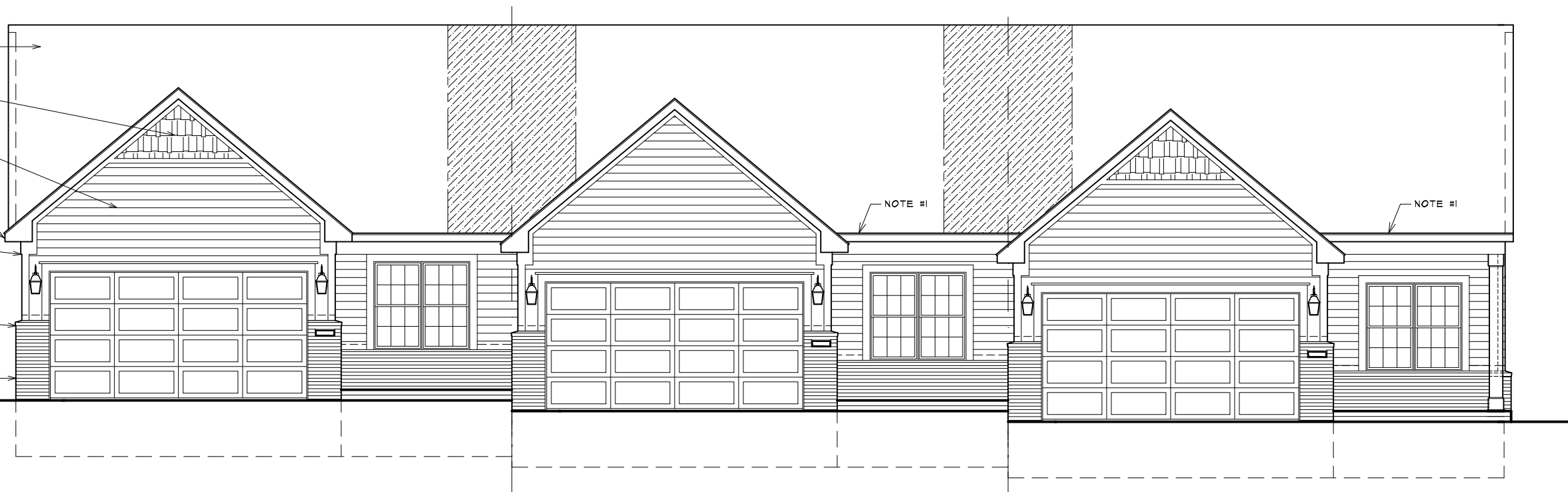
4 BUILDING B (UNITS 4-6) - REAR ELEVATION
 A201 SINGLE STORY TYPE "B" SCALE: 1/8" = 1'-0"



2 BUILDING A (UNITS 1-3) - REAR ELEVATION
 A201 SINGLE STORY TYPE "B" SCALE: 1/8" = 1'-0"



3 BUILDING B (UNITS 4-6) - FRONT ELEVATION
 A201 SINGLE STORY TYPE "B" SCALE: 1/8" = 1'-0"



1 BUILDING A (UNITS 1-3) - FRONT ELEVATION
 A201 SINGLE STORY TYPE "B" SCALE: 1/8" = 1'-0"

NOTES
 ALL EXTERIOR TRIM TO BE ALUMINUM WRAPPED OR VINYL. VERIFY EXACT LOCATIONS FOR EACH MATERIAL WITH OWNER PRIOR TO CONSTRUCTION.
 PROVIDE PEEP HOLES AND DEAD BOLTS AT ALL FRONT ENTRY DOORS. SEE BUILDER FOR SPECIFICATIONS.
 ALL DRYWALL TO BE READY TO BE PAINTED
 BRICK ROWLOCK SILLS MAY BE REPLACED WITH PRECAST STONE OR CONCRETE. VERIFY WITH BUILDER PRIOR TO CONSTRUCTION.
 FIXED GLASS WINDOWS IN GABLES TO HAVE OPAQUE FINISH ON INTERIOR OF GLASS SO FRAMING OF ROOF NOT VISIBLE FROM EXTERIOR.
 PROVIDE RECESS LIGHT IN SOFFIT ABOVE DOOR ENTRY - CONNECT TO PHOTO CELL.

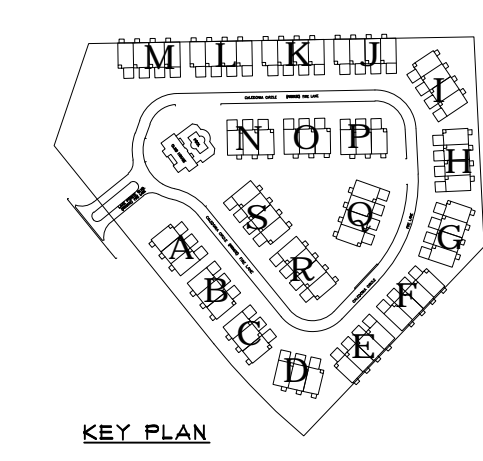
NOTE:
 REFER TO 1/4" SCALE ELEVATIONS ON SHEET A103 FOR ADDITIONAL NOTES AND DIMENSIONS. SEE SHEET S-1 FOR COLOR SCHEME OF BUILDINGS.
NOTE #1:
 RAISE HEELS AS NECESSARY TO ELIMINATE STEP IN THE ROOF.

SEE 1/4" SCALE PLANS FOR SIDE ELEVATION SHEET A 101

NOTE: SEE A5-1 FOR INDIVIDUAL BUILDING COLOR SCHEME

ALL INTERIOR PARTITION DIMENSIONS ARE 3 1/2" UNLESS NOTED OTHERWISE.
 BEFORE CONSTRUCTION OBTAIN WINDOW & DOOR ROUGH OPENING SIZES FROM WINDOW/DOOR SUPPLIER.
 SEE SHEETS N-1 - N-4 FOR ADDITIONAL DETAILS REGARDING DRAWINGS & CONSTRUCTION.
 SEE SHEETS OJ-D-4 FOR ADDITIONAL NOTES REGARDING DRAWINGS & CONSTRUCTION.
 DO NOT SCALE THESE DRAWINGS. USE CALCULATED DIMENSIONS. IF VARIATIONS OCCUR CONTACT ARCHITECT FOR CLARIFICATION.

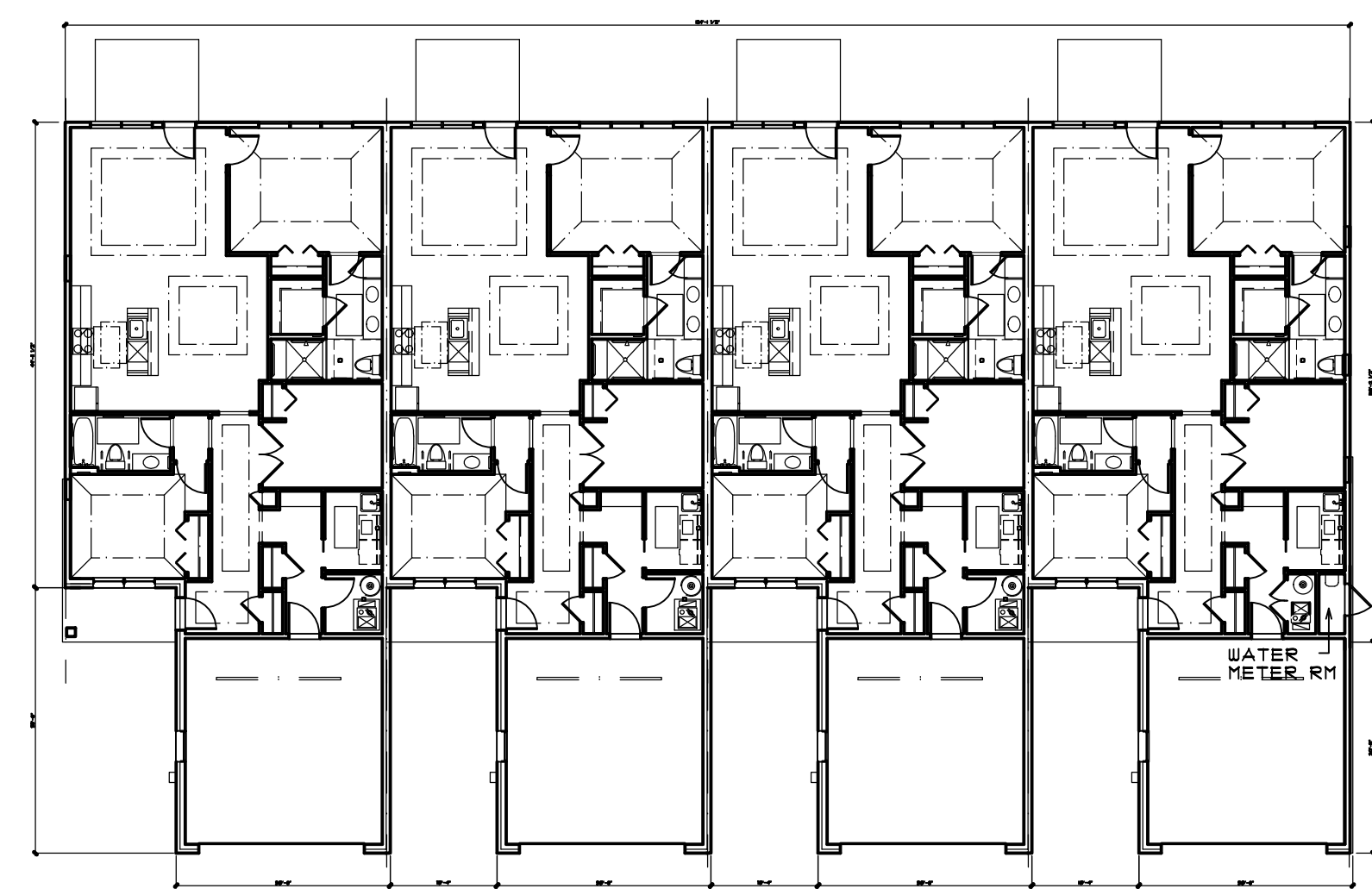
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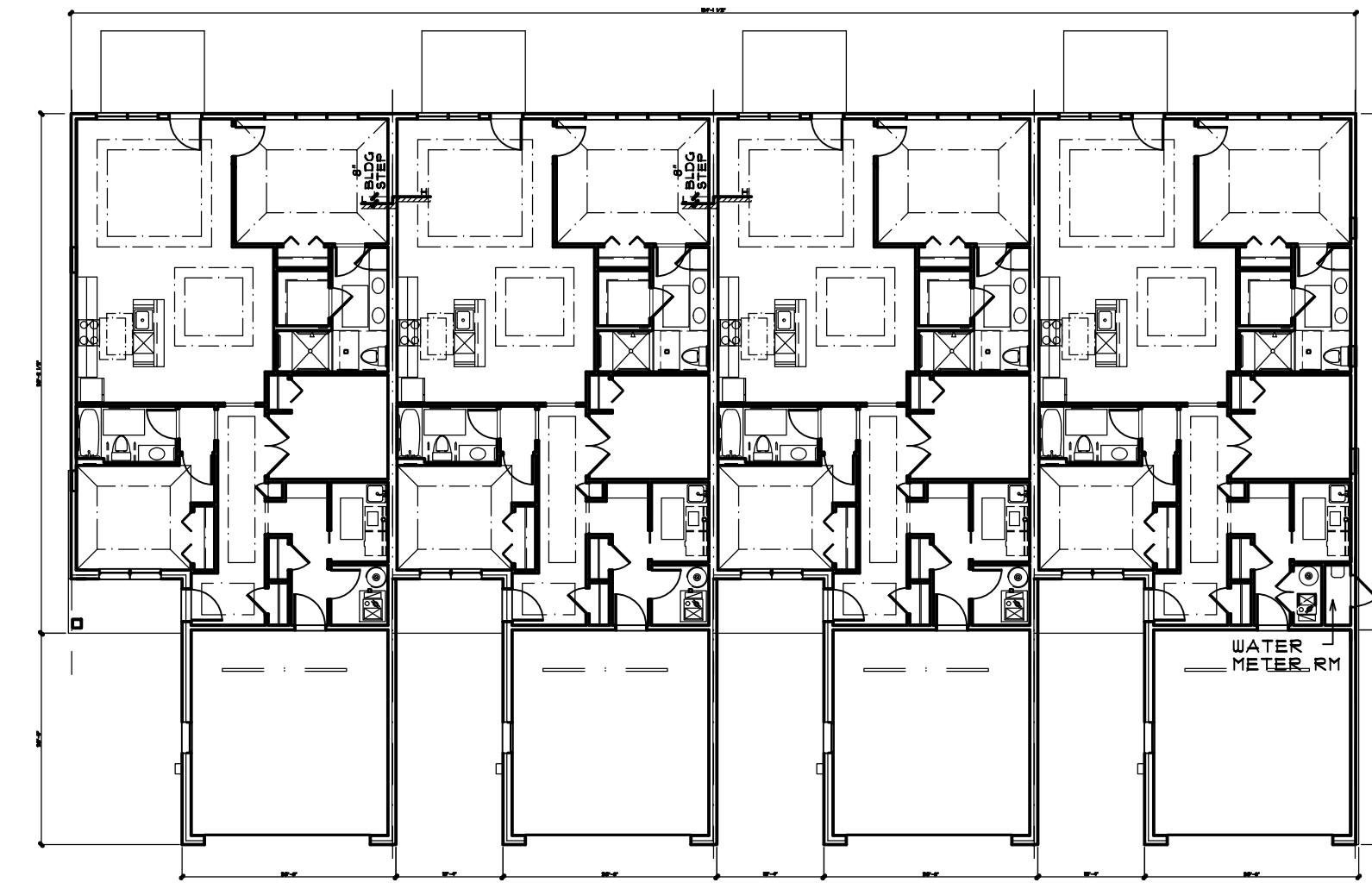
NOTE:

- REFER TO 1/4" SCALE UNIT PLANS FOR ALL NOTES, DIMENSIONS, DETAILS AND ALL ADDITIONAL INFORMATION NOT SHOWN.
- SEE STRUCTURAL ENGINEERING PLANS (BY OTHERS) FOR ALL STRUCTURAL INFORMATION. ALL FOUNDATION INFORMATION REGARDING BEARING CAPACITY OF SOIL CAN VARY ON A BUILDING BY BUILDING BASIS.
- REFER TO CIVIL ENGINEERING PLANS (BY OTHERS) FOR ADDITIONAL INFORMATION ON BUILDING STEPS & GRADING INFORMATION.

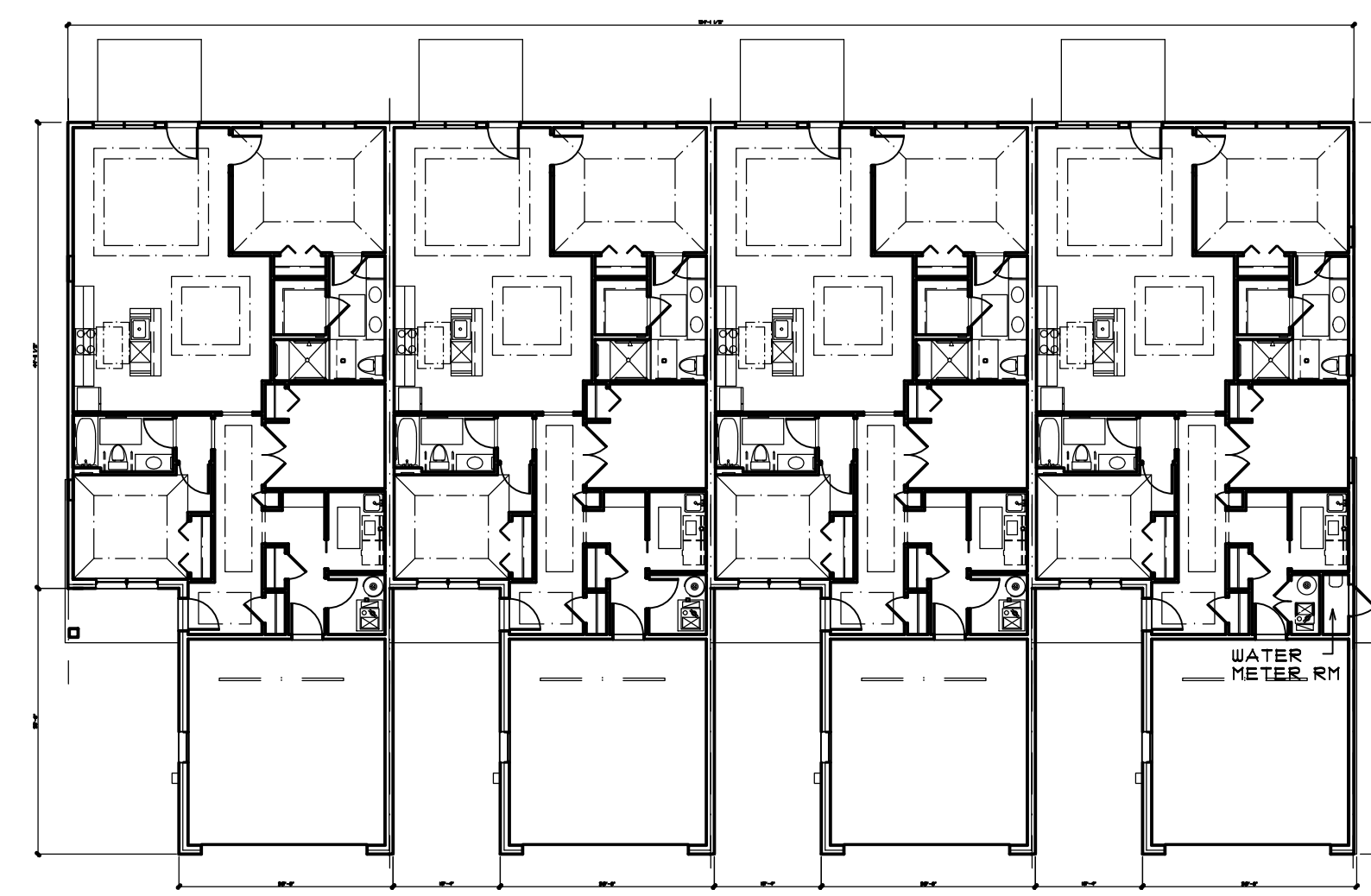
NOTE: CONFIRM WATER METER ROOM LOCATION w/ CIVIL PRIOR TO CONSTRUCTION.



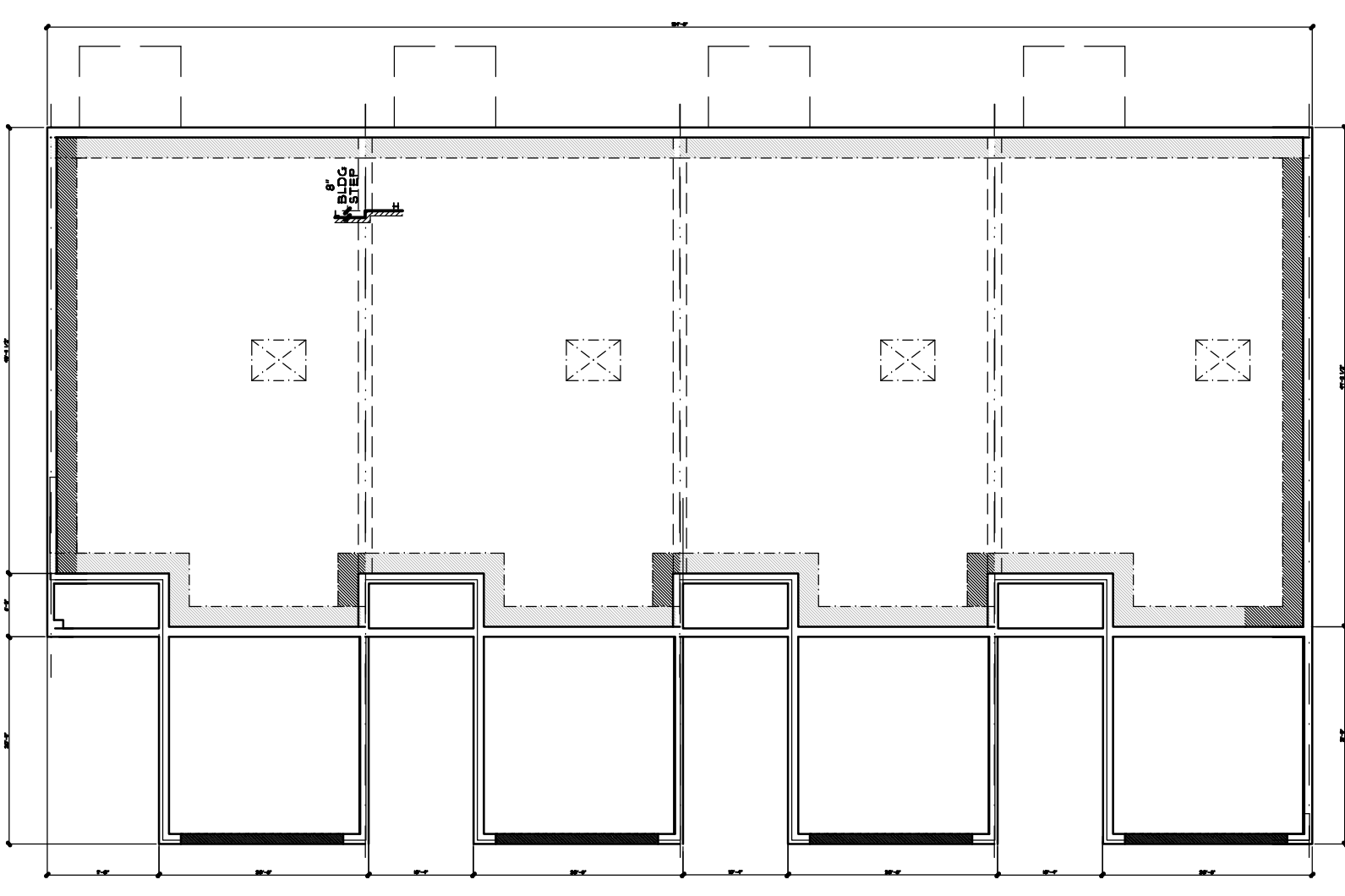
6 BLDG I - FIRST FLOOR PLAN
 A202 UNITS (29-32) SCALE: 1/16" = 1'-0"



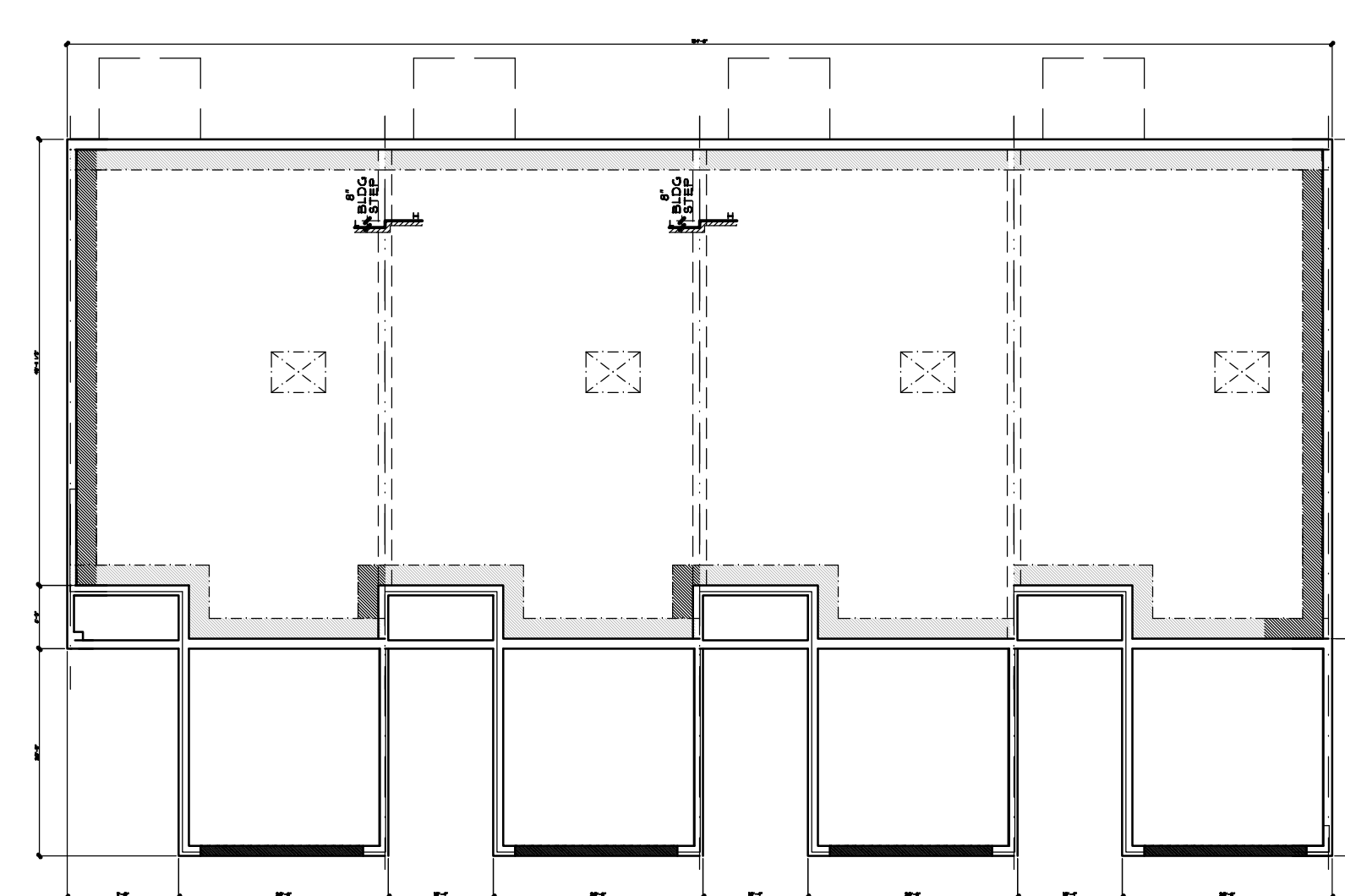
4 BLDG H - FIRST FLOOR PLAN
 A202 UNITS (25-28) SCALE: 1/16" = 1'-0"



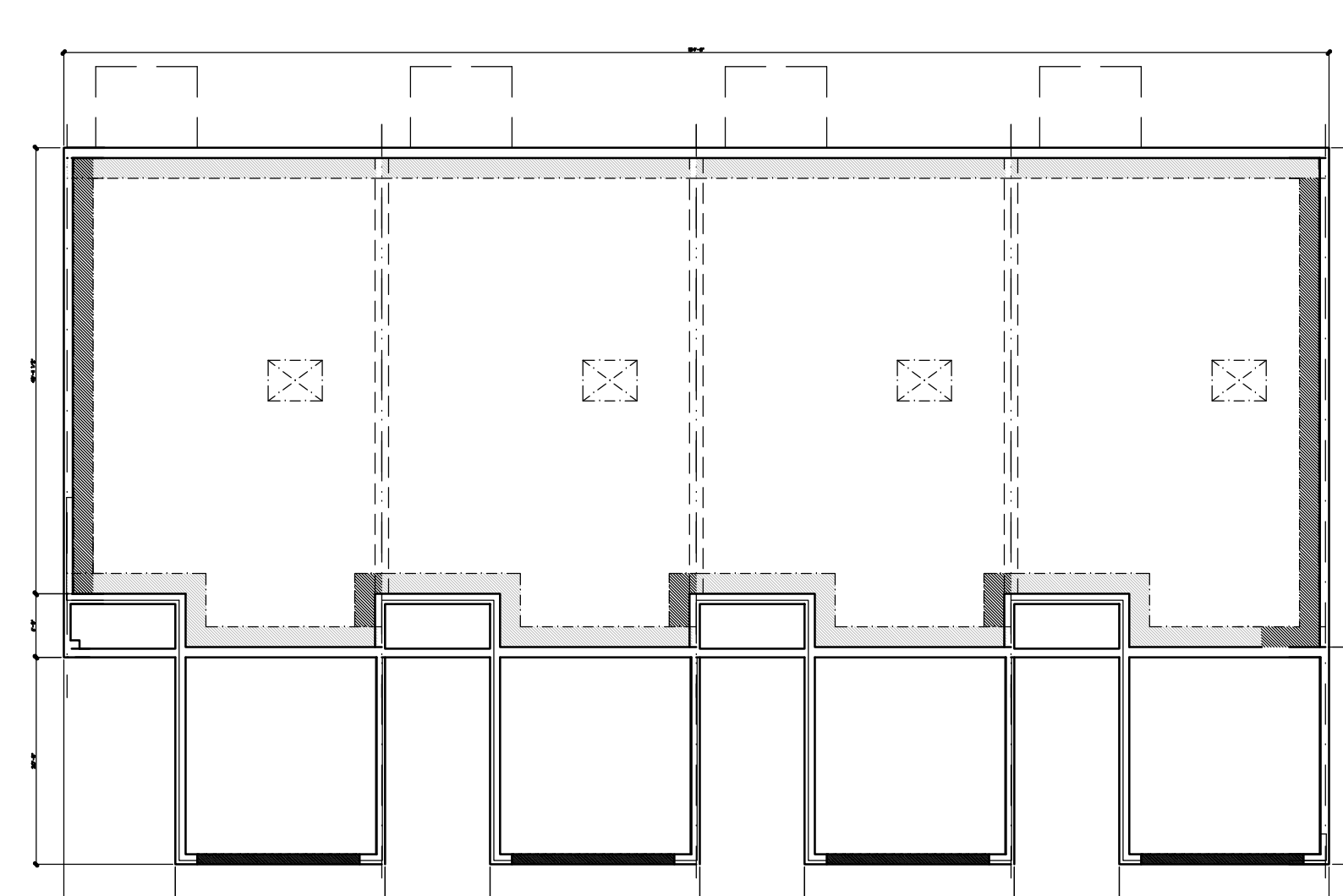
2 BLDGS F,G,K,L,M,Q - FIRST FLOOR PLAN
 A202 UNITS (17-20, 21-24, 37-40, 41-44, 45-48, 58-61) SCALE: 1/16" = 1'-0"



5 BLDG I - FOUNDATION PLAN
 A202 UNITS (29-32) SCALE: 1/16" = 1'-0"



3 BLDG H - FOUNDATION PLAN
 A202 UNITS (25-28) SCALE: 1/16" = 1'-0"



1 BLDGS F,G,K,L,M,Q - FOUNDATION PLAN
 A202 UNITS (17-20, 21-24, 37-40, 41-44, 45-48, 58-61) SCALE: 1/16" = 1'-0"

ALL INTERIOR PARTITION DIMENSIONS ARE 3 1/2" UNLESS NOTED OTHERWISE. BEFORE CONSTRUCTION OBTAIN WINDOW & DOOR ROUGH OPENING SIZES FROM WINDOW/DOOR SUPPLIER. SEE SHEETS N-1 - N-4 FOR ADDITIONAL NOTES REGARDING DRAWINGS & CONSTRUCTION. SEE SHEETS D1-D4 FOR ADDITIONAL DETAILS REGARDING DRAWINGS & CONSTRUCTION. DO NOT SCALE THESE DRAWINGS. USE CALCULATED DIMENSIONS. IF VARIATIONS OCCUR CONTACT ARCHITECT FOR CLARIFICATION.

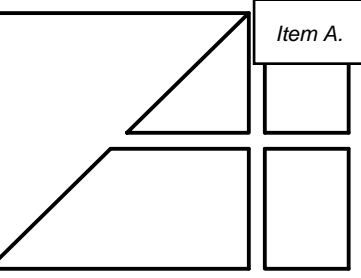
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 MULTIFAMILY COMMUNITY
 WHITE LAKE, MICHIGAN

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 SHEET NUMBER
 A202

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Interior Design
 2445 Franklin Road
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BUILDING ELEVATIONS

LAKE POINTE
 MULTIFAMILY COMMUNITY
 WHITE LAKE, MICHIGAN

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JOB NUMBER
 2216

DATE

SHEET NUMBER
 A203

NOTE:
 REFER TO 1/4" SCALE ELEVATIONS ON SHEET
 A203 FOR ADDITIONAL NOTES AND DIMENSIONS.
 SEE SHEET S-1 FOR COLOR SCHEME OF BUILDINGS

NOTE #1:
 RAISE HEELS AS NECESSARY TO ELIMINATE STEP
 IN THE ROOF.

SEE
 1" SCALE PLANS FOR SIDE
 ELEVATION SHEET A101

NOTE: SEE A5-1 FOR
 INDIVIDUAL BUILDING COLOR
 SCHEME

NOTES

ALL EXTERIOR TRIM TO BE ALUMINUM WRAPPED
 OR VINYL. VERIFY EXACT LOCATIONS FOR EACH
 MATERIAL WITH OWNER PRIOR TO CONSTRUCTION.

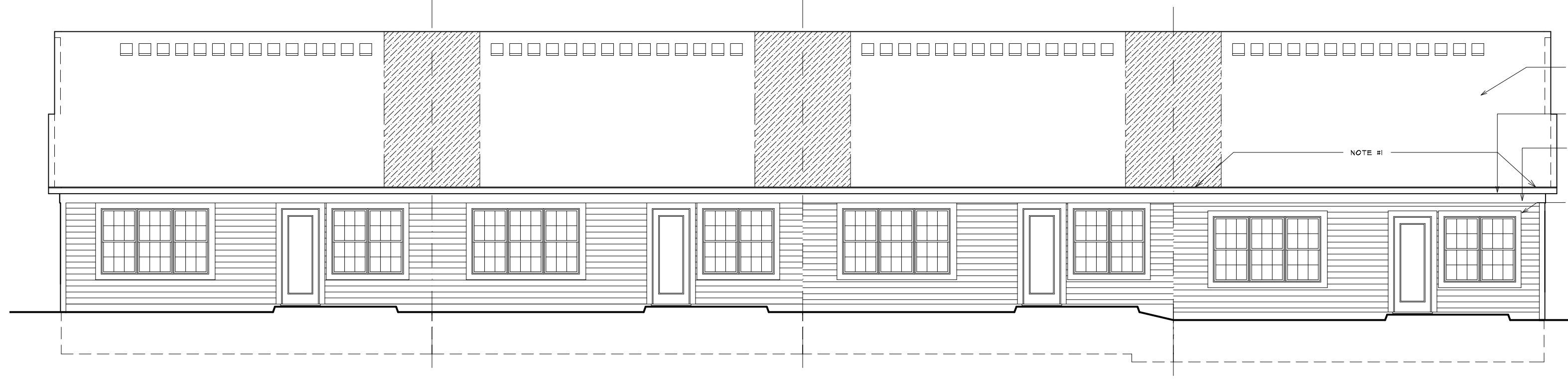
PROVIDE PEEP HOLES AND DEAD BOLTS AT ALL
 FRONT ENTRY DOORS. SEE BUILDER FOR
 SPECIFICATIONS.

ALL DRYWALL TO BE READY TO BE PAINTED

BRICK ROWLOCK SILLS MAY BE REPLACED WITH
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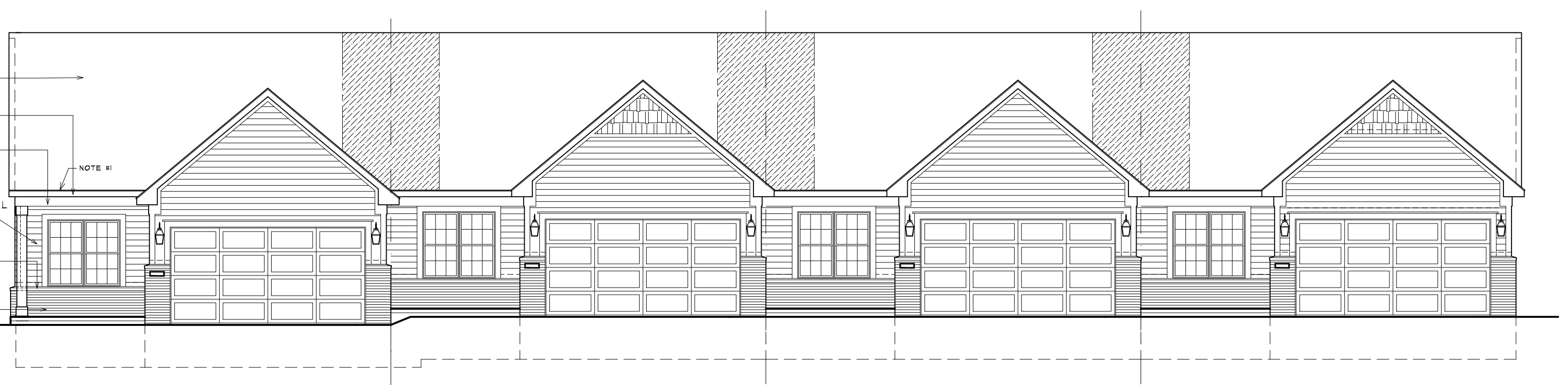
FIXED GLASS WINDOWS IN GABLES TO HAVE
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PROVIDE RECESS LIGHT IN SOFFIT ABOVE DOOR
 ENTRY - CONNECT TO PHOTO CELL.



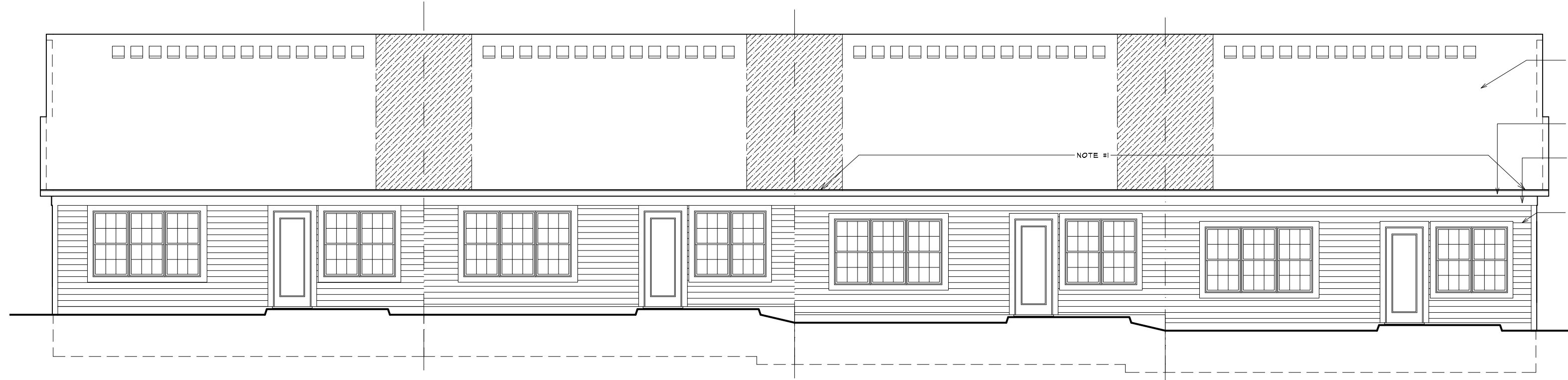
6 BUILDINGS I - REAR ELEVATION
 A203 SINGLE STORY TYPE "B" - UNITS (29-32)

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



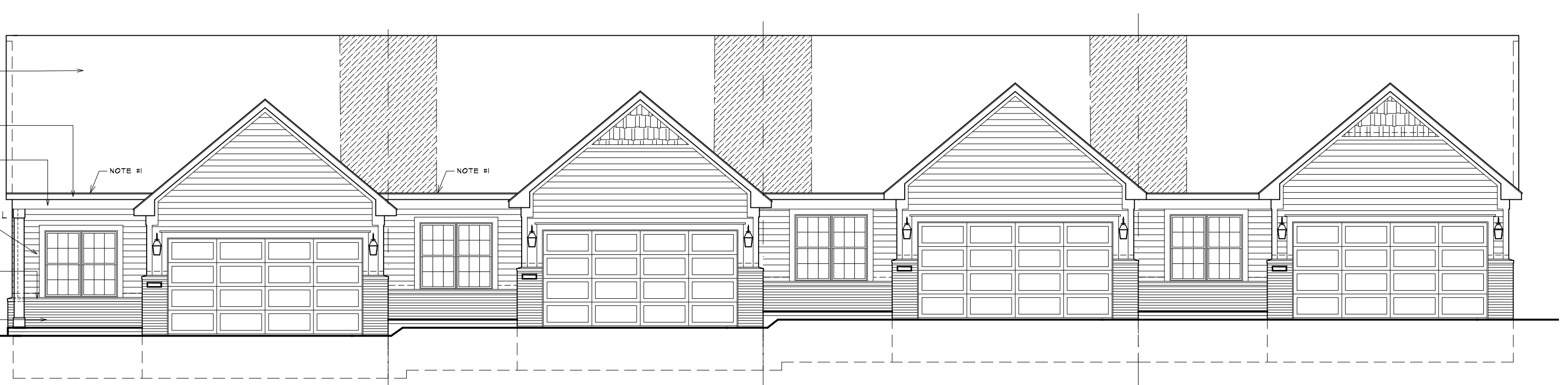
5 BUILDINGS I - FRONT ELEVATION
 A203 SINGLE STORY TYPE "B" - UNITS (29-32)

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



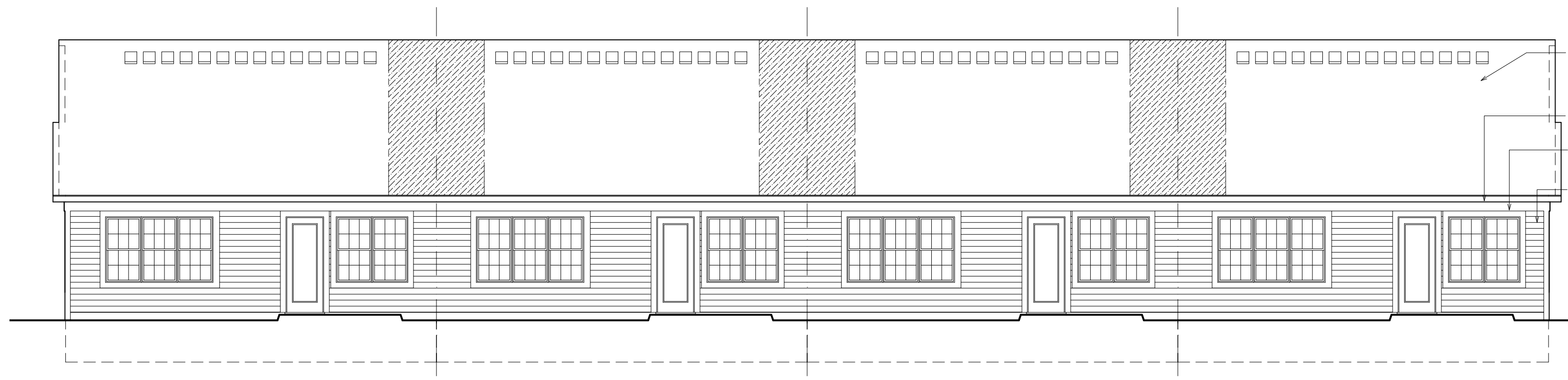
4 BUILDING H - REAR ELEVATION
 A203 SINGLE STORY TYPE "B" - UNITS (25-28)

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



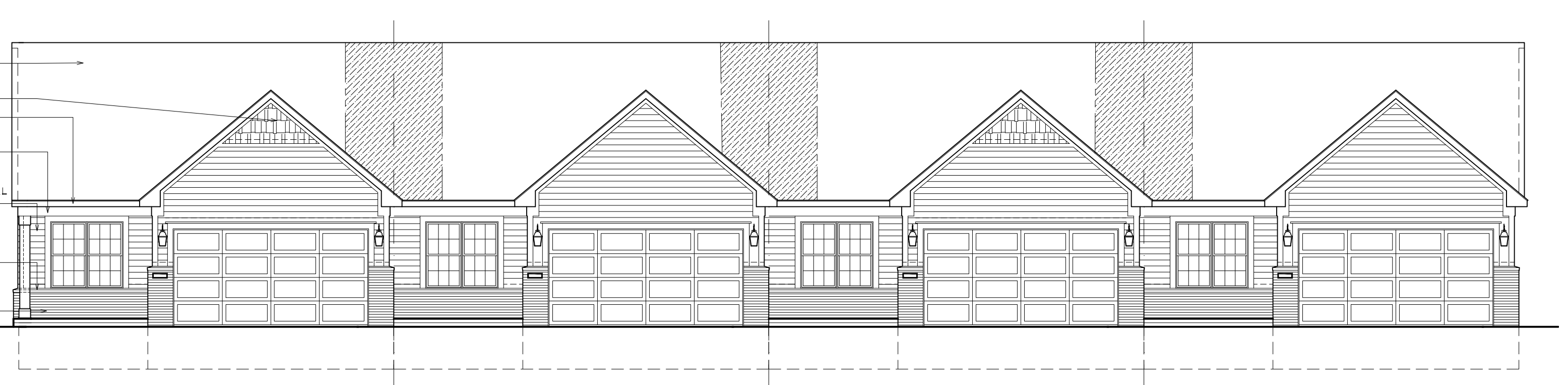
3 BUILDING H - FRONT ELEVATION
 A203 SINGLE STORY TYPE "B" - UNITS (25-28)

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



2 BUILDINGS F,G,K,L,M,Q - REAR ELEVATION
 A203 SINGLE STORY TYPE "B" - UNITS (17-20, 21-24, 37-40, 41-44, 45-48, 58-61)

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



1 BUILDINGS F,G,K,L,M,Q - FRONT ELEVATION
 A203 SINGLE STORY TYPE "B" - UNITS (17-20, 21-24, 37-40, 41-44, 45-48, 58-61)

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

ALL INTERIOR PARTITION DIMENSIONS ARE
 3 1/2" UNLESS NOTED OTHERWISE.

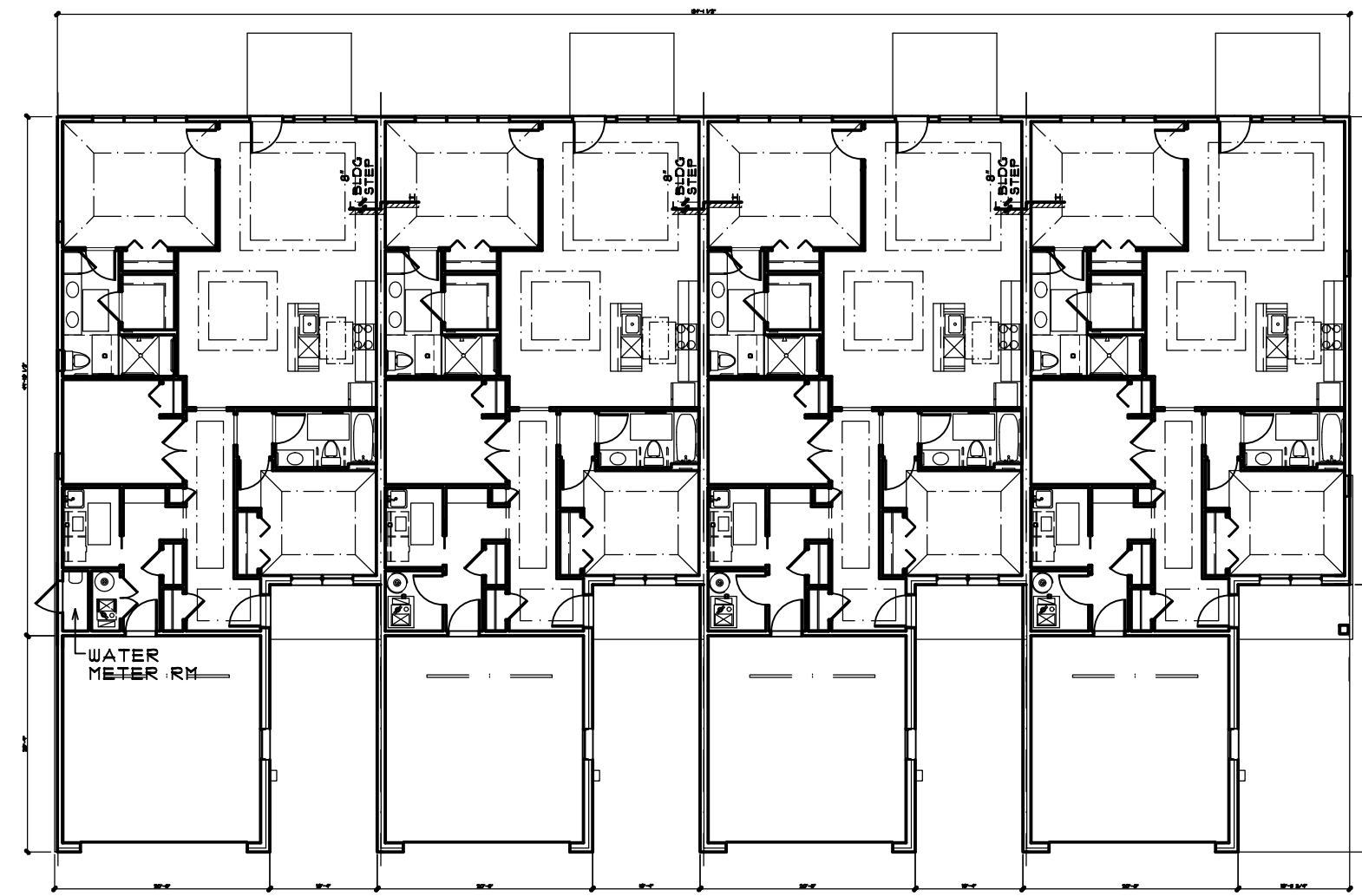
BEFORE CONSTRUCTION OBTAIN WINDOW & DOOR ROUGH
 OPENING SIZES FROM WINDOW/DOOR SUPPLIER.

SEE SHEETS N-1 - N-4 FOR ADDITIONAL DETAILS
 REGARDING DRAWINGS & CONSTRUCTION.

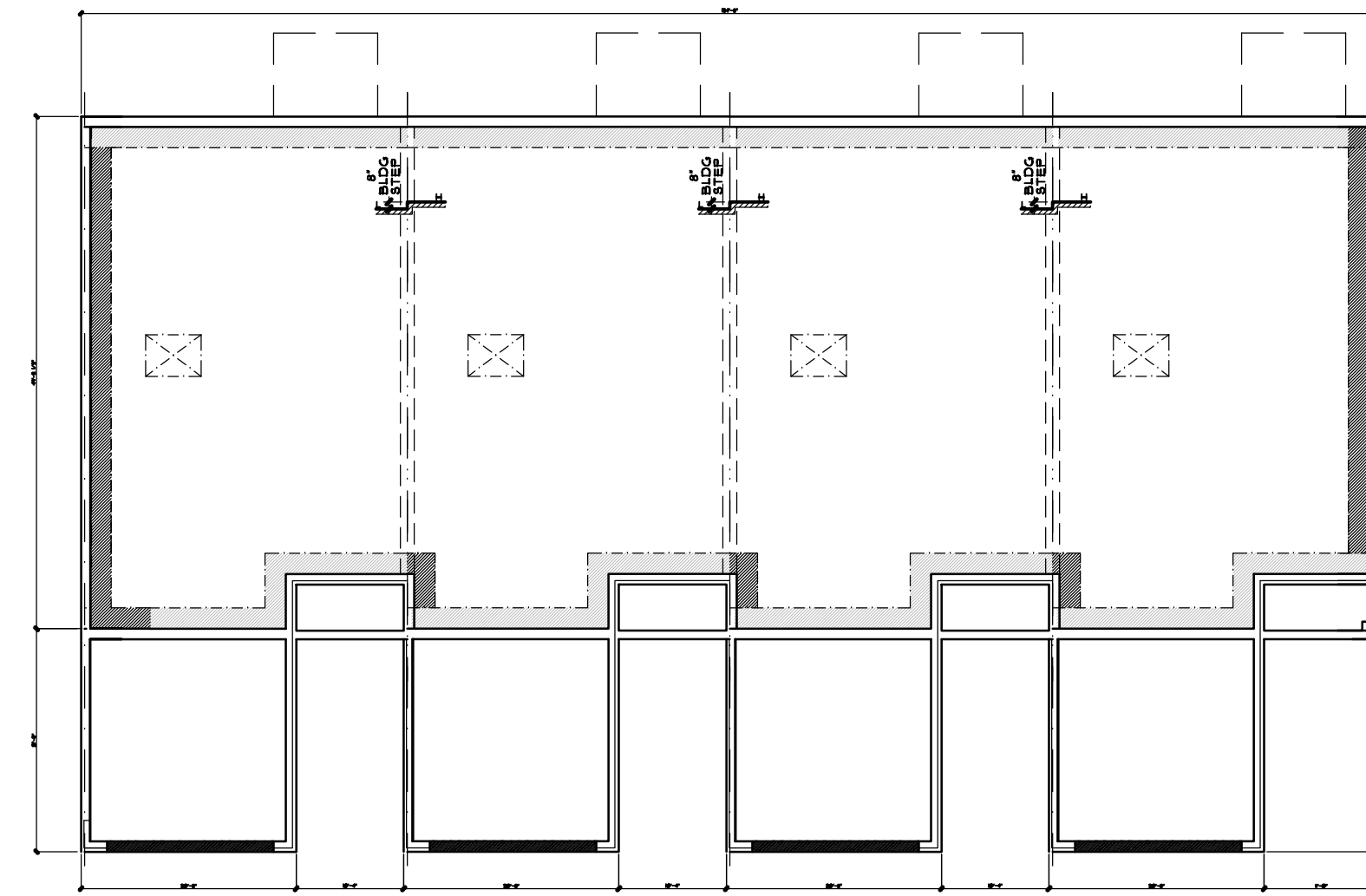
SEE SHEETS D1-D4 FOR ADDITIONAL NOTES
 REGARDING DRAWINGS & CONSTRUCTION.

DO NOT SCALE THESE DRAWINGS. USE CALCULATED DIMENSIONS.
 IF VARIATIONS OCCUR CONTACT ARCHITECT FOR CLARIFICATION.

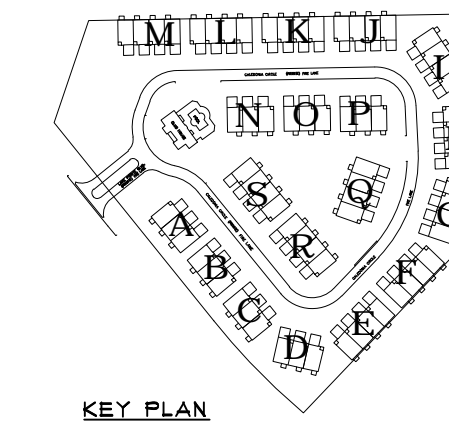
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8 BLDG S - FIRST FLOOR PLAN
A204 UNITS (66-69) SCALE: 1/16" = 1'-0"



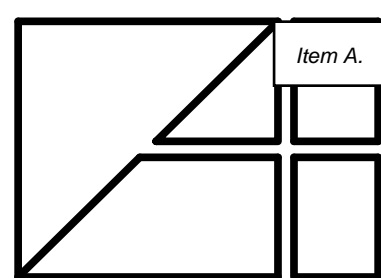
7 BLDG S - FOUNDATION PLAN
A204 UNITS (66-69) SCALE: 1/16" = 1'-0"



NOTE:

- REFER TO 1/4" SCALE UNIT PLANS FOR ALL NOTES, DIMENSIONS, DETAILS AND ALL ADDITIONAL INFORMATION NOT SHOWN.
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- REFER TO CIVIL ENGINEERING PLANS (BY OTHERS) FOR ADDITIONAL INFORMATION ON BUILDING STEPS & GRADING INFORMATION.

NOTE: CONFIRM WATER METER ROOM LOCATION W/ CIVIL PRIOR TO CONSTRUCTION.



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 LAKE POINTE
 MULTIFAMILY COMMUNITY
 WHITE LAKE, MICHIGAN

SHEET TITLE:
 BUILDING PLANS

Item A.
 SINGLE STORY TYPE "B" UNITS

CLIENT/PROJECT:
 LAKE POINTE
 MULTIFAMILY COMMUNITY
 WHITE LAKE, MICHIGAN

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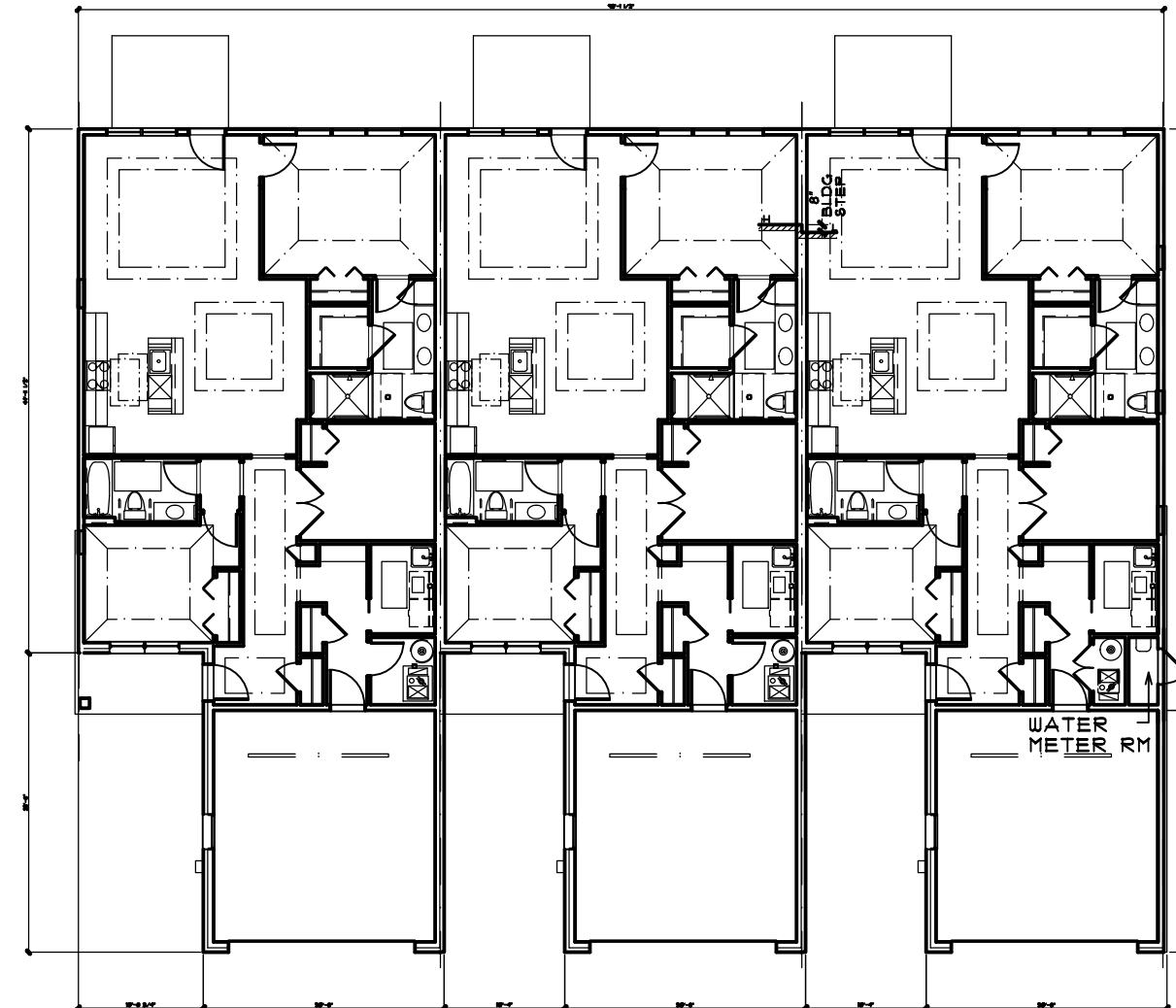
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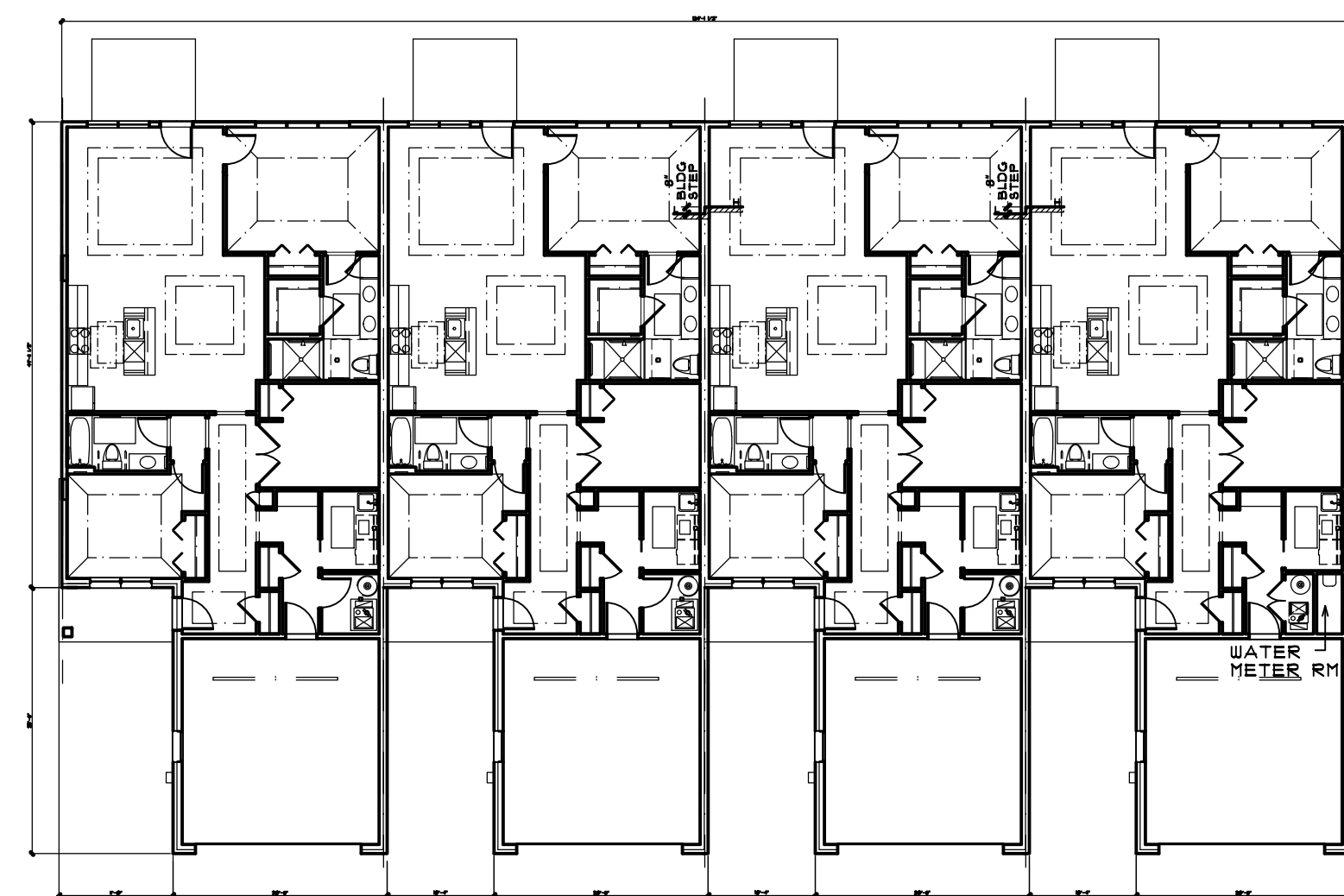
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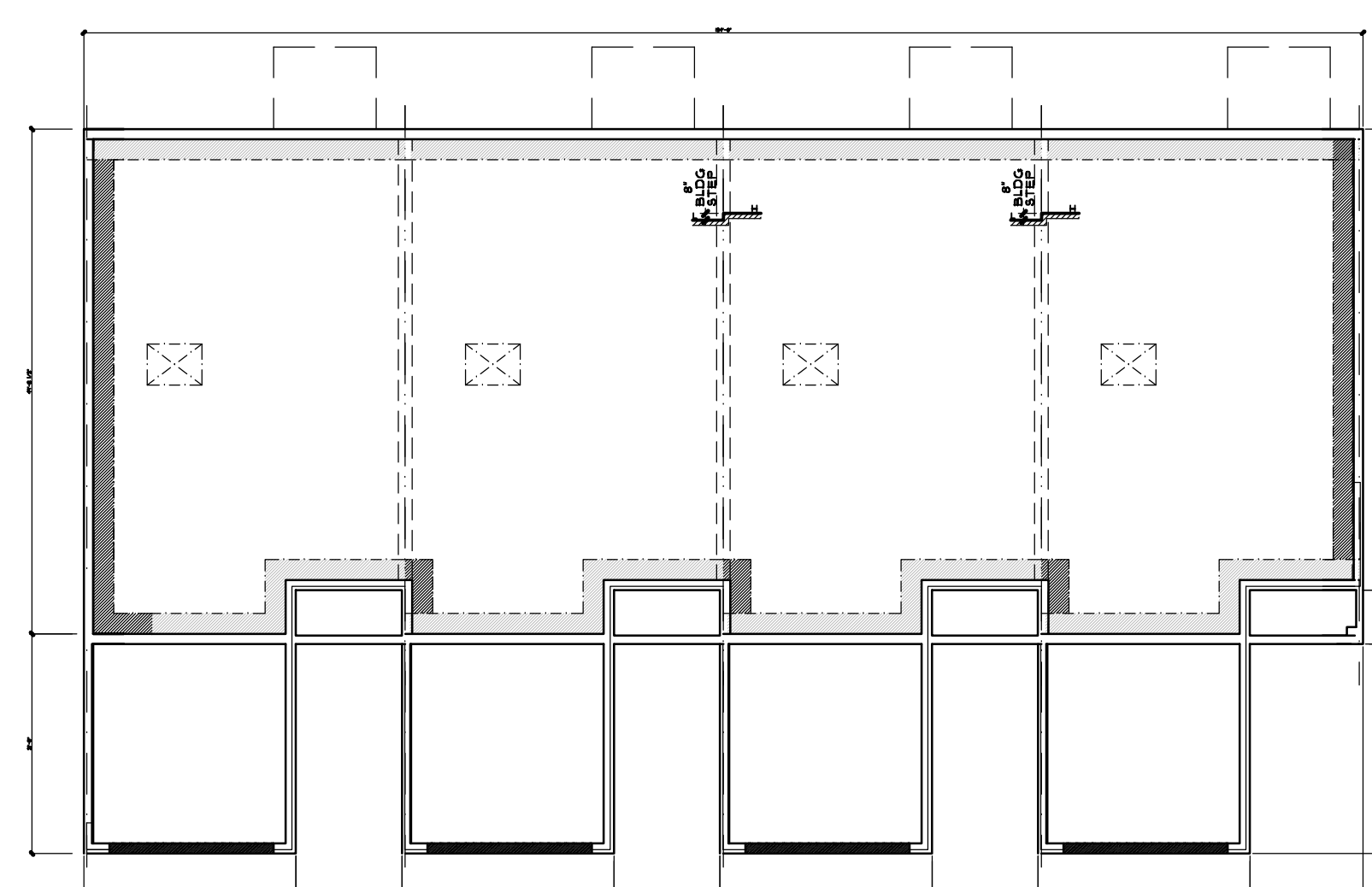
6 BLDG R - FIRST FLOOR PLAN
A204 UNITS (62-65) SCALE: 1/16" = 1'-0"



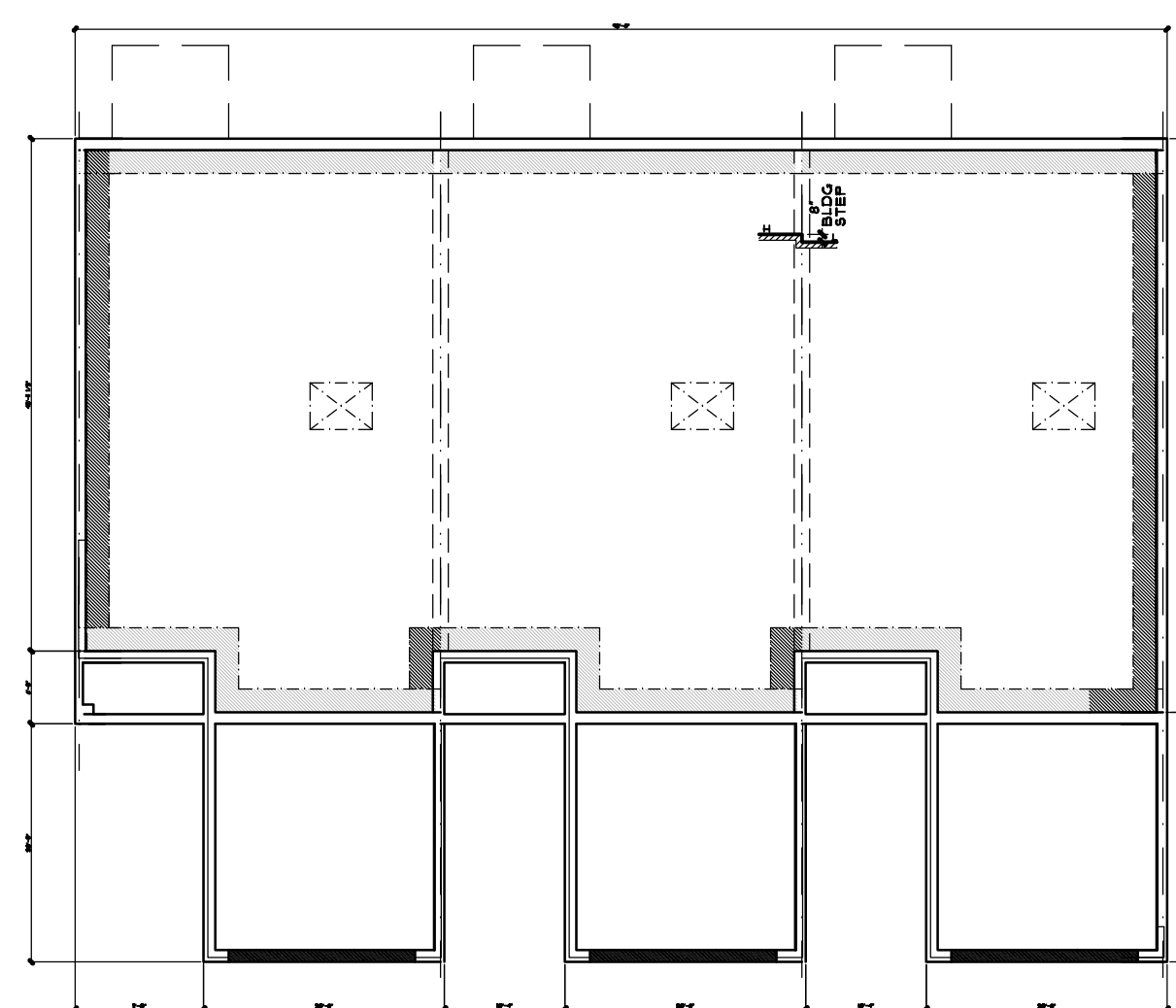
4 BLDG P - FIRST FLOOR PLAN
A204 UNITS (55-57) SCALE: 1/16" = 1'-0"



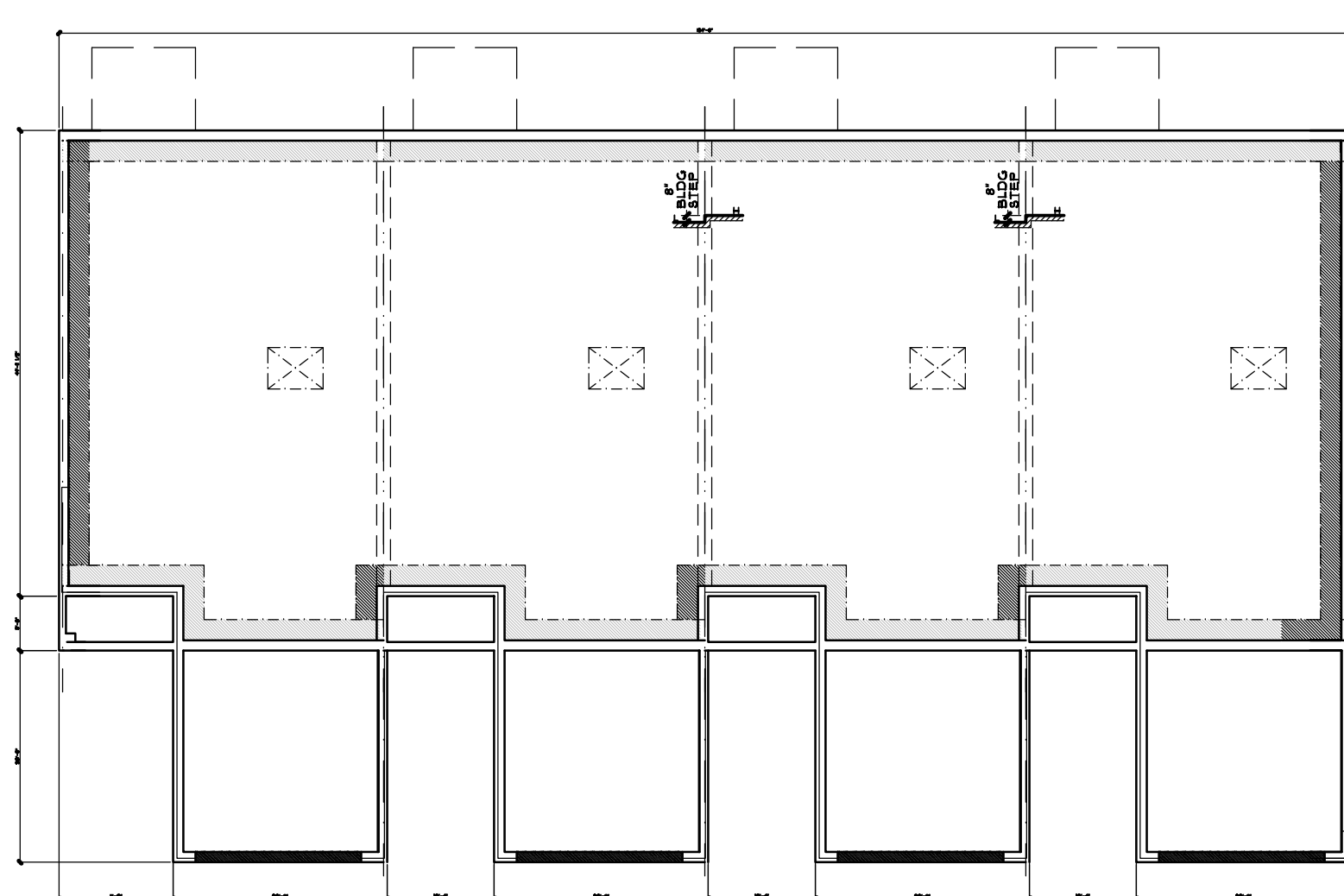
2 BLDG J - FIRST FLOOR PLAN
A204 UNITS (33-36) SCALE: 1/16" = 1'-0"



5 BLDG R - FOUNDATION PLAN
A204 UNITS (62-65) SCALE: 1/16" = 1'-0"



3 BLDG P - FOUNDATION PLAN
A204 UNITS (55-57) SCALE: 1/16" = 1'-0"



1 BLDG J - FOUNDATION PLAN
A204 UNITS (33-36) SCALE: 1/16" = 1'-0"

ALL INTERIOR PARTITION DIMENSIONS ARE 3/16" UNLESS NOTED OTHERWISE.

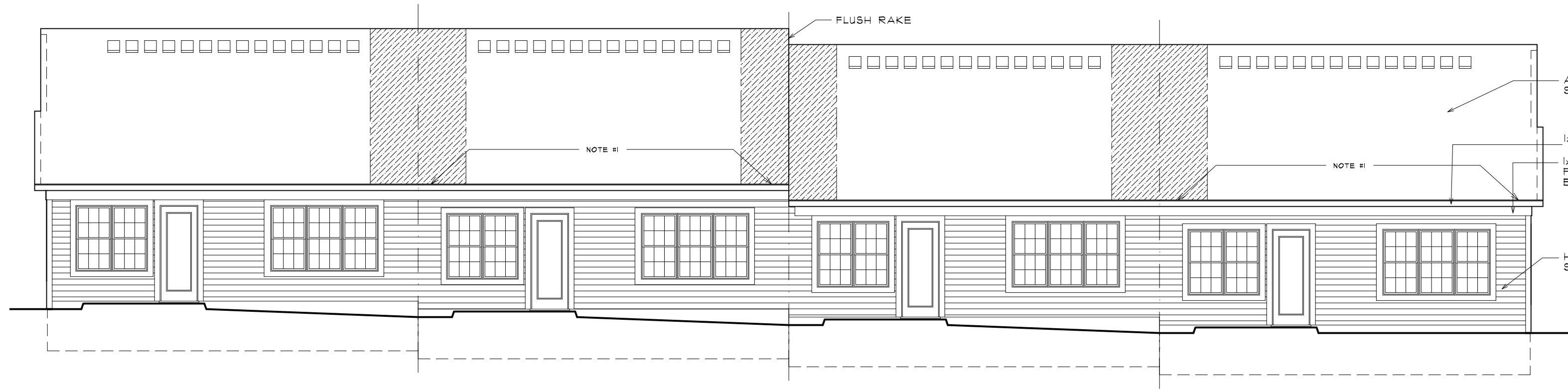
BEFORE CONSTRUCTION OBTAIN WINDOW & DOOR ROUGH OPENING SIZES FROM WINDOW/DOOR SUPPLIER.

SEE SHEETS N-1 - N-4 FOR ADDITIONAL NOTES REGARDING DRAWINGS & CONSTRUCTION.

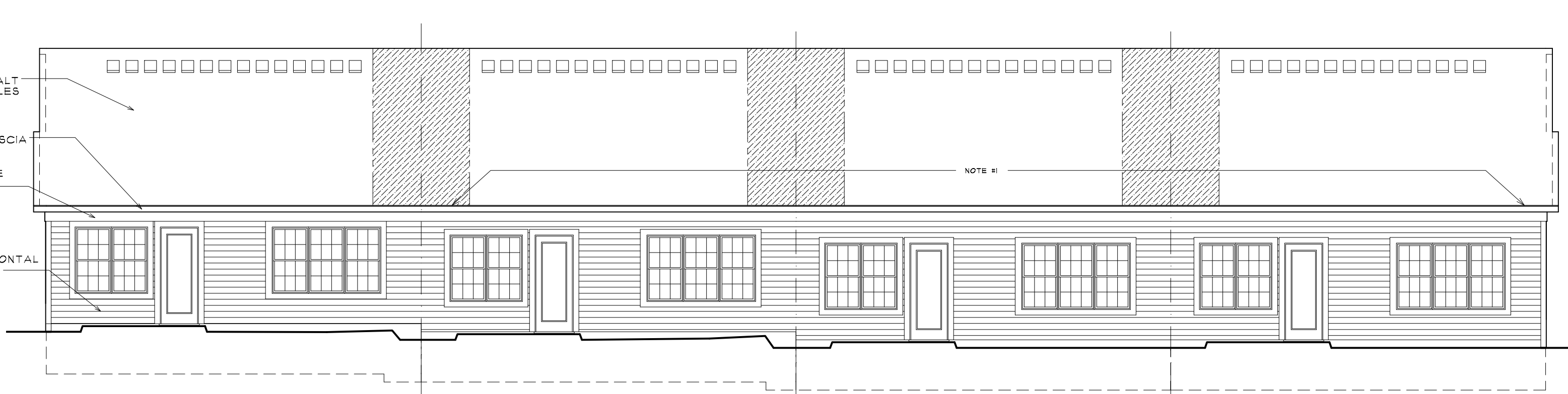
SEE SHEETS D1-D4 FOR ADDITIONAL DETAILS REGARDING DRAWINGS & CONSTRUCTION.

DO NOT SCALE THESE DRAWINGS. USE CALCULATED DIMENSIONS. IF VARIATIONS OCCUR CONTACT ARCHITECT FOR CLARIFICATION.

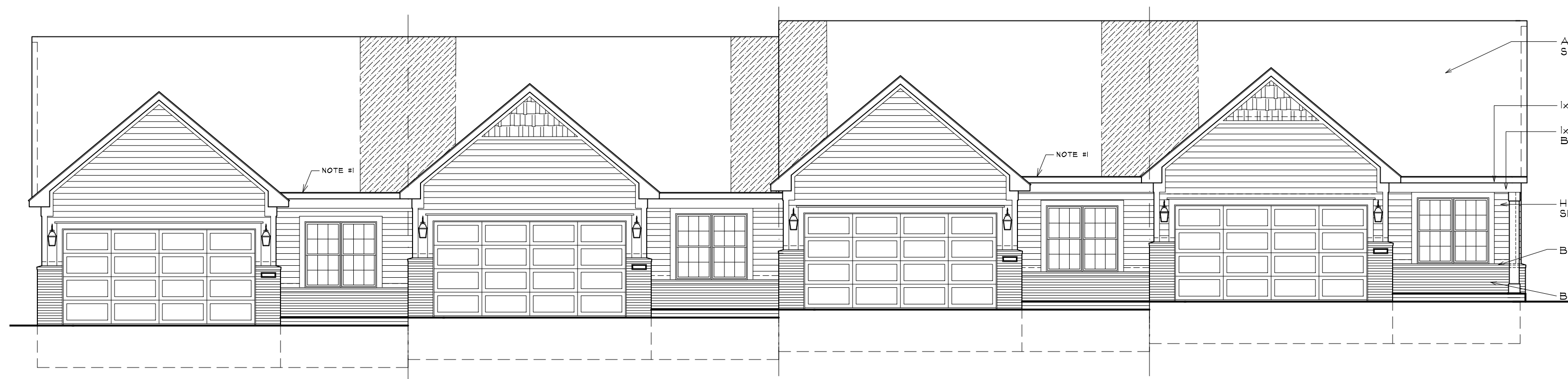
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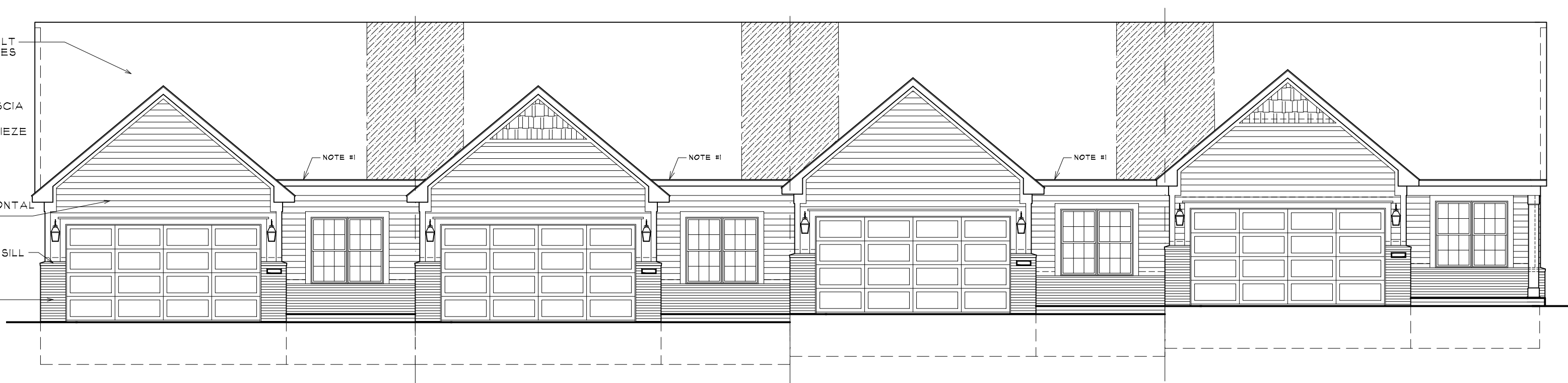
8 BUILDING S (UNITS 66-69) - REAR ELEVATION
 SINGLE STORY TYPE "B"
 SCALE: 1/8" = 1'-0"



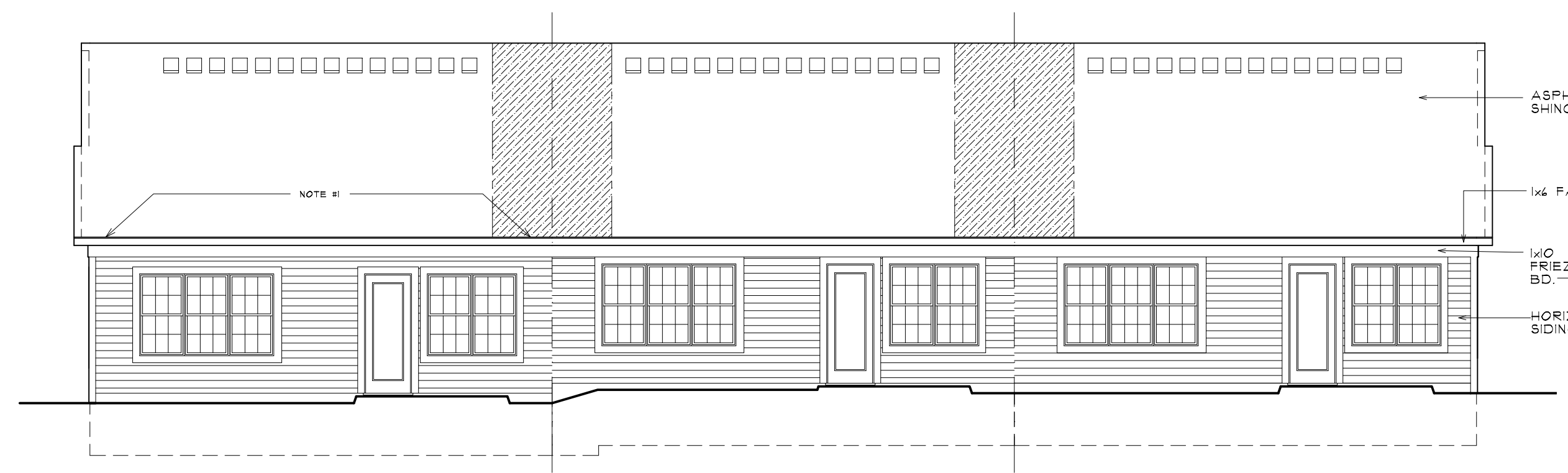
6 BUILDING R (UNITS 62-65) - REAR ELEVATION
 SINGLE STORY TYPE "B"
 SCALE: 1/8" = 1'-0"



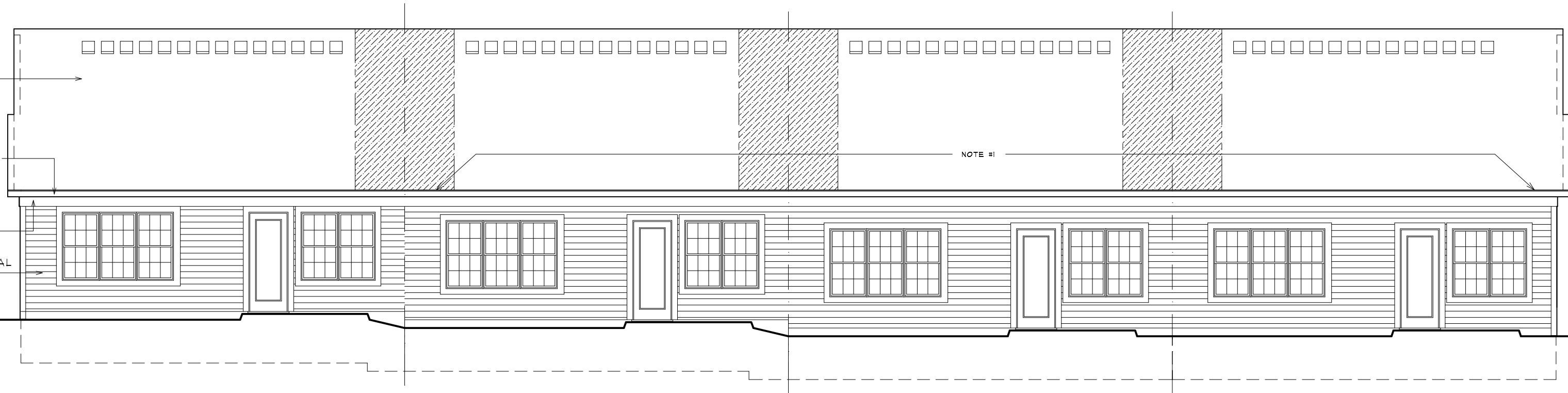
7 BUILDING S (UNITS 66-69) - FRONT ELEVATION
 SINGLE STORY TYPE "B"
 SCALE: 1/8" = 1'-0"



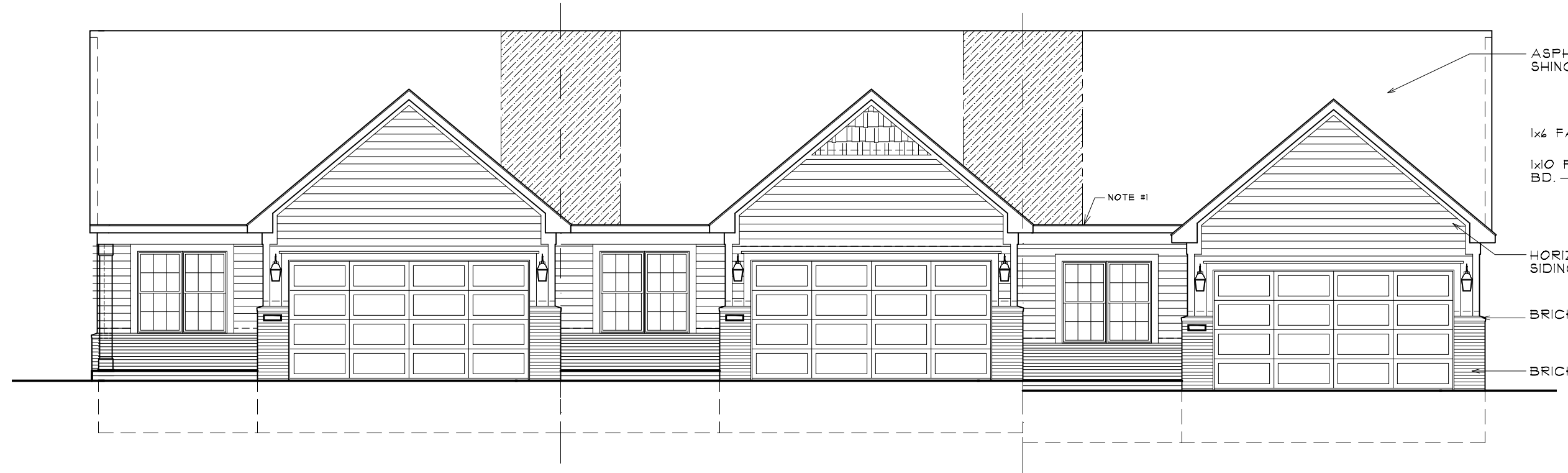
5 BUILDING R (UNITS 62-65) - FRONT ELEVATION
 SINGLE STORY TYPE "B"
 SCALE: 1/8" = 1'-0"



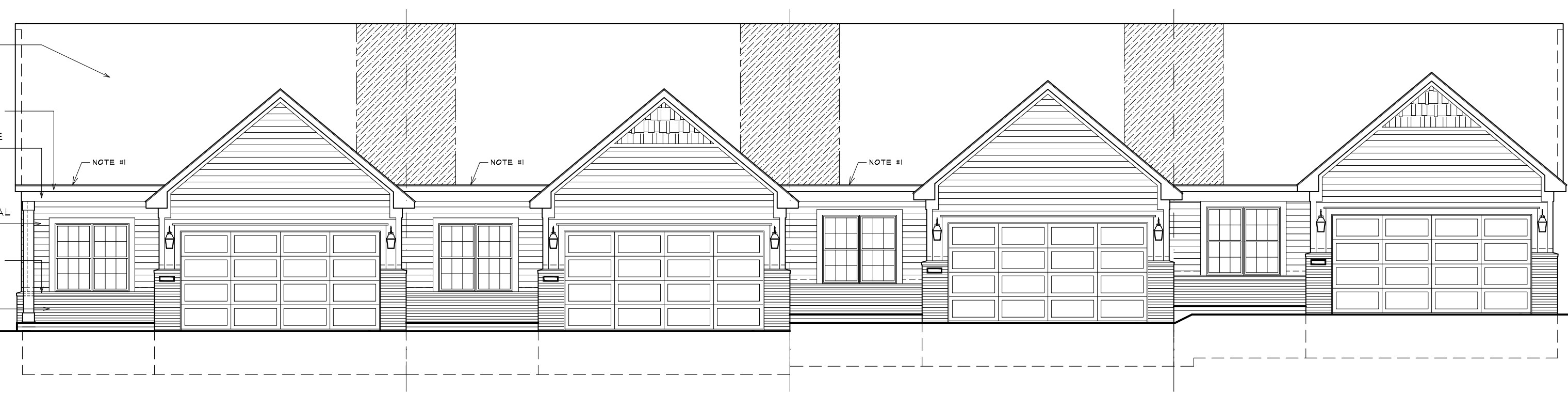
4 BUILDING P (UNITS 55-57) - REAR ELEVATION
 SINGLE STORY TYPE "B"
 SCALE: 1/8" = 1'-0"



2 BUILDING J (UNITS 33-36) - REAR ELEVATION
 SINGLE STORY TYPE "B"
 SCALE: 1/8" = 1'-0"



3 BUILDING P (UNITS 55-57) - FRONT ELEVATION
 SINGLE STORY TYPE "B"
 SCALE: 1/8" = 1'-0"



1 BUILDING J (UNITS 33-36) - FRONT ELEVATION
 SINGLE STORY TYPE "B"
 SCALE: 1/8" = 1'-0"

NOTES
 ALL EXTERIOR TRIM TO BE ALUMINUM WRAPPED OR VINYL. VERIFY EXACT LOCATIONS FOR EACH MATERIAL WITH OWNER PRIOR TO CONSTRUCTION.
 PROVIDE FEET HOLES AND DEAD BOLTS AT ALL FRONT ENTRY DOORS. SEE BUILDER FOR SPECIFICATIONS.
 ALL DRYWALL TO BE READY TO BE PAINTED.
 BRICK ROULOCK SILLS MAY BE REPLACED WITH PRECAST STONE OR CONCRETE. VERIFY WITH BUILDER PRIOR TO CONSTRUCTION.
 FIXED GLASS WINDOWS IN GABLES TO HAVE OPAQUE FINISH ON INTERIOR OF GLASS SO FRAMING OF ROOF NOT VISIBLE FROM EXTERIOR.
 PROVIDE RECESS LIGHT IN SOFFIT ABOVE DOOR ENTRY - CONNECT TO PHOTO CELL.

NOTE:
 REFER TO 1/4" SCALE ELEVATIONS ON SHEET A203 FOR ADDITIONAL NOTES AND DIMENSIONS. SEE SHEET S-1 FOR COLOR SCHEME OF BUILDINGS.
NOTE #1:
 RAISE HEELS AS NECESSARY TO ELIMINATE STEP IN THE ROOF.

SEE 1/4" SCALE PLANS FOR SIDE ELEVATION SHEET A 101

NOTE: SEE A-1 FOR INDIVIDUAL BUILDING COLOR SCHEME

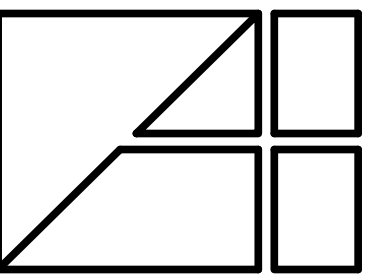
ALL INTERIOR PARTITION DIMENSIONS ARE 3 1/2" UNLESS NOTED OTHERWISE.

BEFORE CONSTRUCTION OBTAIN WINDOW & DOOR ROUGH OPENING SIZES FROM WINDOW/DOOR SUPPLIER.

SEE SHEETS N-1 - N-4 FOR ADDITIONAL DETAILS REGARDING DRAWINGS & CONSTRUCTION.

SEE SHEETS D1-D4 FOR ADDITIONAL NOTES REGARDING DRAWINGS & CONSTRUCTION.

DO NOT SCALE THESE DRAWINGS. USE CALCULATED DIMENSIONS. IF VARIATIONS OCCUR CONTACT ARCHITECT FOR CLARIFICATION.



Interior Design
2445 Franklin Road
Bloomfield Hills, MI 48302
248-334-5000

SITE PLAN

LAKE POINTE
MULTIFAMILY COMMUNITY
WHITE LAKE, MICHIGAN

COPYRIGHT 2021
ALEXANDER V. BOGAERTS + ASSOC.
PRELIMINARY
08-19-19

DRAWN BY
MS/DA
CAD FILENAME
2216.DWG
CHECKED BY
JOB NUMBER
2216
DATE
SHEET NUMBER
AS-1

FUNARI: LAKE POINTE
EXTERIOR MATERIALS AND FINISHES
Updated: 10-18-2022

Scheme A

Brampton Brick Crossroads Series "Whitestone", Queen Size

Variform American Herald: Board & Batten 5.5" x 1.5", Double 5" Horizontal Siding. Color: Rich Mocha

Vinyl Trim: Dover White

Variform Heritage Cedar Shake Siding: Double 5" exposure. Color: Wedgewood

Mid America Vinyl Shutters in Black #02

Front Entry Door Paint: Sandtone

Garage: Garage

Roof Shingles: Certainteed "Landmark Series" Weathered Wood

Scheme B

Brampton Brick Crossroads Series "Crawford", Queen Size

Variform American Herald Board & Batten 5.5" x 1.5", Double 5" Horizontal Siding. Color: Sandy Tan

Vinyl Trim: Heritage Linen

Variform Heritage Cedar Triple 5" exposure. Color: Island Pearl

Mid America Vinyl Shutters in Midnight Blue #166

Front Entry Door Paint: Desert Tan

Garage Door: Desert Tan

Windows & Railings: Black

Scheme C

Brampton Brick Crossroads Series "Greystone", Queen Size

Variform American Herald Board & Batten 5.5" x 1.5", Double 5" Horizontal Siding. Color: Mountain Clay

Vinyl Trim: Heritage Linen

Variform Heritage Cedar Triple 5" exposure. Color: Lakeshore Fern

Mid America Vinyl Shutters in White #01

Front Entry Door Paint: Desert Tan

Garage Door: Desert Tan

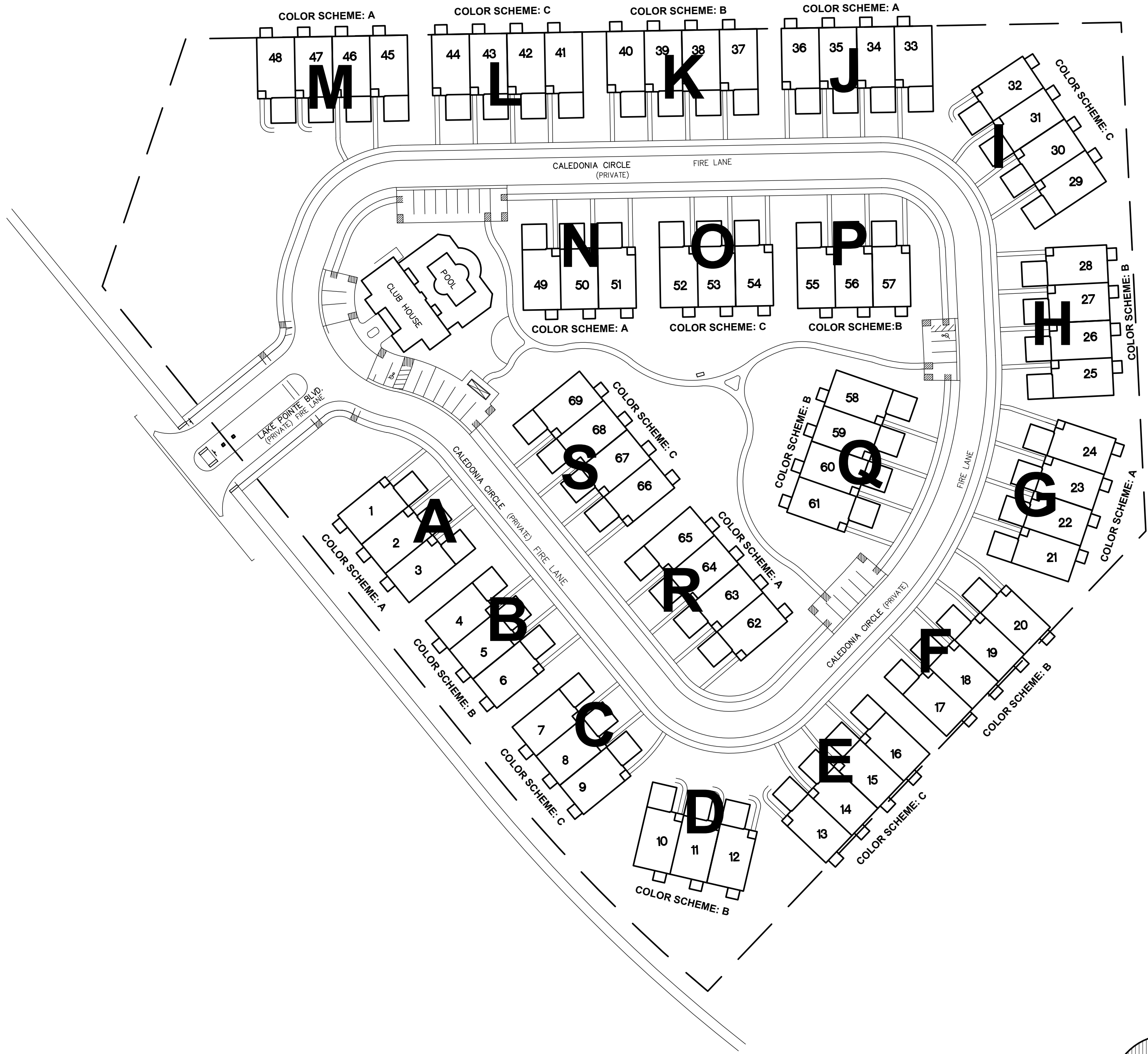
Trex Decking in Rocky Harbor. Scheme A

Trex Decking in Coastal Bluff. Scheme B & C

Note: Photos are a digital representation of specified materials. All Materials to be similar/equal. Refer to Architect's renderings and construction drawings for material locations.

2 COLOR SCHEMES

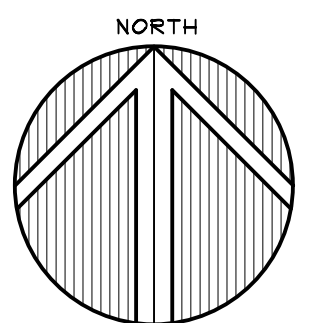
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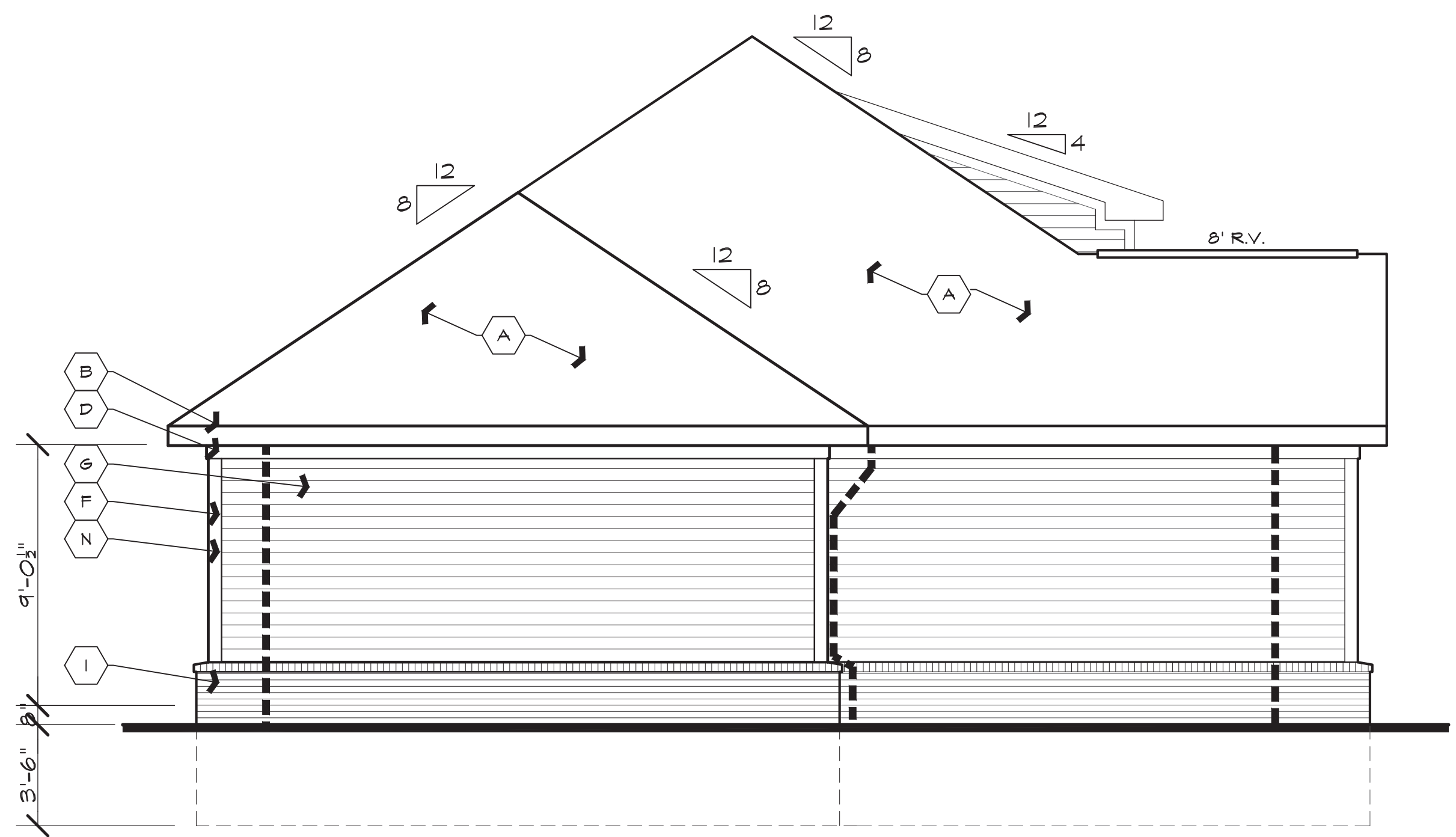


1 SITE PLAN

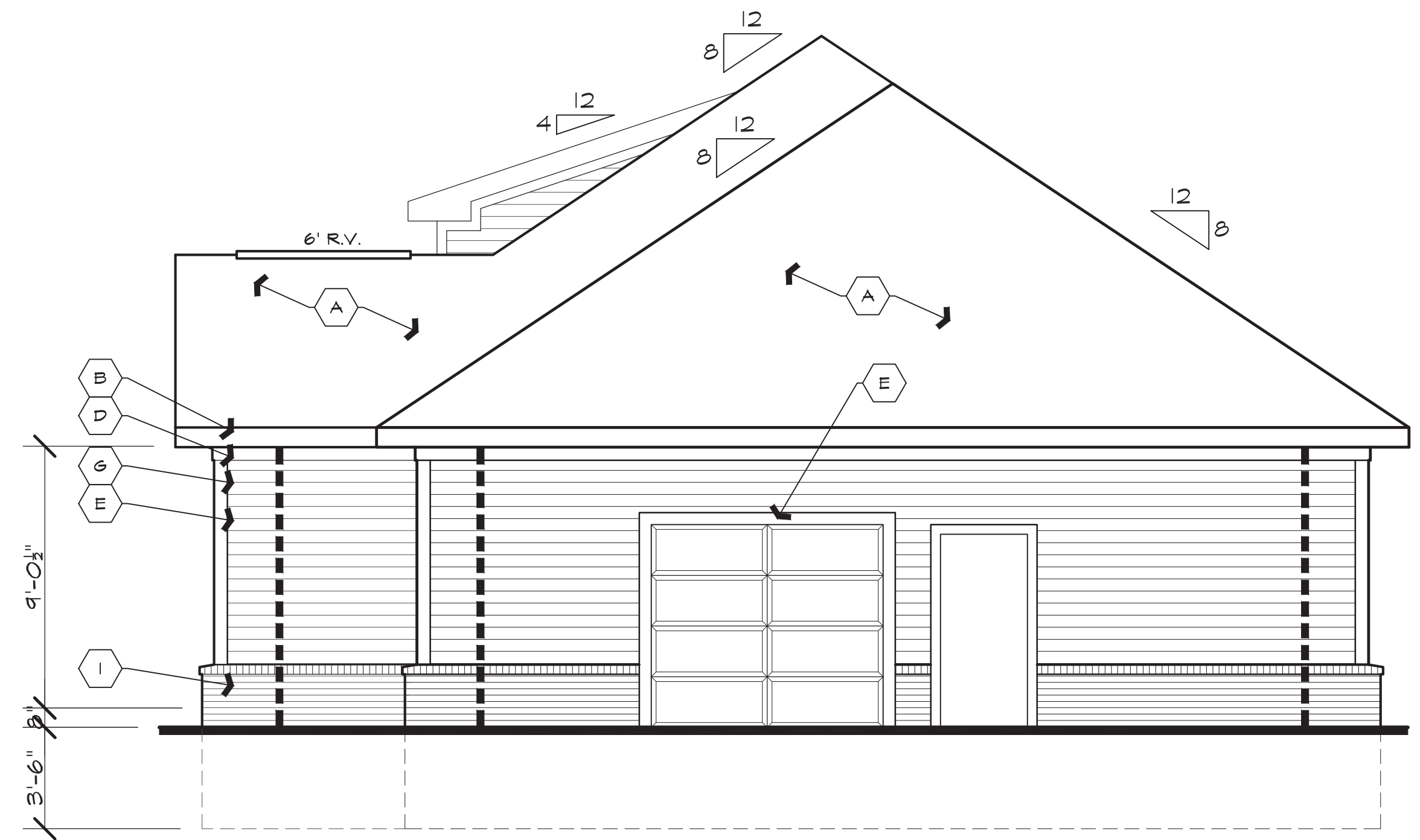
NOTE: SITE PLAN SHOWN FOR REFERENCE ONLY. REFER TO CIVIL ENGINEERING DRAWINGS FOR ALL ADDITIONAL INFORMATION.

Scale: NONE





LEFT ELEVATION
 SCALE: 1/4"=1'-0"

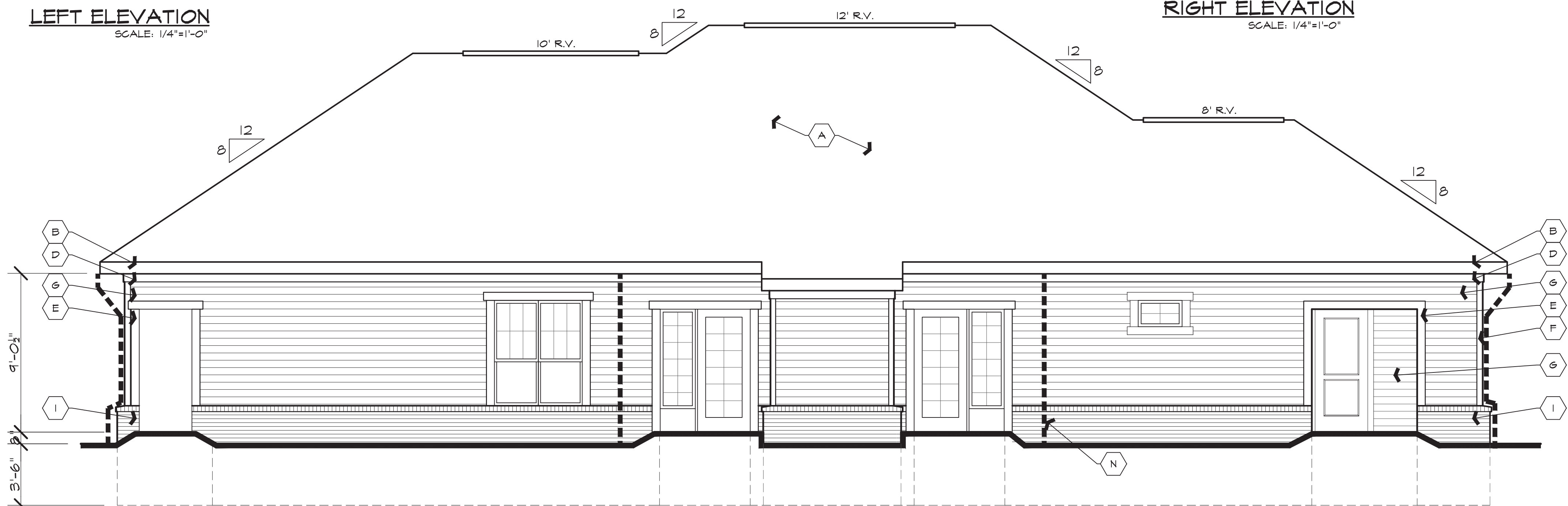


RIGHT ELEVATION
 SCALE: 1/4"=1'-0"

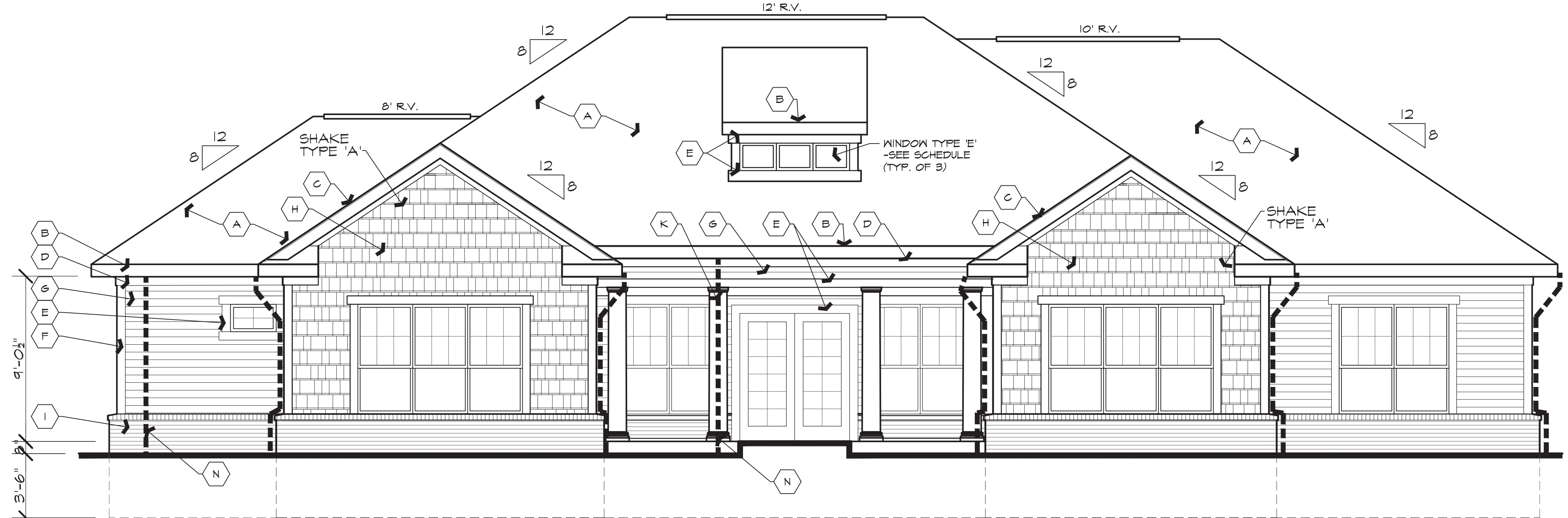
NOTE TO ALL CONTRACTORS :
 ALL CONTRACTORS SHALL VERIFY & COORDINATE ALL DIMENSIONS ON DRAWINGS, AS WELL AS REVIEW & COORDINATE PLANS W/ EXTERIOR BLDG. ELEVATIONS, SECTIONS, & DETAILS BEFORE COMMENCING WITH THE WORK. IF DIMENSIONAL ERRORS OR CONFLICTS OCCUR BETWEEN PLANS, BLDG. ELEVATIONS, SECTIONS & DETAILS IT SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT BEFORE PROCEEDING WITH THE WORK. CONTRACTORS WHO FAIL TO VERIFY, REVIEW, & COORDINATE THE WORK, & CONTRACTORS WHO SCALE DRAWINGS TO DETERMINE PLACEMENT OF PART(S) OF THE WORK, SHALL TAKE FULL RESPONSIBILITY SHOULD THAT PORTION OF THE WORK BE IMPROPERLY LOCATED OR CONSTRUCTED.

MATERIAL LEGEND

- A ASPHALT SHINGLES
- B MET. DRIP EDGE & GUTTER ON 2x8 WD. TRIM FASCIA (ALUM. CLAD)
- C MET. DRIP EDGE ON 2x8 WD. TRIM RAKE BD. (ALUM. CLAD)
- D 1x4 WD. TRIM SUB-RAKE BD. (ALUM. CLAD)
- E 1x6 FRIEZE BD W/ ALUM WRAP
- F 1x6 VINYL TRIM
- G VINYL CORNER TRIM
- H HORIZ. VINYL SIDING
- I VINYL SHAKE SIDING
- J BRICK W/ BRICK SILL
- K 12" RD COLUMN
- L MTL FLASHING
- M ROOF JACK
- N DOWNSPOUT



REAR ELEVATION
 SCALE: 1/4"=1'-0"



FRONT ELEVATION
 SCALE: 1/4"=1'-0"

Issued For:	
REVIEW	11.11.16
REVISED	7.10.17
REVISED PER COMMENTS	10.12.17
REVISED	12.4.17

Developer:
FAIRVIEW COMPANIES
 1700 W. Big Beaver, Suite 120
 Troy, Michigan 48064

Project:
ENCORE
 at DEERHILL

Independence Township, Michigan
 Sheet Title:

COMMUNITY BUILDING ELEVATIONS

Project Number: 16-122
 Drawn: RCC
 Checked: DT
 Date: 9.23.16
 Sheet Number:



INNOVATIVE IDEAS
EXCEPTIONAL DESIGN
UNMATCHED CLIENT SERVICE

August 7, 2024

Sean O’ Neil, Director
Community Development Department
Charter Township of White Lake
7525 Highland Road
White Lake, Michigan 48383

RE: Lake Pointe Apartment Development – Planned Development Agreement – 6th Review

DLZ Job No. 1745-0385-00

Dear Mr. O’ Neil,

The applicant is proposing a 69 unit attached single family apartment development on a 13.32 acre parcel located off Union Lake Road. This is a review of the proposed PDA documents that were prepared for JMF White Lake, LLC. and were submitted to this office on July 29, 2024 via Dropbox.

The following items were submitted as part of this review:

- Draft PDA Agreement

Please note that comments from our June 27, 2024 review are in *italics*. Responses to those items are in **bold**. New comments are in standard font.

We offer the following comments for your consideration:

General

1. *We generally defer comment regarding document format and agreement language to the Township Attorney.* **Comment remains.**
2. *We defer to the Township regarding item 2.4 and whether the Township does indeed waive the Traffic Impact Assessment, and Community Impact Statements. Comment partially addressed. A Traffic Impact Assessment was submitted and reviewed by Township staff and consultants. It is unknown whether a Community Impact Statement has been submitted and reviewed by the appropriate parties. Comment addressed. Design engineer has stated that a Community Impact Statement is not required by the Township.* **The requirement for a Community Impact Statement**



INNOVATIVE IDEAS
EXCEPTIONAL DESIGN
UNMATCHED CLIENT SERVICE

WLT- Lake Pointe PDA – Review .06

August 7, 2024

Page 2 of 3

was waived at the White Lake Township Board meeting on May 18, 2021. Comment remains as a notation.

3. *We defer to the Township with respect to whether there will be restrictions and by laws since this development is to be single family apartments. Our concern is the protection of surface drainage easements from encroachments so as surface drainage in these areas does not become impeded. Comment rescinded, design engineer has stated that this development consists only of rental properties and will thus be under the control of a single owner. **Comment remains as a notation.***
4. *A Storm Maintenance Agreement and Lien are required as noted in our February 22, 2021 Final Engineering Review letter. The Storm Sewer and Detention Basin Easement documents were provided with this PDA review. The Maintenance Agreement will need to contain language referencing shared maintenance responsibility between Lake Pointe and West Valley as detention basin discharge from Lake Pointe will flow through West Valley’s storm sewer system. Comment remains as a notation; we recommend approval subject to preparation and approval of a joint maintenance agreement regarding the storm sewer. **Article IV Section 4.6 references the parties will enter into stormwater maintenance and easement agreements; we recommend this language be revised to match the Township standard form which is titled “storm water management facilities easement, maintenance agreement, and lien”. We also recommend the reference to item (c) be removed as the Comfort Care Senior Living facility has no connection to the Lake Pointe development.***
5. *Item 4.11 of the agreement references the requirement to obtain an off-site easement from Independence Village in order to extend the proposed sidewalk fronting Union Lake Road. Per a Zoom meeting held with our office and the developer, as well as the developer’s engineer on May 30, 2024, the portion of sidewalk fronting Independence Village will not be done. The developer noted in this meeting that Independence Village is not willing to provide an easement document for the sidewalk extension. **We recommend this language (Article IV, Item 4.11 of Agreement) be removed from the agreement; however, we will defer to the Township Attorney regarding this item.***



INNOVATIVE IDEAS
EXCEPTIONAL DESIGN
UNMATCHED CLIENT SERVICE

WLT- Lake Pointe PDA – Review .06

August 7, 2024

Page 3 of 3

Recommendation-

We recommend approval of the PDA subject to incorporation of the above referenced items. If you have any questions, please feel free to contact us.

Sincerely,

DLZ Michigan

Michael Leuffgen, P.E.
Department Manager

Victoria Loemker, P. E.
Senior Engineer

Cc: Andrew Littman, Community Development, *via email*
Aaron Potter, DPS Director, *via email*
Hannah Kennedy-Galley, Community Development, *via email*
Lisa Hamameh, RSJA Law, *via email*

X:\Projects\2017\1745\038500 WLT Lake Pointe\PDA Review\Submittal #6\Review.06.docx

LISA J. HAMAMEH
lhamameh@rsjalaw.com

27555 Executive Drive, Suite 250
Farmington Hills, Michigan 48331
P 248.489.4100 | F 248.489.1726
rsjalaw.com



ROSATI | SCHULTZ
JOPPICH | AMTSBUECHLER

July 30, 2024

via email only: soneil@whitelaketwp.com

Sean O'Neil
Community Development Director
White Lake Township
7525 Highland Road
White Lake, Michigan 48383

**RE: 6th Review of Planned Development Agreement
Lake Pointe**

Dear Sean:

You asked that we review the proposed revised Planned Development Agreement for Lake Pointe ("Agreement") submitted by JMF White Lake, LLC ("Developer"). There were no Exhibits attached to this draft and, therefore, we defer to the Township Engineer regarding the Exhibits. Our comments regarding the Planned Development Agreement follow:

General Comments

1. As stated in previous correspondence, prior to the execution of the Agreement, the Developer must provide documentation evidencing ownership of the Property. Developer has provided an unrecorded Warranty Deed, dated March 26, 2021. The Township may want to verify it has been recorded at the Register of Deeds and there have been no ownership changes since that time by reviewing property documents or assessing records, or by requesting a title search. In addition, a company resolution authorizing the signer to execute the Agreement on behalf of the LLC is required.
2. As stated in previous correspondence, the Township should consider whether the development schedule provided in Paragraph 4.2 is acceptable. The Zoning Ordinance requires a development schedule, including any individual stages or phases, and the anticipated beginning and completion dates.
3. Paragraph 1.2 should be revised to move the last sentence after the first sentence so the events occur chronologically. Additionally, this Paragraph provides that the Final Site Plan expired on July 7, 2024. Has that been extended again?
4. Paragraph 1.5 should be revised to coincide with the Township's Zoning Ordinance, Section 6.7(E). For example, the second sentence defines "minor changes" to be limited to those provided in the ordinance, but also expands the definition to include Section

- 6.7(E)(ii and iii) which are not "minor changes" and may not be approved administratively. Additionally, Community Development Director should replace the term Planning Director.
5. While a provision was added to Paragraph 4.6 to address storm water maintenance easement in light of the shared facilities with West Valley and Comfort Care, additional discussion is needed. A meeting to discuss this issue is recommended
 6. While I recognize these are new requests, the Agreement should be revised to include the following provisions:
 - a. A breach provision to provide:
 1. Any breach of this Agreement shall constitute a nuisance *per se* which shall be abated. The parties therefore agree that, in the event of a breach of this Agreement by Developer, which is not cured in accordance with this Agreement, the Township, in addition to any other relief which it may be entitled to at law or in equity, shall be entitled under this Agreement for an order of a court of competent jurisdiction providing for relief in the form of injunctive relief or specific performance requiring abatement of the nuisance *per se*.
 2. In the event of a breach of this Agreement, the Township may notify Developer of the occurrence of the breach and issue a written notice requiring the breach be cured within thirty (30) days; provided, however, that if the breach, by its nature cannot be cured within thirty (30) days, Developer shall not be in breach hereunder if Developer commences the cure within the thirty (30) day period and diligently pursues the cure to completion.
 - b. a provision acknowledging that at the time of execution of the Agreement, the Owner will not have yet obtained engineering approvals for the Development and that additional conditions may be imposed, provided that no such conditions be inconsistent with the PD Plan or this Agreement and shall not change or eliminate any development right authorized thereby. Those conditions shall be incorporated into and made part of this Agreement automatically upon issuance of said conditions.

If you have any additional questions or would like to discuss this matter further, please call.

Very truly yours,

ROSATI SCHULTZ JOPPICH
& AMTSBUECHLER PC



Lisa J. Hamameh

cc: M. Leuffgen
V. Loekmker

PLANNED DEVELOPMENT AGREEMENT

LAKE POINTE

Entered into between:

JMF Union Lake, LLC

A Michigan limited liability company

and

Charter Township of White Lake, a Michigan Charter Township

Dated: _____, 2024

PLANNED DEVELOPMENT AGREEMENT

(Lakepoint – White Lake Township)

This Planned Development Agreement (the "Agreement") is entered into as of _____, 2024, by and among JMF Union Lake, LLC, a Michigan limited liability company, whose address is 1700 W. Big Beaver Road, Suite 120, Troy, Michigan 48084 (hereafter referred to as “Developer” or "Owner"), and Charter Township of White Lake, a Michigan Charter Township, whose address is 7525 Highland Road, White Lake, Michigan 48383 ("Township").

RECITALS

- A. Developer owns certain real property consisting of approximately 13.32 acres located in the Township on the northeast side of Union Lake Road and northwest of Carpathian Drive, which is more particularly described on **Exhibit A** attached hereto (the "Property"). The Property is zoned PD, or Planned Development by the Township.
- B. Developer desires to develop the Property as multi-family, residential housing project consisting of 69 units as depicted in the Final Site Plan prepared by Seiber, Keast Engineering, L.L.C. (Job No. 19-039, revised February 13, 2024), attached hereto as **Exhibit B** (the “Final PD Plan”), for the proposed Lake Pointe residential development (the “Project”).
- C. At a meeting held by the Township Planning Commission on January 16, 2020, the Township Planning Commission recommended approval of Developer’s revised Preliminary Site Plan, subject to conditions.
- D. At a meeting held by the Township Board on January 21, 2020, the Township Board approved the revised Preliminary Site Plan, subject to conditions.
- E. At a meeting held by the Township Board on February 16, 2021, the Township Board approved a one-year extension of the revised Preliminary Site Plan for the Project.
- F. At a meeting held by the Township Planning Commission on May 6, 2021, the Planning Commission approved the Final Site Plan, subject to conditions, and

recommended approval of the Planned Development Agreement to the Township Board.

- G. At a meeting held by the Township Board on May 18, 2021, the Township Board approved the Planned Development Agreement and waived the requirement for a community impact statement.
- H. At a meeting held by the Township Planning Commission on February 1, 2024, the Planning Commission approved an extension of the Final Site Plan until July 7, 2024.
- I. By entering into this Agreement, Owner and the Township desire to set forth the parties' obligations with respect to the Planned Development for the Property and the Project and the terms and requirements under which the Property and the Project shall be developed.

NOW, THEREFORE, in consideration of the premises and the mutual covenants of the parties described in this Agreement, the parties agree as follows:

ARTICLE I

DESCRIPTION OF THE PROJECT; PD AND PD PLANS

- 1.1. **Description of Project.** The project ("Project") covers an area comprising approximately of 13.32 acres located on the northeast side of Union Lake Road and west of Williams Lake Road. The Project will consist of 69 attached residential rental housing units. Each residence will be ranch-style dwelling with a 2-car attached garage.
- 1.2. **PD Plan Approval; Exhibits.** The revised Preliminary Site Plan prepared by Sieber, Keast Engineering, L.L.C. was approved by the Township Board on January 21, 2020, and thereafter extended for one year by the Township Board at its meeting held on February 16, 2021. On May 18, 2021, the Township Board approved the original Planned Development Agreement, which thereafter expired, and then on August __, 2024, approved this Agreement, which approval grants Developer the right to construct facilities as set forth in the Final PD Plan, subject to this Agreement and all applicable permits in the ordinary course, as the same may be modified and amended in accordance with the Township Zoning Ordinance from time to time. All exhibits attached hereto are incorporated herein and made a part hereof by reference. Thereafter, the Final Site Plan was extended by the Planning Commission to July 7, 2024.
- 1.3. **Performance Criteria.** Developer affirmatively submits that the proposed uses on the Property shall not exceed the performance criteria found in the Township Zoning Ordinance and the standards listed therein.
- 1.4. **Waivers and/or Modifications to Standard Zoning Requirements.** Except as otherwise provided in this Agreement and the Final PD Plan, Developer shall adhere to all applicable

Township ordinances, codes, rules, regulations and standards. Waivers from the Township Zoning Ordinance which the Township shall be deemed to have granted, and hereby grants, as well as modifications to standard zoning requirements which will be requested, if any, are as set forth on the Final PD Plan and this Agreement.

- 1.5. **Minor Modifications.** If, following the approval of the Final PD Plan, Developer proposes minor changes to the Final PD Plan, including changes required during final engineering review and required by other State and County regulatory agencies, such minor changes may be made subject only to "Administrative Approval". The term "Minor Changes" shall be those changes set forth in the Township Zoning Ordinance, Article 6, Section 6.7(E)(i-iii). For purposes of this Agreement, "Administrative Approval" shall mean the approval by the Planning Director of the Township, or his/her designee, or such other individual as may be designated by the Township Board, without the necessity of review by the Township Board or the Township Planning Commission or any amendment to this Agreement.

- 1.6. **Statement of Planning Objectives and Community Benefits to be Achieved by the Project.** The primary planning objectives of this development are to create alternative, high quality rental housing options that appeal to both active retirees and empty nesters who want to stay in place or be attracted to the White Lake community and to meet the needs and growing demand of younger working and professional millennials for high quality rental housing, consistent with the Master Plan objective to provide for a diversity of housing opportunities in the Township. The Project will provide more open space and less housing density than permitted under the applicable zoning ordinance and Master Plan. A substantially larger open space area is achievable because of the unique situation where the Developer also owns the West Valley development on the southwest side of Union Lake Road and can provide an integrated storm drainage system serving multiple properties. For the reasons described in paragraph 2.3 below, Developer also agreed to contribute \$15,000 for the installation of speed bumps in the neighboring Bocovina development. Developer will also contribute: (a) to the Township the sum of \$2,050 for the future installation of approximately 630 square feet of offsite concrete sidewalk along Union Lake Road to Independence Circle; and (b) the sum of \$7,500 to the Park Fund. While the density of the Project is consistent with the existing zoning, the contribution to the Park Fund will assist the Township in continuing to furnish public amenities that will serve the new residents of the Project. The Project also includes substantial on-site recreational amenities, including walking paths, seating areas and a swimming pool and clubhouse.

ARTICLE II

REQUIREMENTS FOR DEVELOPMENT

- 2.1. **Development Standards.** The Property shall be developed and improved in compliance with the following:

- (a) The Charter Township of White Lake Zoning Ordinance, as amended, and engineering design standards, except where modified by this Agreement and the Exhibits attached hereto;
 - (b) This Agreement;
 - (c) The Final PD Plan;
 - (d) The conditions set forth in Paragraph 2.3 below; and
 - (e) All applicable federal, state and county laws, rules and regulations.
- 2.2. **Effect of PD Approval.** To the extent that developing the Property in accordance with this Agreement and the PD Plan will deviate from the Zoning Ordinance or any other Township Ordinance or regulation, this Agreement and the Final PD Plan shall control. To the extent this Agreement and PD Plan attached hereto are silent on development issues, the Project shall comply with the Zoning Ordinance and other Township ordinances and regulations. All improvements constructed in accordance with this Agreement and the Final PD Plan shall be deemed to be conforming under the Zoning Ordinance and in compliance with all ordinances of the Township. The Project shall not be subject to any additional requirements contained in any amendments or additions to Zoning Ordinances adopted subsequent to the date of this Agreement which conflict with the provisions of this Agreement including the PD Plan and/or any plans which are approved pursuant to this Agreement.
- 2.3. **Conditions to Approval.** Prior to commencement of construction of the Project, Developer will: contribute the sum of up to \$15,000 to pay for speed bumps to be installed in the neighboring Bocovina residential development per a separate written agreement with the Bocovina's homeowners association; and deliver the sum of \$2,050 to the Township for future installation of an off-site concrete sidewalk as described in paragraph 1.6 above. The purpose of the speedbumps is to both discourage cut-through traffic and reduce traffic speeds for safety of the residents. The off-site sidewalk contribution is intended to further the Township's objective of achieving connectivity and non-motorized access throughout the Township. In addition, no bars shall be installed on the back of patios to interfere with access to the open space from the patios.
- 2.4. **Traffic Impact Assessment.** Revised traffic impact assessments dated December 2, 2019, and June 7, 2024, prepared by Fleis & Vandenbrink were received and reviewed by Township staff and consultants.

ARTICLE III

USES WITHIN THE PROJECT

- 3.1. **Approved Uses for the Project.** The Project will consist of 69 ranch-style residential units (or a density at 5.41 units per acre) in 19 buildings. Each residence shall have two bedrooms and an attached 2-car garage and each building shall contain no more than 4-attached residential dwelling units.

- 3.2. **Project Amenities.** In order to provide on-site recreational amenities to serve the residents of the Project, Developer will install a clubhouse and pool as depicted in the Final PD Plan. An open space area consisting of approximately 8.42 acres will be maintained, with walking paths, seating, a pergola structure and dog waste stations as depicted in the Final PD Plan.

ARTICLE IV

DEVELOPER'S RIGHTS AND OBLIGATIONS

- 4.1. **Right to Develop.** Developer shall have the right to develop the Property in accordance with the PD Plan and this Agreement.
- 4.2. **Development Schedule.** Developer shall commence development of the Project within 12 months from the Township's approval of this Agreement. The intent is complete the development as a single phase once commenced. The foregoing development schedule may be modified by Developer as necessary or appropriate based on the timing of State and County agency approvals, market and other conditions, with the Township's consent, which shall not be unreasonably withheld or delayed.
- 4.3. **Internal Roads in the Project.** The internal roads within the Project will be private and constructed in accordance with Final PD Plan, Township Engineering Design Standards, approved Final Engineering Plan, and RCOC Approval.
- 4.4. **Landscape Plan.** The Landscape Plans, Sheets LS-1 through LS-7, which are part of the Final PD Plan attached hereto as Exhibit B, identify the landscaping to be installed within the Project.
- 4.5. **Utilities.**
- (a) **Sanitary Sewer System.** Sanitary sewers shall be extended by the Developer to serve the Project which must connect to the Township's sanitary sewer system. Connection to the sanitary sewer system shall require payment of all applicable fees, charges, and assessments, in accordance with the Township's Ordinance. The Final PD Plan identifies the sewer lines and related sanitary sewer easements to be dedicated to the Township as depicted in the Easement for Sanitary Sewer Exhibits.
- (b) **Water System.** Water service shall be extended by the Developer to serve the Project which must connect to the Township's water system. Connection to the water system shall require payment of all applicable fees, charges, and assessments, in accordance with the Township Ordinance. The Final PD Plan identifies the water lines and related water easements to be dedicated to the Township as depicted in the Easement for Watermain Exhibits.
- 4.6. **Storm Water Detention.** Storm water shall be conveyed by a storm sewer system to a storm water detention basin located within the Project as shown in the Final PD Plan. All such storm water drainage facilities, including the detention basin and all related improvements shall be designed in accordance with all applicable ordinances and

engineering regulations and standards as depicted in the Easement for Storm Sewer Exhibits. Prior to commencement of construction, the parties ~~(and, to the extent applicable, third parties)~~ will enter into ~~the following a separate sStormwater mMaintenance and easement aAgreements utilizing standard Township agreement forms: (a) stormwater agreement for the Project; (b) stormwater agreement serving both the Project and the proposed adjacent West Valley development; and (c) a stormwater overflow easement for the Comfort Care Senior Living facility on nearby land. in a form to be mutually agreed upon by the parties in the exercise of reasonable discretion.~~

- 4.7. **Signs.** The entrance signage and other directional signage for the Project shall be as depicted in the Final PD Plan. Any additional signage or modification of signage proposed to be installed will have to be approved by the Township and Developer will comply with all the sign regulations in the Township's sign ordinance.
- 4.8. **Architectural and Site Design Guidelines.** The Project shall be developed in conformance with the following architectural and site minimum standards:
 - (a) **Minimum Setbacks.** Setback requirements shall be in accordance with the approved final PD Plan.
 - (b) **Exterior Materials.** The building elevations and exterior materials shall be consistent with the elevations and materials set forth in the Final PD Plan and any modifications to same will be of equal or better quality and durability and shall be approved in accordance with the Township Zoning Ordinance.
 - (c) **Driveways and Sidewalks.** Curbs, gutters and sidewalks shall be constructed of concrete and shall be in accordance with the approved Final PD Plan and approved Final Engineering Plan. Driveways shall be constructed of concrete.
- 4.9 **Permits and Authorizations.** All state, county and federal permits required for completion of the project shall be approved prior to the scheduling of a pre-construction meeting with Developer and the Township staff and consultants.
- 4.10 **Improvements and Alternations.** Developer shall not engage in any improvements or alterations on the Property, including, without limitation, site grading work or installation of utilities, until completion of the pre-construction meeting.
- 4.11 **Offsite Pathway/Sidewalk Easement.** Developer agrees that it shall obtain a fully executed offsite pathway/sidewalk easement from the adjoining owner(s) of Independence Village in such form as is approved by the Township, prior to scheduling the pre-construction meeting.

ARTICLE V

MAINTENANCE OF OPEN SPACE

- 5.1. **Common Elements and Common Facilities.** The Developer shall have the responsibility for maintaining the open space and installed landscaping located within the Project.

ARTICLE VI

TOWNSHIP'S RIGHTS AND OBLIGATIONS

- 6.1. **Permits and Authorizations.** The Township shall grant to Developer and its contractors and subcontractors all Township permits and authorizations necessary to bring and/or construct all utilities necessary to service the Property and to otherwise develop and improve the Property in accordance with the Final PD Plan, provided the Developer has first made all requisite filings and submissions for permits, complied with the requirements for said permits or authorizations submittals, and paid all required fees in accordance with the Township's Ordinances. Any applications for permits or authorizations from the Township will be processed in the customary manner. The Township shall cooperate with Developer in connection with Developer's applications for any necessary county, state, federal or utility company approvals, permits or authorizations to the extent that such applications and or discussions are consistent with the Final PD Plan and this Agreement and provided that the Township shall not be required to initiate legal proceedings or assume any financial obligations of Developer, including without limitation the payment of any compensation, cost or fee. Once appropriate approvals are granted, Developer shall be entitled to obtain a grading permit from the Township and thereafter commence grading and clearing activities.
- 6.2. **Township Action For Failure to Maintain Property.** In the event the Developer defaults in its obligation to maintain the property in a reasonable condition, using reasonable standards, and consistent with and as required under the Final PD Plan and this Agreement, the Township may serve written notice upon Developer setting forth the manner in which Developer has failed to maintain the Property, and such notice shall include a demand that deficiencies be cured within a stated reasonable time period no less than thirty (30) days, and shall set forth the date, time and place of a hearing before the Township Board for the purpose of allowing Developer to be heard as to why the Township should not proceed to perform the maintenance which has not been undertaken. In that hearing, the time for curing such deficiencies, and the hearing itself, may be extended. If, following the hearing, the Township Board shall determine that the Developer has not cured such deficiency within the time specified at the hearing, then upon five (5) days written notice to Developer, the Township shall thereupon have the power and authority, but not the obligation, to enter upon the Property or cause its agents or contractors to enter upon the Property to cure such deficiency as reasonably found by the Township to be appropriate and/or necessary, in a manner so as to reasonably minimize any interference with the residential occupancy and use the Property and the cost and expense of such curative actions, including the cost of notices by the Township and reasonable legal, planning, and engineering fees and costs incurred by the Township shall be paid by the Developer. Such amount shall constitute a lien on the Property and the Township may require such costs and expenses to be paid prior to the commencement of work. If such costs and expenses have not been paid within sixty (60) days of a billing to the Developer, all unpaid amounts may be (a) placed on a delinquent tax roll of the Township as to the Property and shall accrue interest and penalties and shall be collected as and shall be deemed delinquent real property taxes in

the discretion of the Township; or (b) assessed against the Developer and collected as special assessment on the next annual Township tax roll; or (c) collected by use of the applicable provisions of Michigan law providing for foreclosure by advertisement, the Owner having specifically granted the Township the required power of sale to do so; or (d) collected by suit against Developer. If suit is initiated, the Developer shall pay all of the Township's reasonable legal fees and costs. The selection of remedy shall be at the sole option of the Township, and election of one remedy shall not waive the use of any other remedy.

ARTICLE VII

MISCELLANEOUS PROVISIONS

- 7.1. **Governing Law.** This Agreement shall be governed by and construed in accordance with the laws of the State of Michigan.
- 7.2. **Counterparts.** This Agreement may be executed in multiple counterparts, each of which shall be deemed an original and all of which shall constitute an agreement. The signature of any party to any counterpart shall be deemed to be a signature to, and may be appended to, any other counterpart.
- 7.3. **Successors and Assigns.** The terms, provisions and conditions of this Agreement are and shall be deemed to be of benefit to the Property and shall run with and bind the Property, and shall bind and inure to the benefit of the successors and assigns of the parties to this Agreement.
- 7.4. **Amendment.** This Agreement may only be modified by written agreement of the Township and Developer or any successor in title who assumes Developer's rights and obligations hereunder.
- 7.5. **Authority.** This Agreement has been duly authorized by all necessary action of Developer and the Township, through the approval of the members of the Developer and the Township Board at a meeting in accordance with the laws of the State of Michigan, and the ordinances of the Township. By the execution of this Agreement, the parties each warrant that they have the authority to execute this Agreement and bind the Property in its respective entities to its terms and conditions.
- 7.6. **Partial Invalidity.** Invalidation of any of the provisions contained in this Agreement or the application thereof to any persons by judgment or court order shall in no way affect any of the other provisions hereof or the application thereof to any other person and the same shall remain in full force and effect.
- 7.7. **No Partnership.** None of the terms or provisions contained in this Agreement shall be deemed to create a partnership or joint venture between Developer and the Township.
- 7.8. **Incorporation of Documents.** The recitals contained in this Agreement, the introductory paragraph, and all exhibits attached to this Agreement and referred to herein shall for all

purposes be deemed to be incorporated in this Agreement by this reference and made a part of this Agreement.

- 7.9. **Integration Clause.** This Agreement is intended as the complete integration of all understandings between the parties related to the subject matter herein. No prior contemporaneous addition, deletion, or other amendment shall have any force or effect whatsoever, unless referenced in this Agreement.
- 7.10. **Recording.** This Agreement shall be executed by the parties and recorded by the Township in the office of the Oakland County Register of Deeds. All recording fees shall be paid by the Developer.
- 7.11. **Waiver.** Failure of either party to insist upon strict performance of any of the terms, conditions or covenants hereof shall not be deemed to be a waiver of any rights or remedies that such party may have hereunder, at law or in equity, and shall not be deemed a waiver of any subsequent breach or default under this Agreement. No waiver by either party of any default under this Agreement shall be affecting or binding unless made in writing and no such waiver shall be implied from any omission by the party to take an action with respect to the default. No express written waiver of any default shall affect any other default or cover any other period of time, and one or more written waivers of any default shall not be deemed to be a waiver of any subsequent default in performance of the same or any other term or provision contained in this Agreement.
- 7.12. **Violations.** Violations of the provisions of this Agreement shall be deemed to be violations of the Township Zoning Ordinance and shall entitle the Township to all rights and remedies provided by the Zoning Ordinance or any other applicable law for such violation.
- 7.13. **Acknowledgments.** The parties negotiated the terms of the Agreement and the parties agree that its terms, conditions and requirements are lawful and consistent with the intent and provisions of local ordinances, state and federal law. Developer has offered and agreed to proceed with the undertakings and obligations as set forth in this Agreement in order to protect the public health, safety, and welfare and provide material advantages and development options for Developer, all of which undertakings and obligations the parties agree are necessary in order to ensure public health, safety, and welfare, to ensure compatibility with adjacent uses of land, to promote use of the Property in a socially, environmentally, and economically desirable manner, and to achieve other reasonable and legitimate objectives of the parties, as authorized under applicable Township ordinances and the Michigan Zoning Enabling Act, MCL 125.3101, *et seq.*, as amended. It is also agreed and acknowledged that the terms, conditions, obligations, and requirements of this Agreement are dearly and substantially related to the burdens to be created by the development and use of the Property under the approved PD, and are, without exception, clearly and substantially related to the Township's legitimate interests in protecting the public health, safety and general welfare. Furthermore, the parties fully accept and agree to the final terms, conditions, requirements and obligations of the Agreement and shall not be permitted in the future to claim that the effect of the Agreement results in an unreasonable limitation upon uses of all or any portion of the Property, or claim that enforcement of the

Agreement causes an inverse condemnation, other condemnation or taking of all or any portion of the Property.

(Signatures and notarization are contained on the following pages)

JMF UNION LAKE, LLC, a Michigan limited liability company

By: _____

Printed: Michael S. Furnari

Its: Sole Member and Manager

Dated:

STATE OF MICHIGAN)
) SS
COUNTY OF OAKLAND)

The foregoing Planned Development Agreement was acknowledged before me this ____ day of _____, 2024 by Michael S. Furnari, the Sole Member and Manager of JMF Union Lake, LLC, a Michigan limited liability company, on behalf of said company.

Notary Public
Notary Public, State of Michigan, County of _
Acting in the County of _
My Commission Expires: _

EXHIBIT A

(Legal Description)

EXHIBIT B

(Final Site Plan)

WHITE LAKE TOWNSHIP
COMMUNITY DEVELOPMENT DEPARTMENT

DATE: August 5, 2024
TO: Joseph Seward, Chair
Planning Commission
FROM: Sean O'Neil, Community Development Director
SUBJECT: Capital Improvement Plan 2025-2030



Please find attached the White Lake Township Capital Improvement Plan (CIP) for the 2025-2030 cycle. After reviewing the draft CIP on August 15th, the Planning Commission will then hold a public hearing on September 5, 2024, prior to taking action on the document. The draft Township Board resolution, #24-038, is also included in the document, for your reference.

I appreciate your consideration and I look forward to discussing the CIP with you at the August 15th Planning Commission meeting. Please let me know if you have any questions or require any additional information.

Thank you.

2025-2030 Capital Improvement Plan (CIP)



CHARTER TOWNSHIP OF WHITE LAKE Oakland County, Michigan

2025-2030 Capital Improvement Plan (CIP)



ACKNOWLEDGEMENTS

White Lake Township Board of Trustees

Rik Kowall, Supervisor | Anthony L. Noble, Clerk | Mike Roman, Treasurer |
Scott Ruggles, Trustee | Liz Fessler Smith, Trustee | Andrea C. Voorheis, Trustee | Michael Powell, Trustee |

White Lake Township Planning Commission

T. Joseph Seward, Chair | Merrie Carlock, Vice-Chair | Debby Dehart, Secretary & ZBA Liaison | Robert Seeley |
Scott Ruggles, Township Board Liaison | Mona Sevic | Peter Meagher | Matthew Slicker | Steve Anderson |

White Lake Township Department Heads

Rik Kowall, Supervisor | Anthony L. Noble, Clerk | Mike Roman, Treasurer |
David Hieber, Assessor | Aaron Potter, DPS Director | John Holland, Fire Chief |
Daniel T. Keller, Chief of Police | Sean O'Neil (AICP), Community Development Director |
Kathy Gordinear, Dublin Community Senior Center Director | Andrew Littman, Parks and Recreation | Nick Spencer,
Building Official |

White Lake Township Community Development Department — Planning Division

Sean O'Neil (AICP), Community Development Director | Andrew Littman, Staff Planner | Hannah Kennedy-Galley,
Executive Secretary |

The CIP Team

Community Development Department — Planning Division | Staff and Administration of White Lake Township

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**White Lake
Oakland County, Michigan**

**Capital Improvement Plan 2025-2030
Resolution #24-038**

Motion by _____, Supported by _____, that the White Lake Township Board of Trustees accept the Capital Improvement Plan for the years 2025-2030. The White Lake Township Board has determined the following:

WHEREAS, the Michigan Planning Enabling Act, Act 33 of 2008, requires the White Lake Township Planning Commission to annually prepare a Capital Improvement Plan for the benefit of the health, safety, and welfare of the community as those criteria relate to the physical development of the Charter Township of White Lake; and

WHEREAS, the Township’s professional engineering consultant and Community Development Director have consulted with the Township’s professional staff who carry on the business of planning and providing for the present and future needs of the citizens of the Charter Township of White Lake; and

WHEREAS, the Capital Improvement Plan is intended to consider the present and future needs and goals of the Charter Township of White Lake, as identified by the public, department heads, the Township Board of Trustees, and the Township Planning Commission, in consideration of existing projects and plans as well as anticipated resources; and

WHEREAS, the Capital Improvement Plan is a flexible document, intended to be reevaluated and updated on an annual basis to project into the six (6) succeeding years, and further amended as necessary to address the policies and philosophies of relevant Township Boards, Planning Commissions, and other stakeholders; and

WHEREAS, the Capital Improvement Plan is a guide and forum to aid the Township Supervisor and Township Board of Trustees in making decisions regarding the physical development and infrastructure maintenance of the Township and determining what, if any, resources can and should be available to carry out the Township Board’s policies and budgetary decisions; and

WHEREAS, the draft of the Capital Improvement Plan has been available for public review via the Township website and copies made available at the office of the Township Community Development Department, and has been an agenda item for discussion and review by the Planning Commission and Township Board at several public meetings, and has been the subject of a duly-noticed Public Hearing held before the

Resolution of Adoption, continued

White Lake Township Planning Commission on September 5, 2024 and will be reviewed, revised, and updated by the Planning Commission on an annual basis; and

WHEREAS, the Capital Improvement Projects included within the Capital Improvement Plan have been evaluated utilizing a point-system of variables that included, among other things, whether a Capital Improvement Project has already begun, whether funds have been committed to the Project, the sources of funds committed to a Project, whether the Project is required per a legal obligation, or whether the projects is part of a Township-adopted policy, plan, or program; and

WHEREAS, the White Lake Township Planning Commission on September 5, 2024 moved to adopt the 2025-2030 Capital Improvement Plan.

NOW THEREFORE BE IT RESOLVED, that the Capital Improvement Plan presented during the Public Hearing on September 5, 2024 and revised per the public comments received during that Public Hearing, and adopted by the White Lake Township Planning Commission on September 5, 2024, IS ACCEPTED BY THE WHITE LAKE TOWNSHIP BOARD OF TRUSTEES; and

BE IT FURTHER RESOLVED, that this Capital Improvement Plan should be published and attested to according to State law.

Ayes:

Nays:

Absent:

RESOLUTION DECLARED ADOPTED.

I HEREBY CERTIFY, that I am duly elected and qualified Clerk of the Charter Township of White Lake, County of Oakland, State of Michigan, and the keeper of the records of the proceedings of said Township as authorized by the Township Board, and the foregoing is a true and correct copy of a resolution duly adopted by a majority vote at a regular meeting of the Township Board legally held on the September 17, 2024 at which a quorum was present.

Anthony L. Noble, Clerk
White Lake Township
Oakland County, Michigan

The 2025-2030 White Lake Township Capital Improvement Plan (CIP) will serve as a tool to assist White Lake Township in turning long-range policy planning into real improvements on the ground. A six-year capital improvement plan and an annual update of that plan is a requirement for White Lake Township under the Michigan Planning Enabling Act of 2008. The following report identifies the major capital improvements needed and/or planned for the community, the timeframe for implementation of those improvements, and the budget and revenue sources that will make those improvements a reality. Capital improvements cover multiple departments within White Lake Township, and include new Township facilities, water and sewer extensions, fire protection vehicles and equipment, police equipment, parks and recreation facilities, non-motorized pathways, and professional services.

The following subsections within this first chapter include an introduction to capital improvement planning, the community of White Lake Township, and the capital improvement planning process. In subsequent chapters, this report summarizes existing facilities (Chapter 2), provides detailed components for all major Township departments, facilities, and systems (Chapter 3), and presents the projected cost and revenue sources for all covered improvements (Chapter 4).



What is a Capital Improvement Plan (CIP)?

A Capital Improvement Plan is a six-year schedule of public physical improvements which identifies the needs for major public infrastructure improvements, and the sources of funding to make those improvements. It provides a schedule of expenditures for constructing, maintaining, upgrading, and/or replacing a community's physical inventory. The CIP, therefore, is a tool to assess the long-term capital project requirements (the "big jobs") of White Lake Township. Since capital improvement projects are spread across multiple community needs (fire protection, police, water and sewer, parks and recreation, municipal administration, etc.), the CIP prioritizes these projects across the entire community and over time, providing an "apples-to-apples" comparison of the community's various needs and wants.

What are Capital Improvement Projects?

Capital improvement projects are major and infrequent expenditures, such as the construction of a new facility, a major rehabilitation or repair of an existing facility, or the purchase of major equipment. Capital improvement projects are non-recurring expenditures that tend to be large both in physical size and in cost, and have a long-term usefulness (10 years or more).

Examples of capital improvement projects can include:

- Construction of a new township hall
- Construction of a new fire station
- Extension of a water/sewer line
- Purchase of a new fire truck
- Major rehabilitation of a township's community/senior center
- Creation of a new township park

Examples of expenditures which would not usually constitute a capital improvement project include:

- Purchase of new office furniture
- Purchase of small equipment (lawn mowers, copiers, individual computers, etc.)
- Recurring maintenance of existing facilities
- Minor repairs of existing buildings and equipment
- Minor improvements to existing buildings (carpet, painting, etc.)

The term “major expenditure” is relative; what is “major” to one community might be “minor” to another. The City of Ann Arbor, for example, sets a minimum threshold of \$100,000 for projects to be included in the City’s CIP, while the City of Rochester Hills sets a minimum of \$25,000. White Lake Township’s policy for determining a Capital Improvement is defined in the following section.

What is White Lake Township’s Capital Improvement Policy?

A capital improvement project is a major, nonrecurring expenditure that meets one of more of the following criteria:

- Any acquisition of land for a public purpose which costs \$50,000 or more.
- Any construction of a new public facility (Township building, water/sewer lines, pathways), or any addition to an existing public facility, the cost of which equals \$50,000 or more and has a useful life of three or more years.
- A nonrecurring rehabilitation (not to include annual/recurring maintenance) of a building, its grounds, a facility, or equipment, the cost of said rehabilitation being \$50,000 or more with a useful life of three or more years.
- Purchase of major equipment which, individually or in total, cost \$50,000 or more with a useful life of three or more years.
- Planning, feasibility, engineering, or design studies related to an individual capital improvement project, or program implemented through individual capital improvement projects, with a cost of \$50,000 or more and a useful life of three or more years.

Why a CIP for White Lake Township?

The Michigan Planning Enabling Act of 2008 requires a Capital Improvement Program for any Michigan township which owns and/or operates a water supply or sewage disposal system. Since White Lake Township owns and manages both a public water and sanitary sewer system, adopting and annually updating a Capital Improvement Plan is a requirement per State law.

What are the benefits of preparing a CIP?

The CIP is more than just a State requirement; it is an essential planning tool in addition to a statement of budgetary policy. It informs the taxpayers of White Lake Township how the Township plans to prioritize, schedule, and coordinate capital improvement projects over the next six (6) years. The benefits of creating and annually updating the CIP include:

- Prudent use of taxpayer dollars;
- Focusing the Township expenditures on the needs of the community;
- Prioritizing projects across the needs of the community;
- Generating community support by inviting public input;
- Promoting economic development;
- Improving the Township’s eligibility for State and Federal grants;

- Providing an implementation tool for the goals and objectives of the Township Master Plan;
- Transparency in identification of high-priority projects;
- Coordination/cost-sharing between projects.

What is the role of the Township Planning Commission in the CIP process?

The Capital Improvement Program is a dynamic planning document, intended to serve as a tool to implement the White Lake Township Master Plan. The Master Plan should correspondingly include capital improvement projects as well as guide long-term capital planning. The White Lake Township Planning Commission is uniquely qualified to manage the development and annual update of the Township's CIP, based on its role in creating and updating the Township Master Plan. The Planning Commission's role will ensure that public works projects are consistent with the land uses identified within the Master Plan. By making a recommendation of approval for the CIP to the Township Board, the Planning Commission agrees that the projects outlined within it reasonably address the Township's capital improvement needs.

The CIP is an essential link between planning for capital improvement projects and budgeting for them. Once approved by the Township Board, the CIP can be used to develop the capital project portion of the Township's budget. Those projects included in the CIP's first year (2024) potentially form the basis for the upcoming year's capital project budget. As the CIP is annually updated, a continuous relationship will be maintained between the CIP and the Township's annual budget. The annual update to the CIP will occur in advance of the preparation of the Township's budget.



White Lake Township, Oakland County's "Four Seasons Playground," prides itself as a community which continues to promote economic growth, sustainable development, and a strong sense of place. White Lake's character as a premier residential community, with ample recreational opportunities and superior public and private schools, sets it apart and establishes the Township's unique identity.

The Township continues to promote sound fiscal policy while maintaining appropriate levels of service to meet the needs of its growing population. Public utilities infrastructure, police, fire and emergency services, parks, recreation and senior services, as well as planning, building inspection and administrative services are all designed to provide residents with the full-service amenities of a modern municipality in a cost-effective, fiscally responsible, and sustainable manner.

Principal Land Uses

While the commercial base of White Lake Township continues to grow, the principal land use within the Township remains single-family residential. Based on existing land use data from Oakland County Economic Development and Community Affairs, 46.7% of the Township's nearly 24,000 acres is developed as single-family residential. The second largest land use in the Township (in terms of land area) is recreation/open space, comprised of two State Recreation Areas (Pontiac Lake and Highland), a regional Metropark (HCMA's Indian Springs), and an Oakland County-owned golf course (White Lake Oaks). Combined, the recreation/open space land uses within the Township comprise over 25% of the land area (6,000 acres). The Township's commercial, industrial, and office uses comprised 2.2% of the land area in 2019. The majority of the commercial, industrial, and office uses in White Lake Township are located along the Highland Road (M-59) corridor, although some are scattered elsewhere throughout the Township, mostly in the southeast quadrant. There is also a small industrial concentration in the Township's northeast corner. The 21 lakes within White Lake Township comprise almost 11% of its total land area. Figure 1-1 displays the 2021 Existing Land Use Map.

White Lake Charter Township

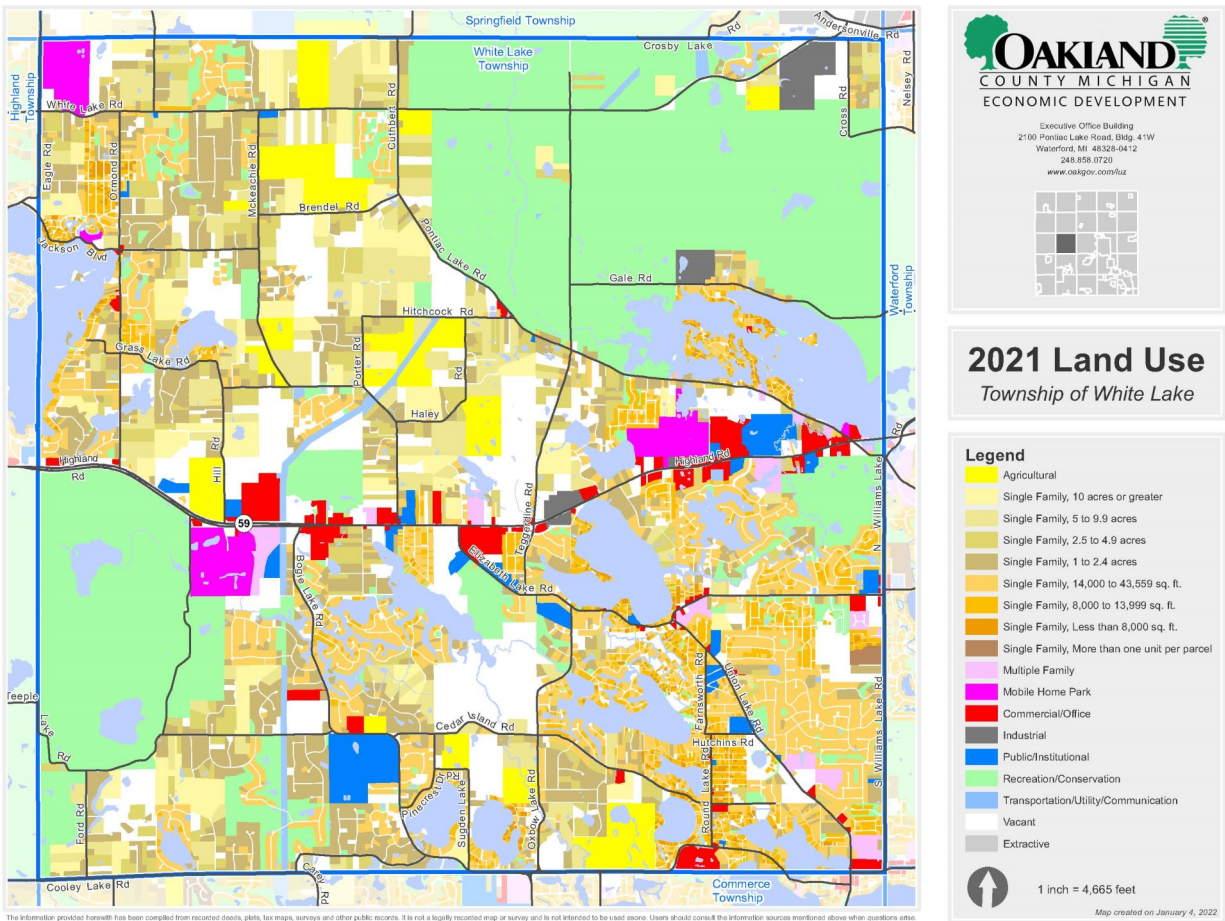
Population

As of the 2020 Census, the population of White Lake Township was 30,950, a 3.1% increase from the 2010 Census (30,019). Population projections by the Southeast Michigan Council of Governments (SEMCOG) estimate the population of White Lake Township will only increase slightly over the next twenty years, with a forecasted population of 32,236 in 2040. This projection is subject to change based on economic and social factors.

Employment

SEMCOG Community Data for White Lake Township shows the two highest employment sectors within the Township to be Retail Trade (approximately 21% of total employment) and Information and Financial Activities (approximately 15%).

FIGURE 1-1. EXISTING LAND USE, 2021



Background

The development and the adoption of a CIP is driven by a statutory requirement at the State level. The State of Michigan has set forth the requirement for a CIP under the Michigan Planning Enabling Act, Act 33 of 2008. This reporting requirement for townships was effective September 1, 2008. The following excerpt from Act 33 sets forth the requirement of a township to adopt a CIP:

"...(2) Any township may prepare and adopt a capital improvement program. However, subsection (1) is only mandatory for a township if the township, alone or jointly with 1 or more other local units of government, owns or operates a water supply or sewage disposal system."

The contents of the CIP are set forth under the Government Accounting Standards Board Statement 34 that basically requires the CIP to report on the value of their infrastructure. GASB 34 requires state and local governments to begin reporting all financial transactions, including the value of their infrastructure assets, roads, bridges, water and sewer facilities, and dams, in their annual financial reports on an accrual accounting basis.

The Charter Township of White Lake is not a road agency under Public Act 51 of the laws of the State of Michigan. Accordingly, public road and bridge projects are not reported in this CIP. **All other infrastructure components with construction costs in excess of \$50,000 per year are reported in this CIP.**

The following sections outline the Program Areas of the White Lake Township CIP:

1. Data Collection Process
2. Data Compilation Process
3. CIP Adoption Process

PROGRAM AREAS

The components of the CIP are compiled and reported by Program Areas. The following table (Figure 1-2) displays the Program Areas used in this CIP (each assigned with a color). These program areas represent the stakeholders in the CIP.

FIGURE 1-2. CIP PROGRAM AREAS	
Label	Definition / Description
BP / PK	Bike paths, trail ways, and park facilities/services
FA	Township-owned buildings and facilities (offices, storage buildings, museums, etc.)
FD	Fire protection / EMS facilities and equipment
IS	Internal support services (IT, GIS, fleet vehicles, communications, etc.)
PD	Police Department facilities and equipment
SS	Sanitary sewerage disposal system
WS	Water supply system

1. Data Collection

Each of the stakeholders outlined above has either a master plan or schedule that defines the needs and resource level within their respective area of responsibility. This information is in varied formats and cannot be readily compiled without a significant amount of interpretation. To resolve this interface situation, standard forms were created that allow the stakeholders to define their projects and resource allocation levels. The standard forms used for data collection are found in the Appendix. At a meeting with the stakeholders, the CIP process and the forms were explained in detail along with a request for the forms to be filled out based on what information is currently available. The information generated from these forms has been systematically compiled as the core of the CIP. A definition of the forms is provided as follows:

- **Project Application Form** - Consists of project descriptions, schedules, necessity, and possible sources of funding. The information provides an understanding of the overall scope of each project and how it is valued within its program area and within the Township. While stakeholders may be aware of major projects further out on the horizon, only those planned for within the six-year window of the 2025-2030 CIP were included.
- **Project Cost Detail Form** - Consists of a matrix of six (6) budget years across the top of the form and a listing of costing components along the side of the form. The form is split into two (2) parts; the upper half is the capital cost for the project and the lower half is the cost of operations or maintenance for that project if applicable. Recognition of the operations and maintenance costs of a project is a valuable tool in forecasting future needs for resource allocation. Investment in a new facility is only worthwhile if there are funds available to operate and maintain it.

- **Project Rating Form** - Used to rate both the importance and impact of a project within its program area and within the Township (an “apples-to-apples” comparison). The rating number is not an absolute in itself but is important in distinguishing between projects that are similar in scope. The ratings are weighted with emphasis given to those projects that are mandated by law, by agreement, or because they are a matter affecting health, safety, and welfare.

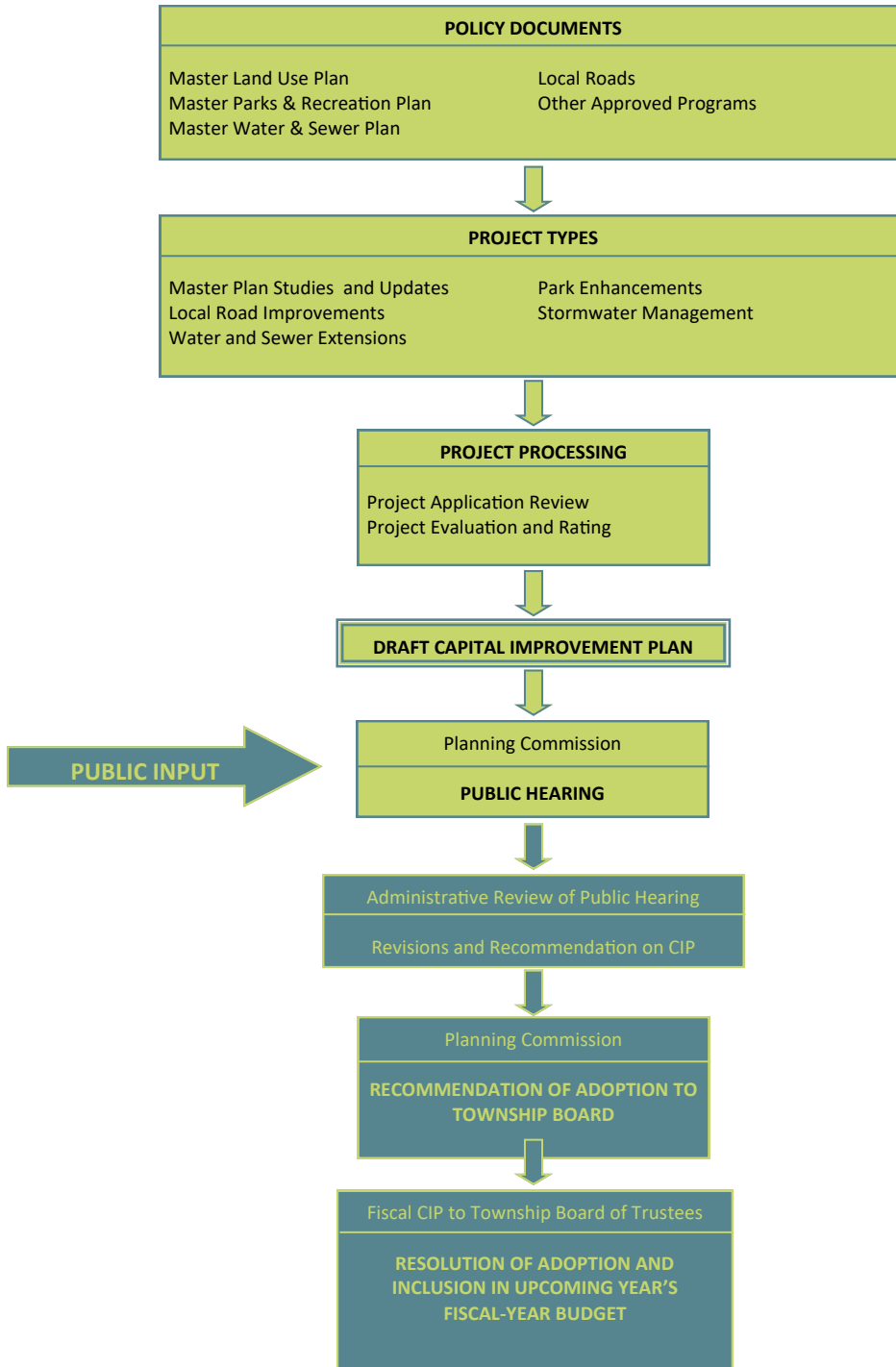
2. Data Compilation

The information received from the stakeholders has been compiled into a Project Summary Worksheet. This worksheet contains all of the projects in the CIP over six (6) budget years with a cost summary of each budget year by program area and for the entire CIP. Included with the worksheet is the listing of possible funding sources and an estimate of the Township’s share for each project. The Project Summary Worksheet can be found in the Appendix of this CIP.

3. CIP Adoption Process

The adoption process involves a public hearing to solicit citizen input. The CIP will then be modified (if necessary), approved by the Township Planning Commission (via a formal recommendation for approval to the Township Board), and forwarded to the Township Board for adoption. Adoption of the CIP by the Township’s Board of Trustees does not constitute an authorization to commit resources to any project. This approval is recognition of a plan for projects within the community that may move toward implementation in the future. The projects included within Year 1 of the Capital Improvement Plan potentially form the basis for the upcoming year’s capital projects budget. An outline of the process is displayed in Figure 1-3 on the following page.

FIGURE 1-3. CIP ADOPTION PROCESS



In developing a Capital Improvements Plan, communities often find it essential to develop an inventory of their existing capital facilities. Before a community develops a list of “What we need,” it is important to first look at “What we have.” As stated in White Lake Township’s Master Plan, “A municipality’s public facilities are an important part of community life and are directly related to important issues such as quality of life and protection of the public health, safety, and welfare.” The following is a summary of White Lake Township’s major capital facilities and their current condition (where applicable), as determined by the directors of the respective departments. The location of existing Township facilities is noted on the Existing Facilities Map (Figure 2-1).

White Lake Township Hall

7525 Highland Road

Year Built: 1949

Last Major Improvement: 1996

Houses: Supervisor, Clerk, Treasurer, Assessing, Building, Planning, Water, Sewer, Maintenance

Condition: Fair

Extent of Use: Heavy



White Lake Township Fleet Vehicles

Includes: Administrative vehicles, inspection vehicles; does not include Fire Dept. vehicles

Year Acquired: Varies

Condition: Varies

Extent of Use: Varies

Average Duty Cycle: Approximately 7 years



Fire Hall Number 1 (Headquarters)

7420 Highland Road

Year Built: Unknown

Last Major Improvement: Parking Lot Replacement

Serves: M-59 corridor; northeast and southwest quadrant

Condition: Fair

Extent of Use: Heavy



Fire Hall Number 2

Address: 860 Round Lake Road
Year Built: Unknown
Last Major Improvement: None
Serves: Southeast quadrant
Condition: Fair
Extent of Use: Heavy



Fire Hall Number 3

4870 Ormond Road
Year Built: Unknown
Last Major Improvement: None
Serves: Northwest quadrant
Condition: Fair
Extent of Use: Moderate



White Lake Township Police Station

7525 Highland Road
Year Built: approx. 1950
Last Major Improvement: 2001 (expansion)
Condition: Poor
Extent of Use: Heavy



White Lake Township Police Garage

Location: Behind Police Station
Year Built: 2004
Last Major Improvement: None
Condition: Poor
Extent of Use: Heavy



White Lake Township Police Communications System

Year Acquired: New in 2010
Last Major Improvement: None
Condition: Good
Extent of Use: Heavy



White Lake Township Police Vehicles

Includes: 18 Vehicles
 Year Acquired: Varies
 Condition: Excellent
 Extent of Use: Heavy



Fire and EMS Equipment

Includes: three engines, two tankers, two ambulances / transporting units, one light duty rescue (no pumping or water carrying capabilities), one pickup style grass truck with a skid-mounted pump and tank, four fleet vehicles, one drone aircraft, two cardiac monitors, and breathing apparatus (consisting of 32 packs, 63 bottles, and 32 masks)
 Year acquired: Varies; between 1997 and 2022
 Condition: Varies; from Fair to Excellent
 Extent of Use: Varies; primarily Moderate to Heavy



Township Office Annex

7527 Highland Road
 Year Built: 1985
 Last Major Improvement: 2020 remodel
 Condition: Good
 Extent of Use: Moderate



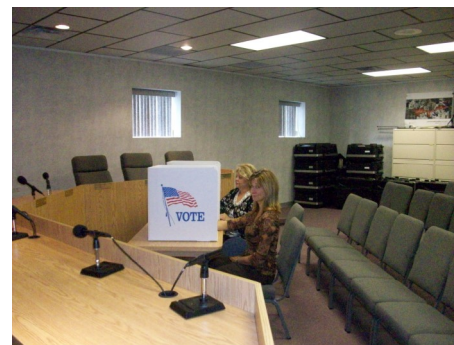
Dublin Community Senior Center

685 Union Lake Road
 Year Built: approx. 1950
 Last Major Improvement: 2001
 Condition: Good
 Extent of Use: Heavy



White Lake Township Clerk's Equipment

Includes: Voting tabulation machines (18)
 Voter assist terminals (13)
 Year acquired: Varies; between 2018 and 2022
 Condition: Excellent
 Extent of Use: Varies



White Lake Township Water System

Includes: Approx. 55 miles of water main ranging in size from 4 to 16 inches in diameter, service supply laterals, 15 pressure control valves, approx. 1,000 gate valves, approx. 700 fire hydrants and hydrant valves, 2 one million gallon elevated water storage tanks, 5 water treatment plants, 9 water supply wells

Year Built: Ongoing
 Last Major Improvement/Extension: 2020 Hillview Well House & 2019 Twin Lakes II Well House
 Condition: Varies; primarily Good to Excellent
 Extent of Use: Varies; primarily Moderate to Heavy



White Lake Township Sanitary Sewer System

Includes: The Township’s wastewater collection system serves approximately 4,500 people in the Township. Sewer mains were constructed largely in 1999 or later. There are approximately 20 miles of gravity sewer mains and approximately 22 miles of pressured mains. The Township’s sanitary system contains ten (10) pumping stations. The wastewater flow is ultimately discharged into Commerce Township’s collection system and is conveyed to the Commerce Township Wastewater Treatment Plant for treatment.

Year Built: Ongoing since 1998
 Last Major Improvement/Extension: 2012
 Condition: Good to Excellent
 Extent of Use: Light to Moderate



Water Tower 1

360 Woodsedge Drive
 Year Built: 1994
 Last Major Improvement: 2007
 Condition: Good
 Extent of Use: Heavy



Water Tower 2

6055 Highland Road
 Year Built: 2004
 Last Major Improvement: None
 Condition: Excellent
 Extent of Use: Moderate



Hidden Pines Park

Location: Intersection of White Lake Road and Hidden Pines Drive.
Size: 9 Acres
Includes: Baseball Field and parking area



Township-Owned Land

Total acreage: approx. 177 acres (including Township parks)



Judy Hawley Park

Location: Behind Township Hall, just east of the Township Annex
Size: 12 acres
Includes: Soccer fields, pavilion, play structure, basketball courts, sand volleyball court, and pathway



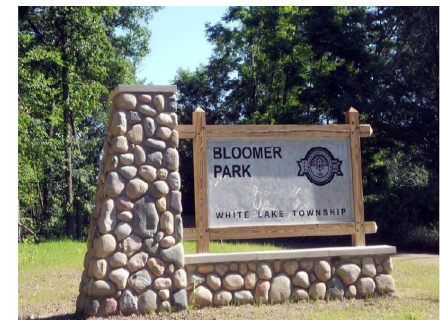
Ferdinand C. Vetter Park

Location: Behind Dublin Community Center on Union Lake Road
Size: 6 acres
Includes: Baseball field, picnic shelter, pathway, and play structure



Bloomer Park

Location: West side of McKeachie Road, between Grass Lake and Jackson Roads
Size: Approximately 28 acres
Description: Picnic shelter, scenic overlook, and nature trails



Stanley Park

Location: West side of Elizabeth Lake Road, south of White Lake Library
Size: 59 acres
Description: Undeveloped; development anticipated 2025-2027



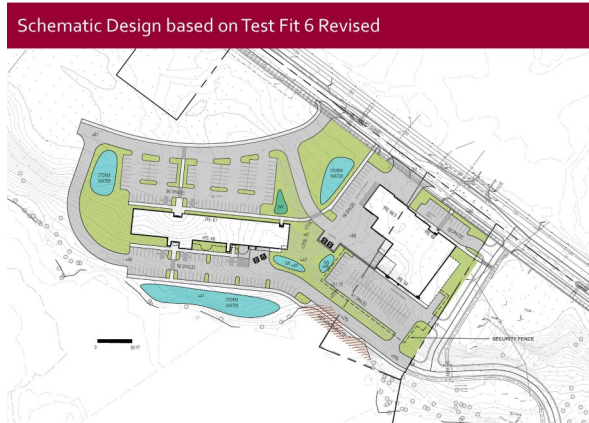
White Lake Community Hall

Address: 7500 Highland Road
Year Built: 1875 (State-designated historic site)
Last Major Renovation: 2013 (Interior)
Condition: Good
Extent of Use: Light



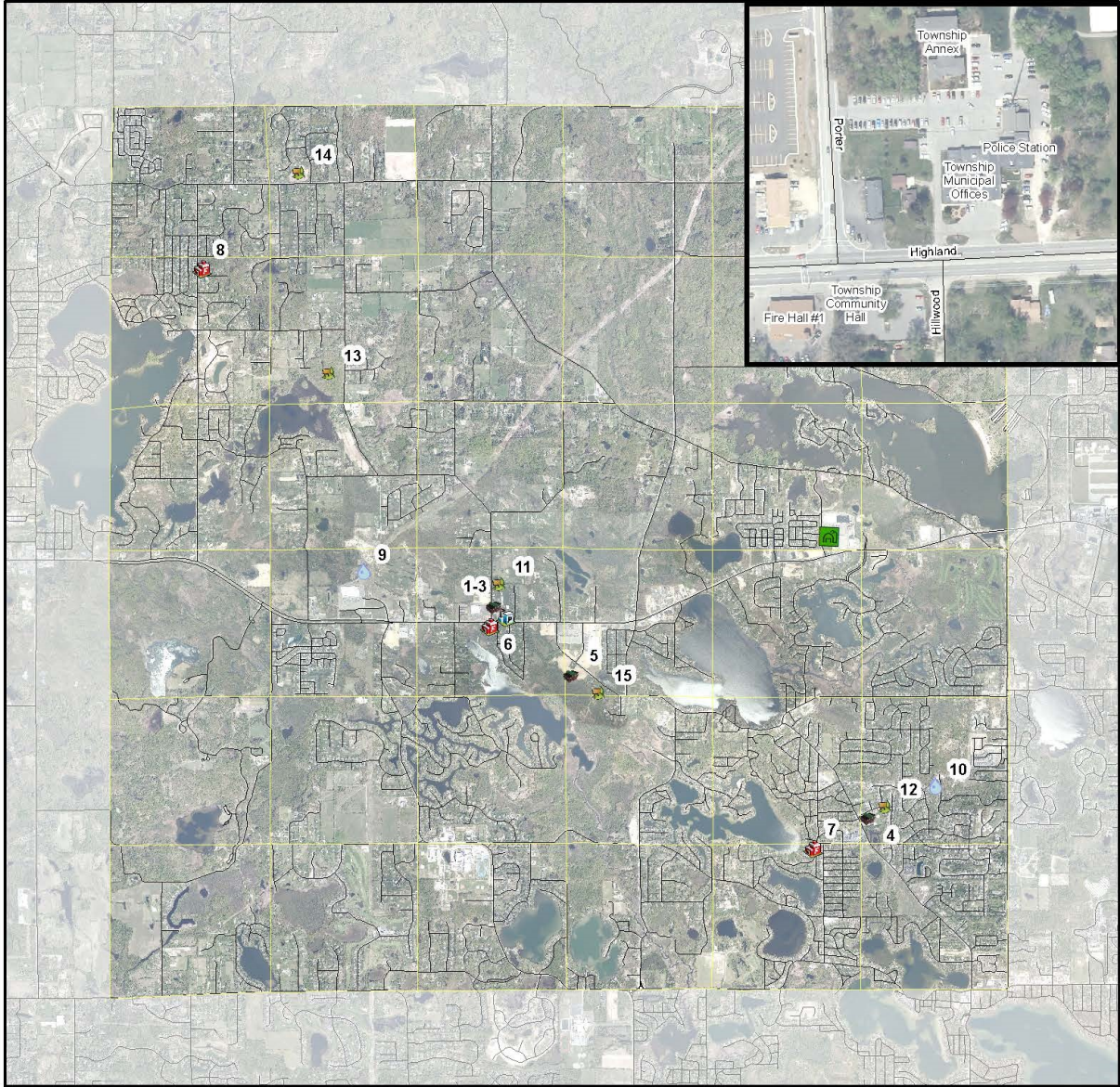
Civic Center

Location: West side of Elizabeth Lake Road, south of White Lake Library
Size: 29 acres
Description: Undeveloped; development anticipated 2024-2027



White Lake Charter Township

FIGURE 2-1



White Lake Charter Township



Existing Facilities

- | | | | |
|--------------------------------|--------------------------|-------------------------------|---------------------|
| | Public Facilities | | Water Towers |
| 1 - Township Municipal Offices | | 9 - Water Tower #1 | |
| 2 - Community Hall | | 10 - Water Tower #2 | |
| 3 - Township Annex | | | |
| 4 - Dublin Community Center | | Township Parks | |
| 5 - Civic Center Property | | 11 - Judy Hawley Park | |
| | Fire Stations | 12 - Ferdinand C. Vetter Park | |
| 6 - Fire Hall #1 | | 13 - Bloomer Park | |
| 7 - Fire Hall #2 | | 14 - Hidden Pines Park | |
| 8 - Fire Hall #3 | | 15 - Stanley Park | |
| | Police Station | | Fisk Farm |



Stakeholders

The level of input from the stakeholders has greatly contributed toward the formulation of the CIP. Project profiles consisting of the Project Application Form, the Project Cost Detail Form, and the Project Rating Form were received from Parks and Recreation, Senior Center, Police Department, Fire Protection, Facilities, and Department of Public Services. Though some of the information received will require further detail, it is the most current information available until future refinements are made to the project profile.

Project Histories

Just as important as tracking current and future projects is cataloging the past accomplishments of the Capital Improvement Plan. Located in the back of the plan is a Project Histories Summary Table. This table illustrates those past projects that have been completed or canceled. Some projects are changed over time, the original project number may be dropped and new project numbers created in its place. The Project Histories Summary can be used to track the priorities of the Township over time and can help track overall investment in the community based on geographic regions.

2024 Project Histories

Capital improvements, outlined in the 2024-2029 CIP, completed during 2024:

- BP-0009 Triangle Trail Development

Projects

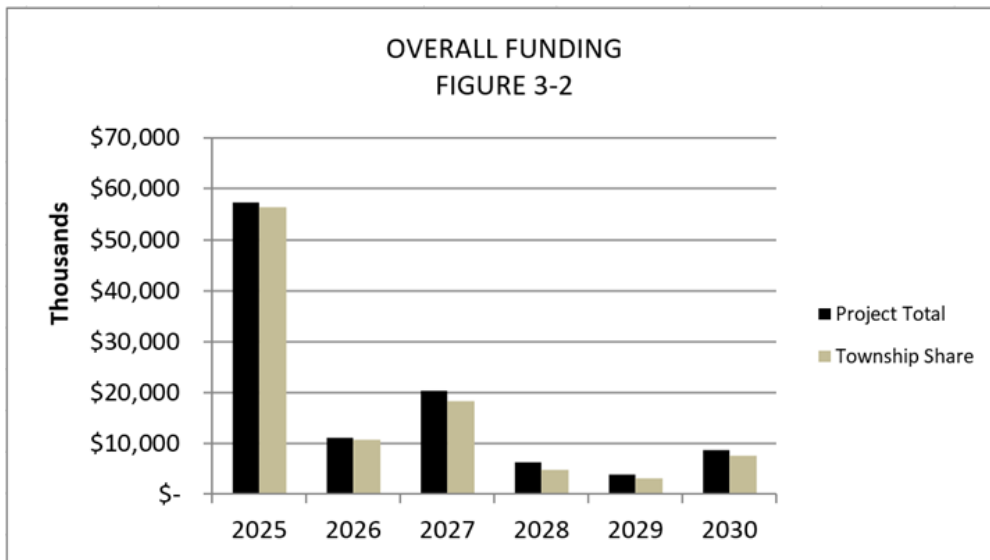
Review of the Project Summary Worksheet (found in the Appendix of this report) indicates that there are several individual projects located in the same geographic area. There are potential cost savings that can be realized by combining projects. At a minimum, mobilization, traffic control, and restoration are just some of the potential cost savings achieved by combining projects for construction. The potential grouping of projects are identified in Figure 3-1 below:

FIGURE 3-1	
Location	Project Labels
M-59, Teggerdine east 0.3 miles	BP-0003 and PK-0006
Bogie Lake Road, Huron Valley Schools to M-59	BP-0006 and SS-0003
Elizabeth Lake Road, south of White Lake Library	FA-0006 and FA-0007

If the funding and timing of these projects can be orchestrated, the savings are significant. The exact savings cannot be determined until a detailed project costing and analysis of the common scope between the projects is performed. Also, in the future other projects such as new facilities can be studied to determine if combining operations can realize a cost savings. Other benefits include providing a list of projects in advance in order to help establish the need for grants and funding opportunities.

Funding

This CIP has many projects that are unfunded. The limitations of funding will likely cause projects to be delayed, deferred or cancelled. Each project has a potential funding source and many are dependent on a contribution from the Township’s General Fund (GF). Many projects list funding sources from State and Federal grant programs, but those grants have not yet been secured. The following chart depicts the relationship between total project costs, and the Township’s share of those costs. Additional revenue for projects that are not completely funded by the Township will come from grants and other funding sources.



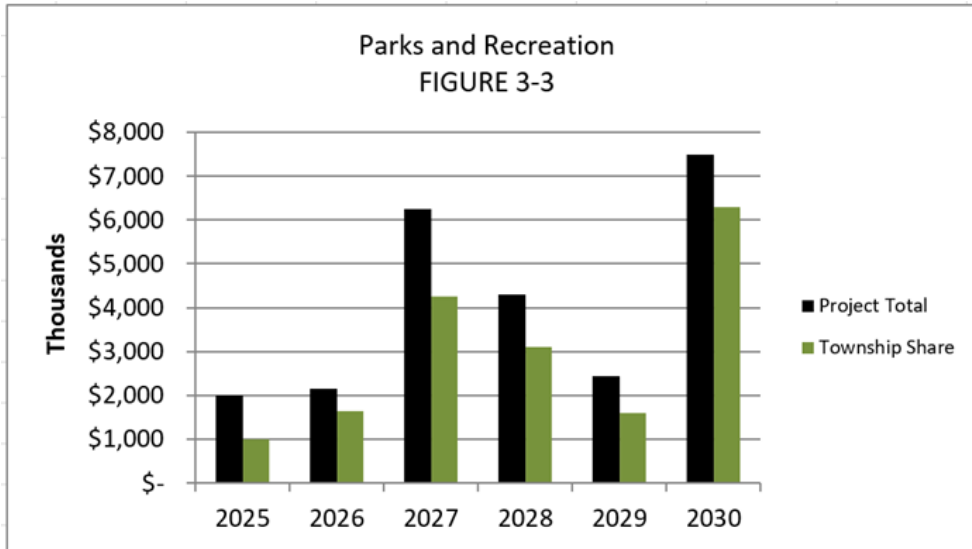
The Township’s General Fund balance at the end of fiscal year 2023 was \$7,376,522. As indicated in Figure 3-2 above, the General Fund balance is inadequate to support the Township’s share of the CIP.

Funding Components

In the following section, each of the funds shown on the Project Summary Worksheet are graphed and reported as part of the CIP with the exception of the projects listed under Internal Services.

Parks and Recreation

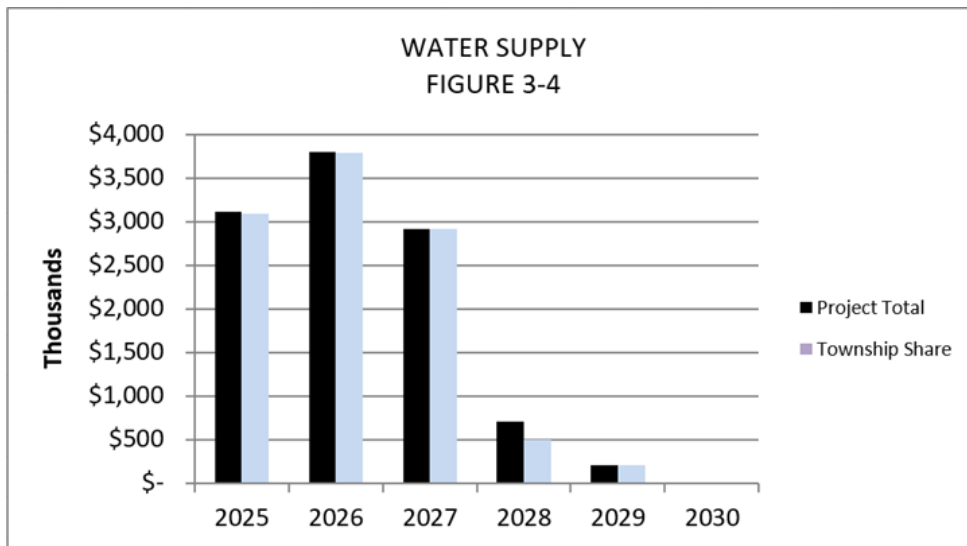
The Parks and Recreation Fund has a balance of \$1,457,076 as shown in the 2023 Comprehensive Annual Financial Report (CAFR). This fund balance along with a \$500,000 Land and Water Conservation Fund grant will be used to leverage park improvement projects.



Careful budgeting of the Parks and Recreation Fund will allow the level of service and maintenance of the Township’s current and future park facilities to occur until additional parks funding can be established.

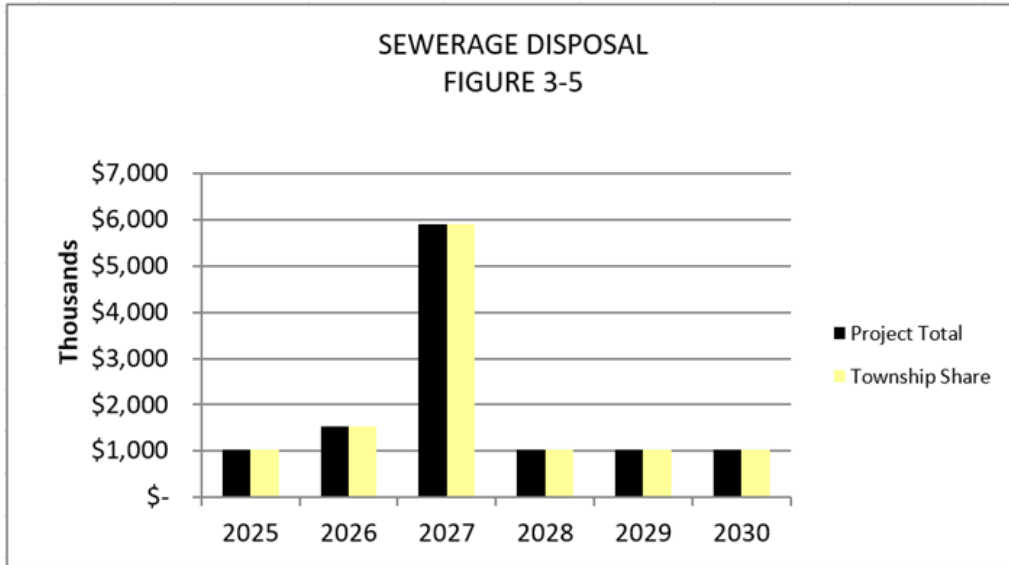
Water Supply Fund

The Water Supply Fund (WF) is an enterprise fund that is not dependent on support from the General Fund. The Water Supply Fund (WF) has a balance of \$15,861,011 as of the close of 2023. Several projects in this program area are funded using the Drinking Water Revolving Fund supplemented by the Water Supply Fund balance.



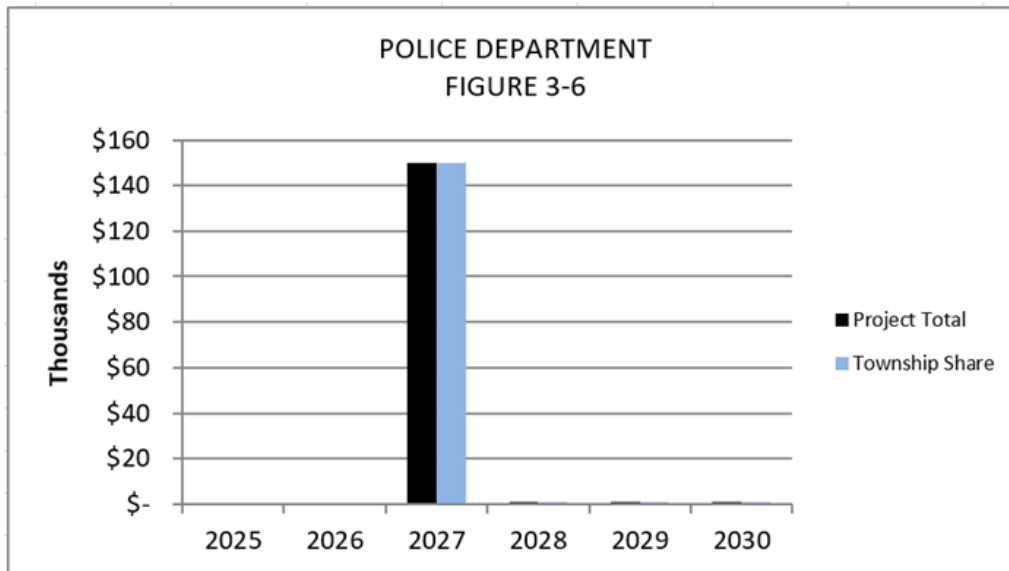
Sewerage Disposal System

Development of sewer has been done either by private development or special assessment districts (SADs). As of 2023, the Sewer Fund (Enterprise Fund) has a balance of \$12,921,604.



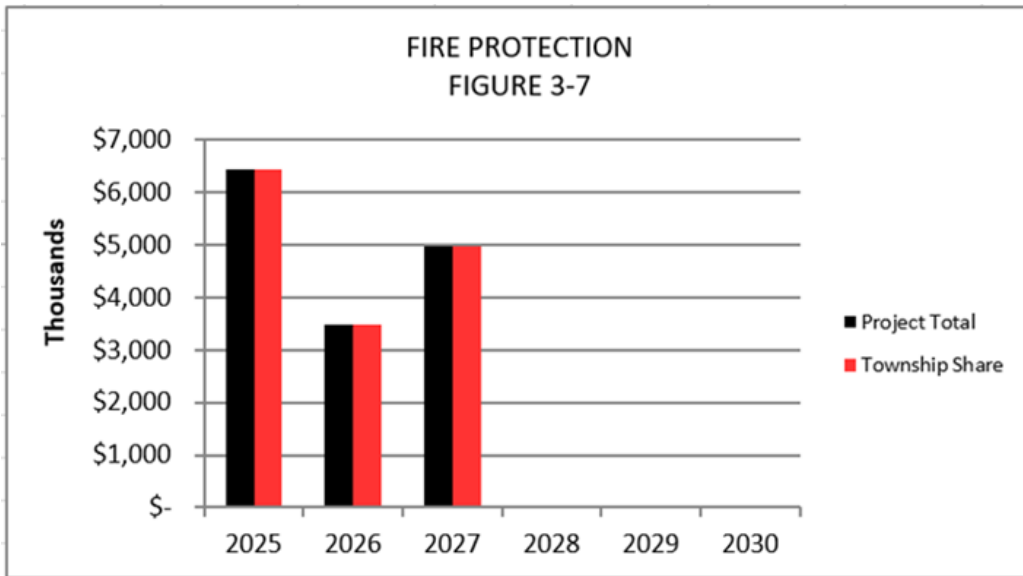
Police Department

The 2023 CAFR reports a balance of \$5,190,389 in the Police Fund. The Police Department is currently funded by a Township Millage.



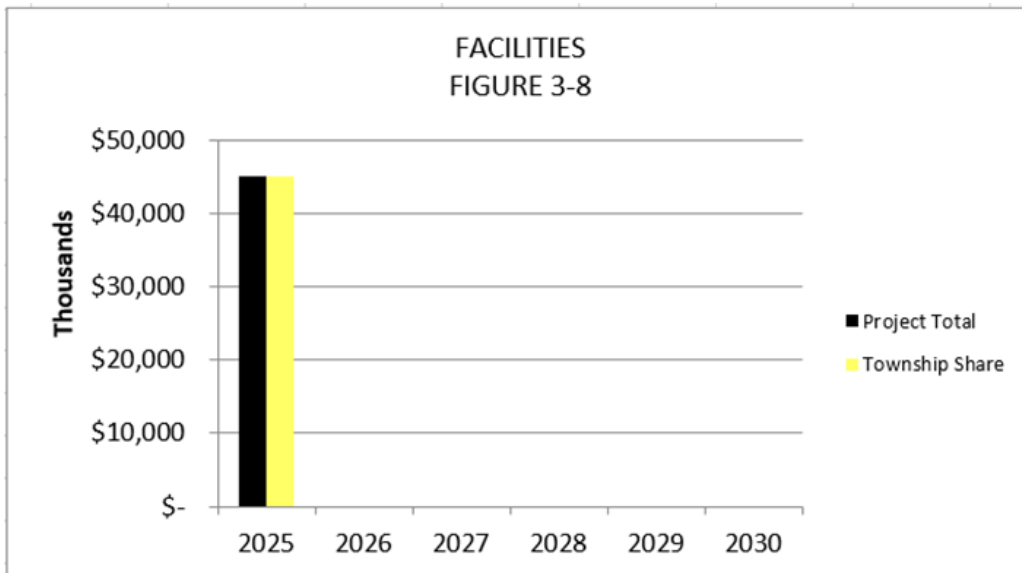
Fire Protection

The Fire Protection Fund has a balance of \$6,401,139 as reported in the 2023 CAFR. The Fire Protection Fund is supported solely through millage money.



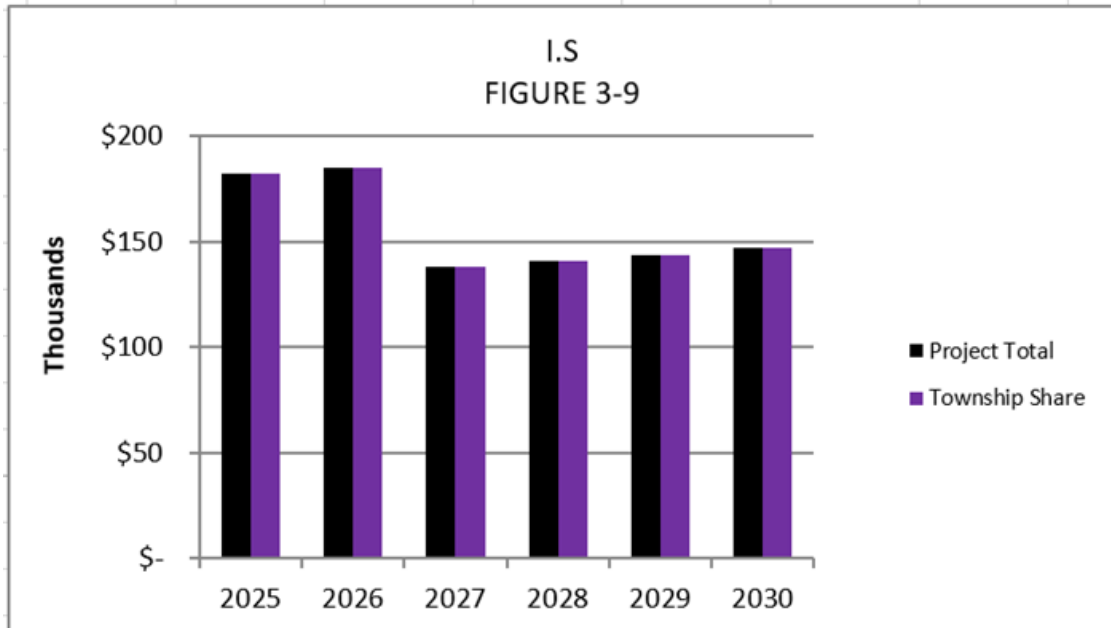
Facilities

The Township Civic Center district will have a new Public Safety Headquarters that will cost approximately \$25 million dollars and a new Civic Center Building to replace the current Township Offices at an approximate cost of \$20 million dollars. This money will come from the Capital Project Fund and the issuance of bonds. The Township currently has \$12,664,817 available for a new Township Municipal Complex in an Improvement Revolving Fund listed in the 2023 CAFR.



Internal Services

The Internal Services used to support the operating departments are included in the CIP due to their costs that are in excess of \$50,000. As these services are collected as a charge back to the operating departments, there is no special fund involved.



The components of the Capital Improvement Plan have been compiled and reported by the following seven program areas, each representing a stakeholder in the CIP.

<p>Section 4a. Facilities FA-0006 Public Safety Headquarters FA-0007 Township Civic Building FA-0009 DPS Storage/Maintenance Building</p>	<p>Section 4e. Police Department PD-0002 - Mobile Command Center</p>
<p>Section 4b. Fire Protection / Emergency Medical Services FD-0002 - Fire Station 2 Replacement FD-0006 - Fire Ladder Truck FD-0009 - Fire Station 3 Replacement FD-0017 - Structural Firefighting Gear (30) FD-0018 - Ambulance Replacement (3) FD-0019 - Engine / Pumper Replacement FD-0020 - Emergency Medical Service Equipment (10)</p>	<p>Section 4f. Sanitary Sewer Disposal System SS-0005 - Western Outlet Sanitary Extension Phase 2 SS-0006 - Pump Station at Lakeland High school SS-0008 - Upgrades & Equipment Replacement of 7 Sanitary Sewage Pump Stations SS-0011 - Sewer Main Rehabilitation Projects</p>
<p>Section 4c. Internal Services IS-0002 - Fleet Vehicles (excluding Fire) IS-0003 - Document Management Program</p>	<p>Section 4g. Water Supply System WS-0004 - Twin Lakes Well Replacement and Upgrades WS-0012 - 6-inch Diameter Water Main Replacement WS-0015 - Twin Lakes I Well House Updates WS-0017 - Interconnection of High Pressure Districts (Elizabeth Lake Road) WS-0018 - Residual Chlorine Analyzers at Water Towers WS-0019 - Residential and Commercial Meter Replacement with AMR System WS-0021 - Repaint Water Tower 1 WS-0022 - Repaint Water Tower 2 WS-0023 - Backhoe Machine WS-0024—DPW Maintenance Garage WS-0025—Waterford / White Lake Emergency Interconnection</p>
<p>Section 4d. Parks and Recreation BP-0002 - M-59 Pathway (Phase I) BP-0003 - M-59 Pathway (Phase II) BP-0004 - M-59 Pathway (Phase III) BP-0005 - Union Lake Rd. Pathway BP-0006 - Bogie Lake Rd. Pathway PK-0002 - Four Seasons Trail (Phase I) PK-0003 - Four Seasons Trail (Phase II) PK-0004 - Four Seasons Trail (Phase III) PK-0008 - Hidden Pines Park Phase II PK-0009 - Teggerdine Trail Design PK-0010 - Bloomer Park (Phase II) PK-0012 - Stanley Park (Phase I) PK-0013 - Stanley Park (Phase II) PK-0014 - Pickleball Courts</p>	

Funding Sources Abbreviations

Building Authority	BA
Fire Protection Fund	FPF
General Fund	GF
Federal Housing and Urban Development	HUD
Michigan Dept. of Transportation Enhancement Grant	MDOT-EG
Michigan Natural Resources Trust Fund Grant	MNRTFG
Michigan Safe Routes to School Program	MSRSP
Parks & Recreation - Special Township Revenue Fund	P&RF
Police Department Fund	PDF
Road Commission Tri-Party Program	RCOCTP
Special Assessment District	SAD
Sewer Fund (Township Enterprise Fund)	SF
State Revolving Fund	SRF
United States Dept. of Transportation	USDOT
Drinking Water Revolving Fund	DWRF
Water Supply Fund (Township Enterprise Fund)	WF

Overview

Facilities play an important role in providing an environment that is conducive to supporting the various operating departments that provide services directly to the residents in the Township. Facilities can be new building projects, building renovations, building expansions or the cost of services to support the existing buildings if this cost is significant. Identification of significant costs to support existing building operations is an important tool in determining the cost effectiveness of operating existing public buildings.

Funding for supporting existing Facilities is normally derived by either a charge back to the budgets from the operating departments or done as a direct operating cost to General Fund. Funding for new Facilities can be accomplished by a building authority. The Township has a legally established Building Authority that would be the governing body to finance and construct any new public buildings in the Township.

On the following page, each of the Facilities projects are listed along with their cost and funding sources.

CHARTER TOWNSHIP OF WHITE LAKE CAPITAL IMPROVEMENTS PLAN PROJECT SUMMARY FACILITIES (FA)							
PROJECT NUMBER	PROJECT TITLE	CATEGORY	RATING	FUNDING	PROJECT COST	TOWNSHIP SHARE	OTHER FUNDS
FA-0006	Public Safety Headquarters	New Construction	110	Grant, GF, Bond Issue, PDF, FPF	\$25,000,000 +/-	\$25,000,000 +/-	\$--

Project Description

This building project is for the construction of a combined Police and Fire Headquarters Building to be located on Elizabeth Lake Road. The project cost includes the 40,000 square foot building and the associated site work.

PROJECT NUMBER	PROJECT TITLE	CATEGORY	RATING	FUNDING	PROJECT COST	TOWNSHIP SHARE	OTHER FUNDS
FA-0007	Township Civic Building	New Construction	96	Grant, GF, Bond Issue	\$20,000,000 +/-	\$20,000,000 +/-	\$--

Project Description

The Township Civic Building will replace the 70 year old Township Office Building (circa 1949) with a modern facility that will accommodate the Township's current needs. The building will be approximately 30,000 square feet.

PROJECT NUMBER	PROJECT TITLE	CATEGORY	RATING	FUNDING	PROJECT COST	TOWNSHIP SHARE	OTHER FUNDS
FA-0009	DPS Storage/Maintenance Building	New Construction	58	GF, SF, WF	\$500,000 +/-	\$500,000 +/-	\$--

Project Description

Currently gathering estimates and preliminary site plan.

Overview

Fire Protection provides a variety of vital services to Township residents. Fire Protection facilities are provided at several locations within the Township. In the CIP, new Fire Protection facilities, new Fire Protection equipment, and new Fire Protection vehicles are included under this section.

Fire Protection is principally funded by a Township Millage. Potential sources of funding for projects are the Fire Protection Fund balance, bond issue, or grants. Another possibility would be to use the Township's Building Authority to finance new fire stations.

On the following pages, each of the Fire Protection projects are listed along with their cost and potential funding sources.

CHARTER TOWNSHIP OF WHITE LAKE CAPITAL IMPROVEMENTS PLAN PROJECT SUMMARY FIRE PROTECTION (FD)							
PROJECT NUMBER	PROJECT TITLE	CATEGORY	RATING	FUNDING	PROJECT COST	TOWNSHIP SHARE	OTHER FUNDS
FD-0002	Fire Station 2 Replacement	New Construction	140	Grant, Bond Issue, BA	\$4,000,000	\$4,000,000	\$--
<u>Project Description</u> Construct a satellite fire station with living quarters and three bays.							

PROJECT NUMBER	PROJECT TITLE	CATEGORY	RATING	FUNDING	PROJECT COST	TOWNSHIP SHARE	OTHER FUNDS
FD-0006	Fire Ladder Truck	New Equipment	108	FPF	\$1,500,000	\$1,500,000	\$--
<u>Project Description</u> 100-foot fire-fighting ladder truck.							

PROJECT NUMBER	PROJECT TITLE	CATEGORY	RATING	FUNDING	PROJECT COST	TOWNSHIP SHARE	OTHER FUNDS
FD-0009	Fire Station 3 Improvement	New Construction	112	Grant, Bond Issue, BA, GF	\$5,000,000	\$5,000,000	\$--
<u>Project Description</u> Restoration and Addition to the existing Fire Station 3.							

PROJECT NUMBER	PROJECT TITLE	CATEGORY	RATING	FUNDING	PROJECT COST	TOWNSHIP SHARE	OTHER FUNDS
FD-0017	Structural Firefighting Gear (22 sets)	New Equipment	102	FPF	\$126,000	\$126,000	\$--
<u>Project Description</u> Structural Firefighting Gear. \$4,200 per set = \$126,000							

PROJECT NUMBER	PROJECT TITLE	CATEGORY	RATING	FUNDING	PROJECT COST	TOWNSHIP SHARE	OTHER FUNDS
FD-0018	Ambulance Replacement and Refurbishment	New Equipment	112	FPF	\$1,034,850	\$1,034,850	\$--
<u>Project Description</u> Ambulance replacement - 3 (2 new units and 1 refurbishment planned for 2025).							

PROJECT NUMBER	PROJECT TITLE	CATEGORY	RATING	FUNDING	PROJECT COST	TOWNSHIP SHARE	OTHER FUNDS
FD-0019	Engine/Pumper Replacement	New Equipment	112	FPF	\$3,000,000	\$3,000,000	\$--
<u>Project Description</u> Specification process beginning in 2027.							

PROJECT NUMBER	PROJECT TITLE	CATEGORY	RATING	FUNDING	PROJECT COST	TOWNSHIP SHARE	OTHER FUNDS
FD-0020	Emergency Medical Service Equipment	New Equipment	137	FPF	\$283,262	\$283,262	\$--
<u>Project Description</u> Purchase of emergency medical service equipment for year 2025, consisting of 1 cardiac monitor, 3 power load systems, 3 power load cots, and 3 stair-chair lifting systems.							



Overview

Internal Services play an important role in supporting the various operating departments that provide services directly to the residents in the Township. While Internal Services in itself is not a “project,” the cost of this internal support is significant and bears inclusion as part of the CIP. Internal Services in this CIP are defined as computer networks, geographic information service (GIS), document storage, communications, and fleet vehicles.

There is no dedicated fund for Internal Services. Funding for Internal Services is normally derived by a charge back to the budgets from the operating departments that use or are supported by these services.

On the following page, each of the Internal Services projects are listed along with their cost and funding sources.

CHARTER TOWNSHIP OF WHITE LAKE
CAPITAL IMPROVEMENTS PLAN
PROJECT SUMMARY
INTERNAL SERVICES (IS)

PROJECT NUMBER	PROJECT TITLE	CATEGORY	RATING	FUNDING	PROJECT COST	TOWNSHIP SHARE	OTHER FUNDS
IS-0002	Fleet	New Equipment	80	PD / GF	\$ 837,000	\$ 837,000	\$--

Project Description
Replacement of cars and trucks (except Fire Department) on an annual basis to systematize the vehicle replacement process. Estimates are for a combination of three (3) cars and two (2) trucks each year, for a total of six (6) years.

PROJECT NUMBER	PROJECT TITLE	CATEGORY	RATING	FUNDING	PROJECT COST	TOWNSHIP SHARE	OTHER FUNDS
IS-0003	Document Management Program	Equipment / Professional Services	90	GF	\$100,000	\$100,000	\$--

Project Description
Project includes providing Township Departments with the necessary software and hardware needed to continue digitizing the Township's document files. Project also includes funding for contracting with private firms to help expedite the process.

Overview

The Parks and Recreation Master Plan outlines a variety of services to Township residents. Parks and Recreation is principally funded by a non-major special revenue fund. Potential funding for projects can be from Parks and Recreation Fund balance, grants such as Michigan Department of Natural Resources Trust Fund, County based tri-party funding, Michigan Safe Routes to School Program, Michigan Department of Transportation Enhancement Grant, Federal Housing and Urban Development.

In January 2023 the Township Board adopted the 2023-2027 Parks and Recreation Master Plan. The Plan outlines goals and objectives illustrating the vision for parks and recreation over the next five plus years and documents desired capital improvements to meet the goals, and categorizes them as short-, mid-, long-term, or ongoing priorities including magnitude of cost of the proposed capital improvements. The Plan also identifies potential funding sources that might best align with the various capital projects. The CIP incorporates several of the capital projects identified in the 2023-2027 Parks and Recreation Master Plan.

On the following pages, each of the Parks and Recreation projects are listed along with their cost and potential funding sources.

CHARTER TOWNSHIP OF WHITE LAKE
CAPITAL IMPROVEMENTS PLAN
PROJECT SUMMARY
PARKS AND RECREATION (BP and PK)

PROJECT NUMBER	PROJECT TITLE	CATEGORY	RATING	FUNDING	PROJECT COST	TOWNSHIP SHARE	OTHER FUNDS
BP-0002	M-59 Pathway (Phase I)	Rehabilitation	98	MDOT-EG; P&RF	\$2,000,000	\$1,500,000	\$500,000

Project Description
An important, long term, high-priority objective is the development of a Township-wide system of pathways connected to the regional network. Renovation of the M-59 pathway is an essential element that will connect future north-south routes, for example, Bogie Lake Pathway to the Four Seasons Trail.

PROJECT NUMBER	PROJECT TITLE	CATEGORY	RATING	FUNDING	PROJECT COST	TOWNSHIP SHARE	OTHER FUNDS
BP-0003	M-59 Pathway (Phase II)	Rehabilitation	98	MDOT-EG; P&RF	\$2,000,000	\$1,500,000	\$500,000

Project Description
An important, long term, high-priority objective is the development of a Township-wide system of pathways connected to the regional network. Renovation of the M-59 pathway is an essential element that will connect future north-south routes, for example, Bogie Lake Pathway to the Four Seasons Trail.

PROJECT NUMBER	PROJECT TITLE	CATEGORY	RATING	FUNDING	PROJECT COST	TOWNSHIP SHARE	OTHER FUNDS
BP-0004	M-59 Pathway (Phase III)	Rehabilitation	98	MDOT-EG; P&RF	\$2,000,000	\$1,500,000	\$500,000

Project Description
An important, long term, high-priority objective is the development of a Township-wide system of pathways connected to the regional network. Renovation of the M-59 pathway is an essential element that will connect future north-south routes, for example, Bogie Lake Pathway to the Four Seasons Trail.

PROJECT NUMBER	PROJECT TITLE	CATEGORY	RATING	FUNDING	PROJECT COST	TOWNSHIP SHARE	OTHER FUNDS
BP-0005	Union Lake Road Pathway	New Construction	98	MNRTFG; RCOCTP; P&RF	\$1,500,000	\$1,150,000	\$350,000

Project Description
The Union Lake Road corridor is the area of White Lake that contains the highest density of residential development in the Township. A pathway along the corridor is critical to provide residents with safe, non-motorized access to the homes, churches, schools, parks, retail, and other places in the area.

PROJECT NUMBER	PROJECT TITLE	CATEGORY	RATING	FUNDING	PROJECT COST	TOWNSHIP SHARE	OTHER FUNDS
BP-0006	Bogie Lake Road Pathway	New Construction	83	MDOT-EG; P&RF; MSRSP	\$5,500,000	\$5,000,000	\$500,000

Project Description
 An important, long term, high-priority objective is the development of a Township wide system of pathways connected to the regional network. This pathway provides the north-south connection from M-59 (north) to the Township’s southern boundary and connects a complex of 3 schools to neighborhoods throughout the length of the corridor.

PROJECT NUMBER	PROJECT TITLE	CATEGORY	RATING	FUNDING	PROJECT COST	TOWNSHIP SHARE	OTHER FUNDS
PK-0002	Four Seasons Trail (Phase I)	New Construction	67	MNRTFG; P&RF; USDOT	\$2,000,000	\$1,500,000	\$500,000

Project Description
 An important, long-term, high-priority objective is the development of a Township-wide pathways system. The ITC Corridor Four Seasons Trail provides a critical link between Pontiac Lake State Recreation Area and Highland Lake State Recreation Area, via the M-59 trailway. This route is included in the Oakland County Greenways Plan and should include state and regional financial participation. Construction of the trailway is expected to occur over several years.

PROJECT NUMBER	PROJECT TITLE	CATEGORY	RATING	FUNDING	PROJECT COST	TOWNSHIP SHARE	OTHER FUNDS
PK-0003	Four Seasons Trail (Phase II)	New Construction	67	MNRTFG; P&RF; USDOT	\$2,000,000	\$1,500,000	\$500,000

Project Description
 An important, long-term, high-priority objective is the development of a Township-wide pathways system. The ITC Corridor Four Seasons Trail provides a critical link between Pontiac Lake State Recreation Area and Highland Lake State Recreation Area, via the M-59 trailway. This route is included in the Oakland County Greenways Plan and should include state and regional financial participation. Construction of the trailway is expected to occur over several years.

PROJECT NUMBER	PROJECT TITLE	CATEGORY	RATING	FUNDING	PROJECT COST	TOWNSHIP SHARE	OTHER FUNDS
PK-0004	Four Seasons Trail (Phase III)	New Construction	67	MNRTFG; P&RF; USDOT	\$2,000,000	\$1,500,000	\$500,000

Project Description
 An important, long-term, high-priority objective is the development of a Township-wide pathways system. The ITC Corridor Four Seasons Trail provides a critical link between Pontiac Lake State Recreation Area and Highland Lake State Recreation Area, via the M-59 trailway. This route is included in the Oakland County Greenways Plan and should include state and regional financial participation. Construction of the trailway is expected to occur over several years.

PROJECT NUMBER	PROJECT TITLE	CATEGORY	RATING	FUNDING	PROJECT COST	TOWNSHIP SHARE	OTHER FUNDS
PK-0008	Hidden Pines Park Phase II	New Construction	80	MNRTFG; P&RF, Passport Grant	\$500,000	\$150,000	\$350,000

Project Description

This property would be further developed using the Hidden Pines Park Master Plan that was completed in 2012. Improvements would include a playground as well as other park amenities.

PROJECT NUMBER	PROJECT TITLE	CATEGORY	RATING	FUNDING	PROJECT COST	TOWNSHIP SHARE	OTHER FUNDS
PK-0009	Teggerdine Trail Development Design	New Construction	78	MNRTFG, P&RF	\$150,000	\$150,000	-

Project Description

The Teggerdine Road Pathway would connect M-59 in the south to Indian Springs Metro Park in the north. This pathway would provide access at certain points to the Pontiac Lake Recreation Area. This pathway would connect to regional pathways through Indian Springs Metro Park, and through the potential development of a trail inside of the ITC transmission corridor in White Lake.

PROJECT NUMBER	PROJECT TITLE	CATEGORY	RATING	FUNDING	PROJECT COST	TOWNSHIP SHARE	OTHER FUNDS
PK-0010	Bloomer Park Phase II	New Construction	60	MNRTFG, P&RF	\$305,000	\$105,000	\$200,000

Project Description

With the completion of Bloomer Park’s Phase I redevelopment in 2013, the Township seeks to complete the restoration of the northern half of the park. The second phase of development would include completing the pathway network and providing other park amenities including park benches.

PROJECT NUMBER	PROJECT TITLE	CATEGORY	RATING	FUNDING	PROJECT COST	TOWNSHIP SHARE	OTHER FUNDS
PK-0012	Stanley Park Phase I	Improvements	91	MNRTFG; P&RF; GF; Donations	\$2,000,000	\$1,000,000	\$1,000,000

Project Description

Expansion of recreational land is critical to meet the needs of both existing and future residents, especially as vacant land becomes scarcer and the Township’s population continues to grow. This property is unique with frontage on Brendel Lake and location adjacent to the future Township Civic Center. Phase I improvements are planned to include an entrance drive, accessible pathway, fishing dock, rain garden, exercise stations, boardwalk, sled hill, landscaping, and signage.

PROJECT NUMBER	PROJECT TITLE	CATEGORY	RATING	FUNDING	PROJECT COST	TOWNSHIP SHARE	OTHER FUNDS
PK-0013	Stanley Park Phase II	Improvements	91	MNRTFG; P&RF; GF; Donations	\$2,250,000	\$1,250,000	\$1,000,000
<p><u>Project Description</u> Balance of Stanley Park improvements .</p>							

PROJECT NUMBER	PROJECT TITLE	CATEGORY	RATING	FUNDING	PROJECT COST	TOWNSHIP SHARE	OTHER FUNDS
PK-0014	Pickleball Courts	New Construction	91	Grant(s); P&RF	\$450,000	\$100,000	\$350,000
<p><u>Project Description</u> Location to be determined. This recreational amenity is identified in the Parks and Recreation Master Plan.</p>							

Overview

The Township Police Department provides a variety of vital services to Township residents. The costs of operations and the demand for services create financial circumstances that are difficult to predict. In this CIP, special police equipment is listed as projects. Standard police cars are included as Internal Services under Fleet.

Police Department operations are funded by a major special revenue fund. Potential funding for projects can be from the Police Fund balance, grants from sources such as Homeland Security, and drug forfeitures. The Police also have a 10-year operating millage that will collect through 2031.

On the following page, each of the Police Department projects are listed along with their cost and potential funding sources.

CHARTER TOWNSHIP OF WHITE LAKE CAPITAL IMPROVEMENTS PLAN PROJECT SUMMARY POLICE DEPARTMENT (PD)							
PROJECT NUMBER	PROJECT TITLE	CATEGORY	RATING	FUNDING	PROJECT COST	TOWNSHIP SHARE	OTHER FUNDS
PD-0002	Mobile Command Center	New Equipment	65	Grants; Drug Forfeitures	\$152,000	\$152,000	\$--

Project Description
 A Mobile Command Center is a vehicle-based police facility, usually built around a motor home chassis. It allows command officers to provide on-scene command and control of large scale events or catastrophes.

Overview

Sanitary Sewerage Disposal Systems do not currently provide service to all Township residents. Sewerage Disposal Systems that do exist are operated by the Water Resources Commissioner for Oakland County.

A Sanitary Sewerage Disposal Enterprise Fund was created in 2022.

The Department of Public Services completed an asset management plan in 2019 following a roughly three year study of the condition of the Township waste water system. Potential sources of funding for projects are the Sewer Fund, Special Assessment Districts (SADs), State Revolving Fund (SRF) loan program, or contributions from General Fund.

On the following page, each of the Sanitary Sewerage Disposal projects are listed along with their cost and potential funding sources.

CHARTER TOWNSHIP OF WHITE LAKE
CAPITAL IMPROVEMENTS PLAN
PROJECT SUMMARY
Sanitary Sewer (SS)

PROJECT NUMBER	PROJECT TITLE	CATEGORY	RATING	FUNDING	PROJECT COST	TOWNSHIP SHARE	OTHER FUNDS
SS-0005	Western Outlet Sanitary Extension Phase Two	New Construction	80	GF, SRF	\$4,876,000	\$4,876,000	\$--

Project Description
The proposed project will provide public force main sewer from the HVS Lakeland Campus north to M-59. The scope of the project will include the placement of 12" HDD directionally drilled pressure sewer (force main) with related appurtenances, pipe rework within the temporary diversion district, traffic control, pavement replacement, and restoration.

PROJECT NUMBER	PROJECT TITLE	CATEGORY	RATING	FUNDING	PROJECT COST	TOWNSHIP SHARE	OTHER FUNDS
SS-0006	Pump Station at Lakeland	New Construction	110	GF, SRF	\$500,000	\$500,000	\$--

Project Description
Installation of intermediate booster pumping station on sanitary sewer force main consisting of two submersible pumps and building housing controls and generator.

PROJECT NUMBER	PROJECT TITLE	CATEGORY	RATING	FUNDING	PROJECT COST	TOWNSHIP SHARE	OTHER FUNDS
SS-0008	Sanitary Sewer Pump Stations (7)	Rehabilitation	139	GF, SRF	\$4,084,110	\$4,084,110	\$--

Project Description
Replacement of pumping equipment, controls, and addition of VFDs (Variable Frequency Drive). VFDs will provide better system control and operational cost savings.

CHARTER TOWNSHIP OF WHITE LAKE
CAPITAL IMPROVEMENTS PLAN
PROJECT SUMMARY
Sanitary Sewer (SS)

PROJECT NUMBER	PROJECT TITLE	CATEGORY	RATING	FUNDING	PROJECT COST	TOWNSHIP SHARE	OTHER FUNDS
SS-0011	Sewer Main Rehabilitation Projects	Rehabilitation	137	GF, SRF	\$2,850,000	\$2,850,000	\$--

Project Description
Approximately 9,138 linear feet.

CHARTER TOWNSHIP OF WHITE LAKE
CAPITAL IMPROVEMENTS PLAN
PROJECT SUMMARY
WATER SUPPLY (WS)

PROJECT NUMBER	PROJECT TITLE	CATEGORY	RATING	FUNDING	PROJECT COST	TOWNSHIP SHARE	OTHER FUNDS
WS-0004	Twin Lakes I Well Replacement and Upgrades	Rehabilitation	126	DWRF, WF	\$500,000	\$484,000	\$16,000

Project Description
The Township proposes to install a new well and pump at Twin Lakes I well site to replace the smaller capacity well at the site. This will require discussion with the MDEQ water bureau, site investigation using test/production well(s) to evaluate aquifer capacities, engineering design, permitting, identifying funding sources, contract administration and construction.

PROJECT NUMBER	PROJECT TITLE	CATEGORY	RATING	FUNDING	PROJECT COST	TOWNSHIP SHARE	OTHER FUNDS
WS-0012	6-Inch Water Main Replacement (9,100ft)	Rehabilitation	114	WF, DWRF	\$2,616,250	\$2,616,250	\$--

Project Description
Replace 6-inch diameter water main in Colony Heights, Twin Lakes Village, and Suburban Knolls for better system pressures and fire flows.

PROJECT NUMBER	PROJECT TITLE	CATEGORY	RATING	FUNDING	PROJECT COST	TOWNSHIP SHARE	OTHER FUNDS
WS-0015	Twin Lakes Well House Upgrades	Rehabilitation	108	WF, DWRF	\$2,500,000	\$2,500,000	\$--

Project Description
Update controls, piping, and instrumentation to allow efficient operation of the Twin Lakes well house.

PROJECT NUMBER	PROJECT TITLE	CATEGORY	RATING	FUNDING	PROJECT COST	TOWNSHIP SHARE	OTHER FUNDS
WS-0017	High Pressure Districts Elizabeth Lake Road	New Construction	90	WF, DWRF	\$3,593,750	\$3,593,750	\$--

Project Description
The interconnect will allow the high pressure district to utilize both elevated towers for storage at Aspen Meadows and Village Acres well houses for water supply. This will increase system reliability.

Overview

The Municipal Water Supply System that is owned and operated by the Township and administered by the Department of Public Services does not provide service to all Township residents. The Municipal Water Supply System derives its water from underground aquifers and is used for fire protection and domestic consumption. Many areas of the Township currently operate with private wells as their source of potable water supply.

The Township has a Water Enterprise Fund managed by the Department of Public Services.

The Department of Public Services completed an asset management plan in 2019 following a roughly three year study of the condition of the Township water system. Potential sources of funding for Water Supply projects are the Water Fund balance, Drinking Water Revolving Fund (DWRF), revenue bonds, special assessment districts (SADs), or contributions from General Fund.

On the following page, each of the Water Supply projects are listed along with their cost and potential funding sources.

CHARTER TOWNSHIP OF WHITE LAKE
CAPITAL IMPROVEMENTS PLAN
PROJECT SUMMARY
WATER SUPPLY (WS)

PROJECT NUMBER	PROJECT TITLE	CATEGORY	RATING	FUNDING	PROJECT COST	TOWNSHIP SHARE	OTHER FUNDS
WS-0018	Residual Chlorine Analyzer for Water Towers	New Construction	146	WF, DWRF	\$50,000	\$50,000	\$--

Project Description
Residual Chlorine Analyzers will allow monitoring of water quality both in an out of the Townships water towers. It will allow adjustments of chlorine feed rates to maintain minimum chlorine residuals throughout the water system as required by regulations.

PROJECT NUMBER	PROJECT TITLE	CATEGORY	RATING	FUNDING	PROJECT COST	TOWNSHIP SHARE	OTHER FUNDS
WS-0019	Meter Replacement	Rehabilitation	82	WF, DWRF	\$1,000,000	\$1,000,000	\$--

Project Description
The water system meters in older subdivisions are reaching or exceeding their useful life. As meters age they deteriorate and develop inaccuracies in readings. Replacing meters will provide homeowners with the proper readings and provide accurate billing of water usage.

PROJECT NUMBER	PROJECT TITLE	CATEGORY	RATING	FUNDING	PROJECT COST	TOWNSHIP SHARE	OTHER FUNDS
WS-0021	Repaint Water Tower 1	Rehabilitation	127	WF, DWRF	\$602,600	\$602,600	\$--

Project Description
Exterior overcoat polyurethane paint. Complete wet interior repaint.

PROJECT NUMBER	PROJECT TITLE	CATEGORY	RATING	FUNDING	PROJECT COST	TOWNSHIP SHARE	OTHER FUNDS
WS-0022	Repaint Water Tower 2	Rehabilitation	127	WF, DWRF	\$287,500	\$287,500	\$--

Project Description
Exterior overcoat polyurethane paint. Dry interior partial repaint.

CHARTER TOWNSHIP OF WHITE LAKE CAPITAL IMPROVEMENTS PLAN PROJECT SUMMARY WATER SUPPLY (WS)							
PROJECT NUMBER	PROJECT TITLE	CATEGORY	RATING	FUNDING	PROJECT COST	TOWNSHIP SHARE	OTHER FUNDS
WS-0023	Backhoe Machine	New Equipment	74	WF, DWRF	\$100,000	\$100,000	\$--
<u>Project Description</u> Purchase a Backhoe Machine to assist in day-to-day department operations.							

PROJECT NUMBER	PROJECT TITLE	CATEGORY	RATING	FUNDING	PROJECT COST	TOWNSHIP SHARE	OTHER FUNDS
WS-0024	Waterford / White Lake Emergency Interconnection	New Construction	103	WF, DWRF, Waterford	\$500,000	\$300,000	\$--
<u>Project Description</u> Construction of a second interconnection between the Waterford and White Lake water systems to increase reliability and capacity.							



Excerpt from the Michigan Planning Enabling Act of 2008:

**MICHIGAN PLANNING ENABLING ACT (EXCERPT)
Act 33 of 2008**

**125.3865 Capital improvements program of public structures and improvements;
preparation; basis.**

Sec. 65.

(1) To further the desirable future development of the local unit of government under the master plan, a planning commission, after adoption of a master plan, shall annually prepare a capital improvements program of public structures and improvements, unless the planning commission is exempted from this requirement by charter or otherwise. If the planning commission is exempted, the legislative body either shall prepare and adopt a capital improvements program, separate from or as a part of the annual budget, or shall delegate the preparation of the capital improvements program to the chief elected official or a nonelected administrative official, subject to final approval by the legislative body. The capital improvements program shall show those public structures and improvements, in the general order of their priority, that in the commission's judgment will be needed or desirable and can be undertaken within the ensuing 6-year period. The capital improvements program shall be based upon the requirements of the local unit of government for all types of public structures and improvements. Consequently, each agency or department of the local unit of government with authority for public structures or improvements shall upon request furnish the planning commission with lists, plans, and estimates of time and cost of those public structures and improvements.

(2) Any township may prepare and adopt a capital improvement program. However, subsection (1) is only mandatory for a township if the township, alone or jointly with 1 or more other local units of government, owns or operates a water supply or sewage disposal system.

History: 2008, Act 33, Eff. Sept. 1, 2008

Charter Township of White Lake Capital Improvement Plan – Project Application

Project Title: [Click here to enter text.](#)
Program Area: [Choose an item.](#)
Prepared By: [Click here to enter text.](#)
Date Prepared: [Click here to enter a date.](#)
CIP ID #: [Click here to enter text.](#)

Project Description: Provide a brief (1-2 paragraph) description of project:

[Click here to enter text.](#)

Planning Context: Is the project part of an Adopted Program, Policy or Plan?

Yes or No

[Choose an item.](#) If yes, identify Program, Policy or Plan

[Click here to enter text.](#)

List the adopted program or policy, and how this project directly or indirectly meets these objectives:

[Click here to enter text.](#)

Planning Context: Is the Township Legally Obligated to perform this service? (E.G. Federal or State Law, Consent Judgment, etc.)

Yes or No

[Choose an item.](#)

If yes, please describe Township’s Obligation:

[Click here to enter text.](#)

Schedule: Estimated project beginning and ending dates. If project will take several years to complete, fill out Form 2. If applicable, be sure to include any work done in prior years, including studies or other planning:

[Click here to enter text.](#)

Coordination: Please identify if this project is dependant upon one or more other CIP projects, and describe what the relationship is:

[Click here to enter text.](#)

Project Priority: Low, Medium, High

[Choose an item.](#) Priority within Program Area

[Choose an item.](#) Priority for the Township

Capital Improvement Plan – Project Application

Prior Approval: Is this project included the prior year’s budget?
Has this project been approved by the Township Board, Commission or Authority?

Yes or No
Choose an item.
If Yes, Choose an item.

Total Estimated Cost: In today’s dollars (Amount shown here should agree with total on Form 2)

[Click here to enter text.](#)
List all funding options available for this project.

[Click here to enter text.](#)

Recommended funding option(s) to be used? (i.e: Operating Revenues, Grants, Fund Balance, Bond Issue etc...)

[Click here to enter text.](#)

Basis of Cost Estimate: Please check the following

[Choose an item.](#)

Impacts. Describe potential loss of service, benefit or opportunity if the project is not included in the C.I.P.

[Click here to enter text.](#)

CHARTER TOWNSHIP OF WHITE LAKE
 Capital Improvement Plan
 Project Cost Detail

Project ID _____
 Category _____

	Prior Year	Budget Year	Budget Year 2	Budget Year 3	Budget Year 4	Budget Year 5	Budget Year 6	Totals	TWP Share
Project Construction Components									
Preliminary Engineering								\$ -	
Right of Way or Easement Services								\$ -	
Land Acquisition								\$ -	
Geotechnical Engineering								\$ -	
Environmental Services								\$ -	
Contractor payments								\$ -	
Construction Engineering								\$ -	
Depreciable equipment or facilities								\$ -	
Post Construction Monitoring								\$ -	
Finance Costs								\$ -	
Other Construction Costs								\$ -	
Total Construction Cost	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Operating Costs									
Contracted Services								0	
Staff								0	
Routine Maintenance								0	
Utilities, Insurance, Communication								0	
Other								0	
Total Operating Cost	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Project Cost	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

10/5/2009

WLT_Project Costing Form template template

CHARTER TOWNSHIP OF WHITE LAKE Capital Improvement Plan Project Evaluation Form		Project ID		
Rater Name:	Score Range	Rater Score	Weight	Total Points
1. Contribution to Health, Safety & Welfare			5	0
Eliminates a known hazard (accident history)	5			
Eliminates a potential hazard	4			
Materially contributes	3			
Minimally contributes	1			
No impact	0			
2. Project Needed to Comply with Local, State or Federal Law				5
Yes	5			
No	0			
3. Project Conforms to Adopted Program, Policy or Plan			4	0
Project is consistent with adopted City Council policy or plan	5			
Project is consistent with Administrative policy	3			
No policy / plan in place	0			
4. Project Remediates as Existing or Projected Deficiency			3	0
Completely Remedy Problem	5			
Partially Remedy Problem	3			
No	0			
5. Will Project Upgrade Facilities			3	0
Rehabilitates / upgrades existing facility	5			
Replaces existing facility	3			
New facility	1			
6. Contributes to Long-term Needs of Community			2	0
More than 30 years	5			
21 - 30 years	4			
11 - 20 years	3			
4 - 10 years	2			
3 years or less	1			
7. Annual Impact on Operating Costs Compared to Operating Costs assuming the project proceeds			2	0
Net Cost Savings	5			
No Change	4			
Minimal increase (>\$25,000)	3			
Moderate Increase (\$25,000 - \$100,000)	2			
Major Increase (>\$100,000)	1			
8. Annual Impact on Operating Costs Compared to Operating Costs assuming the project does not proceed				2
Major Impact (> \$100,000)	5			
Moderate Impact (\$50,000 - \$100,000)	3			
Minor Impact (\$25,000-\$50,000)	2			
Minimal Impact (< \$25,000)	1			
None	0			
9. Service Area of Project			2	0
Regional	5			
Township-Wide	4			
Several neighborhoods	3			
One neighborhood or less	1			
10. Department Priority			2	0
High	5			
Medium	3			
Low	1			
11. Project Delivers Level of Service Desired by Community			2	0
High	5			
Medium	3			
Low	1			

