



**LEBANON PLANNING BOARD
APRIL 29, 2024 - 6:30 PM
MEETING ROOM 1, CITY HALL OR
REMOTE VIA VIRTUAL PLATFORM
LEBANONNH.GOV/LIVE**

1. Call to Order

- A. To participate in this meeting, please [join live via Microsoft Teams](#) or call 929-229-5356 (access code: 920 534 113#). If you have trouble accessing this meeting, please [email tim.corwin@lebanonnh.gov](mailto:tim.corwin@lebanonnh.gov).

2. Study Items

- A. Rules of Procedure Discussion

3. Other Business

- A. Public hearing determination per RSA 674:54 for City of Lebanon Landfill Gas to Energy Project.

4. Approval of Minutes

- A. None

5. Adjournment

The order of agenda items is subject to change.

Meetings are open for in-person and remote attendance. Members of the public that wish to attend remotely may do so by going to [LebanonNH.gov/Live](https://lebanonnh.gov/Live) where you will find instructions on how to enter the meeting. Members of the public will be able to participate and ask questions through the City's virtual platform or by phone. Please note: Should technical difficulties occur during the meeting that disrupts virtual or phone connection(s), the meeting will continue without remote access capabilities.

**RULES OF PROCEDURE
FOR THE PLANNING BOARD
CITY OF LEBANON, NEW HAMPSHIRE**

ARTICLE I **GOVERNING RULES**

- 1.1 GOVERNANCE.** The Planning Board of the City of Lebanon shall be governed by the provisions of all applicable State statutes, City regulations, and these Rules of Procedure adopted under the authority of RSA 676:1.
- 1.2 DEFINITION OF BOARD.** As used in these rules, the term "Board" shall mean the Planning Board duly appointed by the legislative body of the City of Lebanon under the authority of RSA Chapter 673.
- 1.3 DEFINITION OF MEETING.** As used in these rules, the term "meeting" shall have the meaning as set forth in RSA 91-A:2.
- 1.4 RULES OF DECORUM.** Meetings of the Planning Board shall be conducted in the spirit of the "Lebanon Boards, Committees, and Commissions Rules of Decorum and Commitment to Civil Behavior," which is addended hereto and made a part of these Rules of Procedure, and all Board members shall endeavor to adhere to the principles set forth therein.

ARTICLE II **MEMBERS AND ALTERNATES**

- 2.1 REGULAR MEMBERS.** The Planning Board shall consist of nine (9) regular members, namely eight persons who shall be appointed by the City Council, by majority vote, upon nomination by the City Manager, and one member of the City Council who shall be selected by it as a member ex-officio with voting privileges.
- 2.2 ALTERNATE MEMBERS.** Alternate members of the Board shall be appointed by the City Council, by majority vote, upon nomination by the City Manager. Alternate members shall join the regular members in all presentations, public hearings, and discussions except that such alternates may not vote on any proposal or motion before the Board unless so directed by the Chair. In the absence of any regular member, except the ex-officio member of the City Council, the Chair shall appoint an alternate member to fill such vacancy. Said alternate shall then act as a regular member.
- 2.3** All members of the Planning Board shall be residents of the City of Lebanon and shall be sworn in and take an oath of office as required by RSA 42:1.
- 2.4 ATTENDANCE.** A Board member may be excused for non-attendance of a meeting or hearing for valid reasons if he or she notifies the Chair or Clerk prior to the meeting or hearing. Any Board member may leave the Board chambers for pressing business while in regular session after notice to the Chair.
- 2.5 TRAINING.** All newly-appointed Board members shall attend one (1) orientation meeting with the Planning and Zoning Director, prior to sitting as a member of the Board, unless waived or extended by the Chair at the request of the Planning and Zoning Director.

ARTICLE III **OFFICERS AND DUTIES**

- 3.1 ELECTION OF OFFICERS.** At the annual meeting, the Board shall elect a Chair and a Vice-Chair from the regular members and such other officers as it may deem necessary;

but in case of failure to elect at the time specified, the election shall take place at the next meeting. The Chair and the Vice-Chair, shall hold their respective offices until the next annual meeting after election or until their successors are elected and qualified. They shall perform such duties as the Board may prescribe. The office of Chair and Vice-Chair shall be held by an individual for no more than three consecutive terms per office unless waived by the Board.

- 3.2 DUTIES OF THE CHAIR.** The Chair shall call the meeting together, preside over all meetings and hearings of the Board, put all questions to a vote, maintain order, decide all questions of order and procedure, subject to these rules, and shall appoint any committees found necessary to carry out the business of the Board.

The Chair may present to the Board such matters as in the Chair's judgment require attention.

At the request of any Board member, the Chair shall direct that the yeas and nays be taken and entered on the record on any question before the Board.

When the Board has no established rule of parliamentary practice, the Chair shall be guided as nearly as may be by Robert's Rules of Order, which may be simplified by the Chair as deemed necessary and appropriate. In the event of a challenge by a Board member of any modification of Robert's Rules by the Chair, Robert's Rules shall prevail.

The Chair shall exercise a general supervision over the business, papers, and property of the Board and shall execute all formal documents on behalf of the Board.

- 3.3 DUTIES OF THE VICE-CHAIR.** The Vice-Chair shall assume the duties and powers of the Chair in the Chair's absence.

- 3.4 CLERK.** With the approval of the City Manager, the Director of Planning & Zoning, through the Department of Planning & Zoning, shall function as the Clerk for the Board. The Clerk shall administer official correspondence, subject to these rules and at the direction of the Board; shall issue the proper forms, compile all information, maps, and records for the Board's review; shall send all notices required by law; shall keep the minutes of all Board actions and proceedings; shall prepare reports and perform other duties as directed by the Chair; and, shall keep records of its examinations and other official actions.

The Clerk shall direct the recording secretary to take complete and accurate minutes, to tape record all meetings, to prepare in writing the official minutes of all meetings; to show the vote of each regular member upon every question, or if absent, disqualified, or failing to vote so indicate; to include in the minutes the names and addresses of all witnesses, a summary of the facts on which the decision is based and the decision rendered; and to deliver to the Clerk within 144 hours the completed document for submission to the Board for acceptance.

The Clerk, in consultation with the Chair, shall prepare the agenda for each meeting, provide all supportive documentation, and deliver said materials to each Board member no later than the Thursday preceding any scheduled Monday meeting. The Clerk shall also make public notice of the agenda of each meeting in accordance with the appropriate regulations. Any Board member may request and have placed on the agenda any item for discussion.

The Clerk shall perform other duties as directed by the Chair.

- 3.5 VACANCIES.** At the direction of the Chair, the Clerk shall give immediate notice of any vacancy to the City Council. Any vacancy among the officers of the Board shall be filled by a regular member by election, for the unexpired term, at the next regular meeting of the Board.
- 3.6 STAFF SUPPORT.** The Chair may request, through the City Manager, the attendance of any officer or employee of the City to confer with the Board. The Board may vote to request the City Manager to provide an officer or employee.
- 3.7 ASSISTANCE BY THE DIRECTOR OF PLANNING & ZONING & DEPARTMENT OF PLANNING & ZONING.** Requests for assistance to the Director of Planning & Zoning and/or Department of Planning & Zoning in matters before the Board or Chair of the Board shall be made by the Board either by consensus or motion duly passed. Requests for information may be made to the Director of Planning & Zoning and/or Department of Planning & Zoning by any Board member through the Chair.

ARTICLE IV **MEETINGS**

- 4.1 ANNUAL MEETINGS.** The annual meeting of the Board shall be the second Monday in the month of January each year, or if there is no meeting due to a lack of business, then the first public meeting held thereafter.
- 4.2 REGULAR MEETINGS.** Regular meetings shall be conducted by the Board at which applications for development shall be reviewed and acted upon. Regular meetings of the Board shall be held on the second Monday of the month unless there is no business to transact, in which case no meeting shall be held. The Clerk shall give each Board member timely notice of the cancellation of such meeting and shall post a notice in at least one public place by the time of the regularly scheduled commencement. Regular meetings shall normally start at 6:30 p.m. and terminate at 9:30 p.m.
- 4.3 PLANNING SESSIONS.** Planning sessions shall be conducted by the Board at which study items and planning issues are analyzed. Said sessions shall be held on the fourth Monday of the month unless there is no business to transact, in which case no meeting shall be held. The Clerk shall give each Board member timely notice of the cancellation of such meeting and shall post a notice in at least one public place by the time of the scheduled commencement. Planning sessions shall normally start at 6:30 p.m. and terminate at 9:30 p.m.
- 4.4 SPECIAL MEETINGS.** Special meetings of the Board may be called by the Chair provided that at least 48 hours notice shall be given to each Board member of the time, place, and business of such meeting. The Clerk shall ensure the provision of adequate public notice of such special meetings as required by law.

Upon the written or oral request of at least four (4) Board members, a special meeting shall be called. Said meeting shall take place not later than one week after the fourth Board member shall have made the request for a special meeting, or otherwise may be scheduled for a date agreeable by all requestors.

- 4.5 PLACE OF MEETING.** Meetings of the Board shall normally be held at City Hall, in the City of Lebanon, or at some other public place in the City of Lebanon, or at the site of a proposed project for the express purpose of inspecting said site as part of the review for a proposed project.
- 4.6 OPEN MEETINGS.** All meetings of the Board and its committees shall be open to the public except as stipulated by State Law.

- 4.7 HOLIDAYS.** When any meeting date happens to be a holiday, the Board shall determine either to conduct the meeting on the next business day, cancel said meeting, or call a special meeting.

ARTICLE V **CONDUCT OF BUSINESS**

- 5.1 CALL TO ORDER.** Meetings shall be called to order by the Chair, or in the Chair's absence, by the Vice-Chair. In the absence of both, the Clerk or staff member shall call the meeting to order after which those Board members present may elect a Chair pro tem.

- 5.2 QUORUM.** The Board shall only conduct a meeting and transact business when a quorum is present. A quorum shall be at least a majority of the total membership of the Board including alternate members sitting in place of regular members.

- 5.3 ORDER OF BUSINESS.** For each regular meeting the order of business, unless otherwise ordered by the Chair, shall be as follows, and shall be shown on the agenda:

1. Call to Order
2. Notice of Regional Impact
3. Continued Applications – Public Hearings
4. New Applications – Completeness Reviews and Public Hearings
5. Approval of Minutes
6. Other Business
7. Adjournment

For each planning session, the order of business shall be as follows:

1. Call to Order
2. Study Items
3. Committee Reports
4. Approval of Minutes
5. Other Business
6. Adjournment

- 5.4 PRESENTATIONS DURING PUBLIC HEARINGS.** The Chair shall request that before the start of each Public Hearing a representative of the proposal give a brief presentation of the request before the Board. The brief presentation shall be adequate so as to inform all abutters and members of the public as to the nature of the project in order that they may comment on the proposed project.

- 5.5 PERMISSION REQUIRED TO ADDRESS THE BOARD.** Persons other than members of the Board shall not be permitted to address the Board except by consent of the Chair. Anyone wishing to address the Board during Open Discussion should indicate their intent and subject matter to the Chair prior to the meeting. A time limit of 3 minutes shall normally be in effect. The speaker shall not enter into any debate with anyone present and shall speak only to the subject matter indicated. A group may have one person act as its spokesperson and shall follow the same rules.

- 5.6 MINUTES.** The minutes of previous meetings shall be submitted for approval at the next regular meeting or planning session. The Chair shall call for any corrections to the minutes. Following the discussion of corrections, if any, the minutes shall be approved by motion duly passed by majority vote of the members present.

- 5.7 RECESS OF THE MEETING.** The Chair may order a temporary halt to the proceedings of the meeting. Said recess should normally not exceed 30 minutes. Upon ordering the recess, the Chair shall state the time and place for reconvening.

- 5.8 CONTINUANCE OF THE HEARING.** The Board may continue a hearing if the application cannot be disposed of on the day set. No further public notice shall be necessary provided that the date, time, and place of the continued hearing shall be announced before adjournment.
- 5.9 ADJOURNMENT OF MEETING.** The Board shall adjourn each meeting to its next scheduled meeting or to a special meeting specifying time, date, and place. If the order of business has not been concluded by 9:30 PM, the Chair shall poll the attending Board members to determine if the Board should continue beyond 9:30 PM or continue the matters on the agenda to the next appropriate meeting, or continue to a special meeting specifying time, date, and place.

ARTICLE VI VOTING

- 6.1 MOTION TO BE STATED BY THE CHAIR.** When a motion is made and seconded, it shall be stated by the Chair before debate. At the request of the Chair or any member of the Board, the motion shall be in writing. A motion may not be withdrawn or amended by the mover without the consent of the second.
- 6.2 MAJORITY VOTE REQUIRED.** Determinations on any matter before the Board shall require the concurrence of a majority of the regular members present.
- 6.3 TIE VOTE OR DECISION BY LESS THAN A MAJORITY.** A tie vote or an approval or denial by less than a majority of the regular members present constitutes no action. If the Board is unable to obtain concurrence of a majority of regular members present on a request because of the absence of one or more Board members from the vote, it shall continue the discussion or may continue the matter to a subsequent meeting pursuant to Section 5.8 above.
- 6.4 CONFLICT OF INTEREST or PREJUDGEMENT.** In accordance with RSA 673:14, no Board member shall participate in deciding or shall sit upon the hearing of any question if that member has a direct personal or pecuniary interest in the outcome which differs from the interests of other citizens, or if that member would be disqualified for any cause to act as a juror upon the trial of the same matter in any action at law.

Reasons for disqualification include, but are not limited to, when a Board member:

- A. Is an abutter
- B. Is related to the applicant or any abutter;
- C. Has assisted or advised the applicant or any abutter; or,
- D. Is biased or prejudiced in any manner or to any degree which would, in the eyes of a reasonable and prudent person, prevent the member from acting impartially with respect to the application before the Board.

Reasons for disqualification also include prejudgment which occurs when a Board member has directly or indirectly taken a position, formed a conclusion, or has prejudged the application to be decided by the Board. Prejudgment includes, but is not limited to, a position taken either for or against an application expressed at a public meeting, by letter, by ex parte communication, or by comment made in some public forum. Prejudgment does not include questions or statements made by Board members in response to the details of the application expressed during the public hearing held on that application or during the Board's deliberations.

When an uncertainty arises as to whether a Board member is disqualified in particular circumstances, the Board shall, at the request of that member or another Board member, vote on the question of his/her disqualification, but such vote shall be advisory and non-

binding. Any person with a direct interest in the outcome may voice an objection to a Board member's participation, setting forth specific reasons, and may also request such a vote, but such a request shall be non-binding. Any such request or objection shall be made either prior to or at the commencement of the public hearing, or at such later time as the facts claimed to warrant disqualification first become known. No such vote shall be taken if the Board member involved steps down voluntarily.

A Board member who is disqualified shall remove himself/herself from the Board and shall sit with the public until such time as the Board has completed its consideration of the application at that meeting. The member may then return to the Board. If, as a result of disqualification, the Board loses its quorum, then there shall be an adjournment or recess of consideration of the matter until there is a quorum either at the same meeting or the next available meeting.

6.5 VOTE OF ABSENT MEMBERS. Unless a Board member has attended the meetings on a matter or has stated publicly that he or she has examined the record and become familiar with the evidence presented from a transcript of the proceedings, he or she shall not cast a vote essential to the decision.

6.6 EXTENSION OF TIME. Any three Board members may request an extension of time before voting on any proposal before the Board. If such an extension is requested, the Board shall schedule a special meeting not more than two weeks from the date of the request to take action on the proposal or otherwise such special meeting may be scheduled for a date agreeable by all requestors. There shall be no new business placed on the agenda of any special meeting scheduled under this section.

ARTICLE VII **COMMITTEES**

7.1 AUTHORIZATION. The Chair is authorized to appoint Committees to study and to report upon such matters as directed by the Chair which are germane to the purpose of the Board.

7.2 DEFINITION OF COMMITTEE. A group of Board members delegated by the Chair to perform a function.

7.3 MEMBERSHIP. All Committees shall consist of not more than four (4) Board members.

7.4 DUTIES. The duties of any Committee shall be defined by the Board at a regular meeting.

7.5 COMMITTEE CHAIR. The first Board member named on the Committee shall be the Chair thereof.

7.6 MEETINGS. The Chair of a Committee shall call the same at such time and place as he or she may deem proper whenever there is any business requiring the attention of the Committee.

7.7 INVESTIGATIONS. If necessary for the proper consideration of any matter referred to the Committee, the Committee is authorized to make investigations and call upon the City staff for such surveys, plans, estimates, and recommendations as may be deemed necessary.

ARTICLE VIII **E-MAIL AND OTHER COMMUNICATIONS BETWEEN MEETINGS**

8.1 PURPOSE. The aims of this Article are:

- A. To ensure compliance with the letter and spirit of the Right-to-Know Law, RSA 91-A, and with the Due Process rights of parties before the Board;
- B. To clarify Board members' ability, between meetings, to research issues and prepare motions or other potential Board actions, thus promoting efficient use of meeting time, but only to the extent allowed by law; and,
- C. To clarify the role of electronic media, such as E-mail, in achieving these goals.

8.2 DEFINITIONS. In this Article:

- A. **Communication** means a transfer of information, objective or subjective, from one person to another. It includes face-to-face or phone conversations, letters, memos, E-mails, web sites, or any other medium, regardless of the location or ownership of any device or equipment used.
- B. **Distribution** is a one-way communication between meetings involving more than one Board member where no between-meeting response (except acknowledgment of receipt) occurs or is expected.
- C. **Exchange** is a communication between meetings, or series of communications, involving more than one Board member which includes a between-meeting response, or expectation of a response.
- D. **Ex Parte Communication** is communication, other than at a legally-noticed meeting, between a Board member and a person with an interest in, or affected by, a pending or future case.

8.3 ACTIVITIES BETWEEN MEETINGS OF INDIVIDUAL MEMBERS. Individual Board members may, between meetings, prepare drafts of motions or other potential Board actions. They may also research or investigate general or specific factual issues. However, if the research pertains to a case, the Board member shall, at the public hearing, report all findings to the Board, and parties to the case shall be given a meaningful opportunity to respond.

8.4 DISTRIBUTIONS. A Distribution may be made to any number of Board members, so long as it does not become an Exchange. Whenever a Board member makes a Distribution concerning a pending or future case and it involves a quorum of the Board (counting all senders and recipients):

- A. A copy shall be forwarded to the Director of Planning & Zoning, who shall determine, under RSA 91-A or other applicable law, whether the Distribution is subject to public disclosure and shall place the copy in the appropriate file;
- B. The Board member making the Distribution shall report on it, and its contents, at the public hearing on the case unless the information is exempt from disclosure under RSA 91-A; and,
- C. Parties to the case shall be given a meaningful opportunity to respond to the information in the Distribution.

8.5 EXCHANGES. Exchanges involving a quorum or more of the Board or of any Planning Board Committee are prohibited. Such Exchanges shall be considered deliberations and shall occur only at meetings noticed in accordance with RSA 91-A. An Exchange pertaining to any activity allowed under Subsection 8.3 is permitted if the number of Board or Committee members involved is less than a quorum; however:

- A. Each Board member involved shall be responsible for preventing the number of members involved from reaching a quorum;
- B. Information discussed in, or generated by, an Exchange between Board members shall not be subject to further Distribution; and
- C. No Exchange shall include any vote or straw vote, or any Ex Parte Communication.

- 8.6 EX PARTE COMMUNICATIONS.** Board members shall not initiate Ex Parte Communications. If an Ex Parte Communication is initiated by another person, the Board member contacted shall:
- A. Refrain from discussing the substance or merits of a case;
 - B. Inform the person, if necessary, that such a discussion could lead to disqualification;
 - C. Refer the person to the Department of Planning & Zoning or to a Board meeting, as appropriate; and
 - D. Report on the conversation to the Board at a public meeting.
- 8.7 SCHEDULING AND AGENDA.** Notwithstanding Subsections 8.4, 8.5, and 8.6, nothing in this policy prevents any Distributions, Exchanges, or Ex Parte Communications which pertain solely to:
- A. Scheduling of meetings or hearings;
 - B. The determination or ordering of agenda items or topics to be taken up at meetings or hearings; or
 - C. General procedural requirements pertaining to such scheduling and agenda matters.
- 8.8. PLANNING BOARD COMMITTEES.** A Planning Board Committee shall be considered a public body, and all provisions of RSA 91-A and this Article, applicable to a quorum of the Board, shall also apply to a quorum of a Committee.

ARTICLE IX **ADMINISTRATION**

- 9.1 ADOPTION.** Upon adoption, the Clerk shall file a copy of these Rules and all amendments with the City Clerk as a public record and post a copy in one or more public places for 15 days.
- 9.2 AMENDMENTS.** These rules may be amended at any regular meeting by an affirmative vote of a quorum of the Board provided that such amendment has been presented in writing to each member of the Board at least 15 days preceding the meeting at which the vote is taken.

These Rules of Procedure were adopted by the Planning Board on November 21, 1989 and amended on:

December 9, 1996	Section 5.6 - MINUTES
January 11, 1999	Section 5.3 - ORDER OF BUSINESS
September 11, 2000	Section 4.1 - ANNUAL MEETINGS
September 11, 2000	Section 4.2 - REGULAR MEETINGS
January 28, 2002	Section 5.3 - ORDER OF BUSINESS
May 7, 2003	Section 2.7 (new) - ASSISTANCE BY THE CITY PLANNER & PLANNING OFFICE
May 7, 2003	Section 6.5 - CONFLICT OF INTEREST OR PREJUDGMENT
May 7, 2003	Article VII (new) - E-MAIL AND OTHER COMMUNICATIONS BETWEEN MEETINGS.
December 13, 2010	Section 4.2 - REGULAR MEETINGS
December 13, 2010	Section 4.3 - PLANNING SESSIONS
July 11, 2016	Article II (new) - MEMBERS AND ALTERNATES;
July 11, 2016	Section 5.9 - ADJOURNMENT OF MEETING;
July 11, 2016	General updates and reformatting;
January 28, 2019	Section 5.6 - MINUTES, General updates
August 26, 2019	Section 5.3 – ORDER OF BUSINESS
June 28, 2021	Section 1.4 – RULES OF DECORUM and Addendum

These Rules of Procedure supersede all other Rules and By-Laws.

ADDENDUM

LEBANON BOARDS, COMMITTEES, AND COMMISSIONS

RULES OF DECORUM AND COMMITMENT TO CIVIL BEHAVIOR

It is acknowledged that:

1. Civil, respectful, and courteous discourse and behavior are conducive to the democratic and harmonious airing of concerns and decision making.
2. Uncivil discourse and/or discourteous and inappropriate behavior have a negative impact on the character and productivity of the decision-making process.
3. Anger, rudeness, ridicule, obscene or profane language, impatience, and lack of respect for others and personal attacks are not acceptable behavior.
4. Demonstrations in support or opposition to a speaker or idea are not permitted by members of the Board. The Chairman is responsible for maintaining order. Failure to abide by this requirement may result in the forfeiture of the speaker's right to speak.

To maintain a cohesive, productive working environment, the members of the Lebanon Boards, Committees, and Commissions commit to:

1. Supporting the Board's mission.
2. Showing respect to each other as appointed members and staff representatives to the Board.
3. Promoting civility during Board meetings and tolerating nothing less.
4. Demonstrating reflective listening and not displaying negative body language (for example eye rolling, pencil tapping, shrugging of one's shoulders, hand gestures, etc.)
5. Allowing uninterrupted speech by those recognized as "having the floor" and refraining from speaking until recognized by the Chair.
6. Bringing appropriate committee-related concerns, issues, and conflicts to the Board for discussion.
7. Offering alternative solution(s) when addressing a problem or issue.
8. Maintaining the confidentiality of material discussed during closed Board meetings.

PLEDGE OF CIVILITY

The manner in which we govern ourselves is often as important as the positions we take. The City's collective decisions will be better and truer to our mission when differing views have had the opportunity to be fully vetted and considered. All those who appear before the City's boards, committees, and commissions have the right to be treated with respect, courtesy, and openness. We value all input.

Accordingly, we commit to conduct ourselves at all times with civility and courtesy, to both those with whom the Board interacts and to each other. We also pledge to endeavor to correct ourselves, should our conduct fall below this standard.



**CITY OF LEBANON
DEPARTMENT OF PUBLIC WORKS**

193 Dartmouth College Highway
Lebanon, NH 03766

Solid Waste Division

April 24, 2024

Tim Corwin
Deputy Director of Planning & Development
51 N. Park Street
Lebanon, NH 03766

Re: Landfill Gas to Energy

Dear Mr. Corwin,

Attached please find plan view sheets of the above referenced project. These plans are provided for use during our pending discussion with the planning board, and their pending decision as to whether a public hearing is desired.

Should you have any question or need additional information, you can contact me at 603-448-3112 or by email at Erica.Douglas@lebanonnh.gov.

Sincerely,

Erica Douglas

Erica Douglas, E.I.T.
Solid Waste Manager

CC: Jay Cairelli, Director of Public Works

Attachment: Project Plan Sheets

SITE PLAN FOR THE CITY OF LEBANON

LEBANON TAX MAP 157 LOT 3
370 PLAINFIELD ROAD (SITE)
WEST LEBANON, NH 03784



OWNER
CITY OF LEBANON
51 NORTH PARK STREET
LEBANON, NH 03766

STRUCTURAL, MECHANICAL & ELECTRICAL ENGINEER
WALDRON ENGINEERING & CONSTRUCTION, INC.
37 INDUSTRIAL DRIVE
EXETER, NH 03833

CIVIL ENGINEER
EMANUEL ENGINEERING, INC.
118 PORTSMOUTH AVENUE, SUITE A202
STRATHAM, NH 03885

LAND SURVEYOR
AMSDEN FIELD SURVEY
103 FRANCETOWN ROAD
GREENFIELD, NH 03047

- PROJECT DRAWING SET:**
- G-0001 COVER SHEET
 - C-0001 SITE NOTES
 - C-1001 EXISTING CONDITIONS
 - C-1002 SITE PLAN
 - C-1003 GRADING & DRAINAGE PLAN
 - C-1004 CONSTRUCTION SEQUENCING PLAN
 - C-5001 SITE DETAILS

1	JJM	5/23/2022	ISSUED FOR CONSTRUCTION	BDS	AL	BDS
REV No.	REV BY	DATE	DESCRIPTION	CHECKED BY	DESIGNED BY	LEAD ENGINEER

SEAL

STATE OF NEW HAMPSHIRE
BRUCE D. SCAMMAN
No. 11236
LICENSED PROFESSIONAL ENGINEER

Bruce D. Scamman 6/7/22

SIGNATURE DATE

WALDRON
ENGINEERING & CONSTRUCTION, INC.
LEBANON, NH
WALDRON.COM

EMANUEL
ENGINEERING
118 PORTSMOUTH AVENUE, A202
STRATHAM, NH 03885
P: 603-772-4400 F: 603-772-4487
WWW.EMANUELENGINEERING.COM

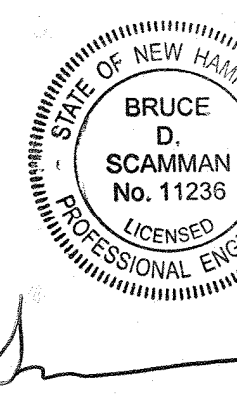
DATE	ANSI D
4/1/2022	
CLIENT	
CITY OF LEBANON, NH	
DRAWING TITLE	
LEBANON LANDFILL GAS TO ENERGY PROJECT	
COVER SHEET	
CLIENT DRAWING No.	
WE&C PROJECT No.	WE&C DRAWING No.
417.02	G-0001

PROJECT LOCUS PLAN
1" = 1,000'

	1	2	3	4	5	6	7	8	9	10
A	EROSION AND SEDIMENTATION CONTROL - CONSTRUCTION PHASING AND SEQUENCING:	EROSION AND SEDIMENTATION CONTROL - GENERAL NOTES:	STABILIZATION CONSTRUCTION ENTRANCE SPECIFICATIONS:							
B	1. SEE "EROSION AND SEDIMENTATION CONTROL GENERAL NOTES" WHICH ARE TO BE AN INTEGRAL PART OF THIS PROCESS.	1. CONDUCT ALL CONSTRUCTION IN A MANNER AND SEQUENCE THAT CAUSES THE LEAST PRACTICAL DISTURBANCE OF THE PHYSICAL ENVIRONMENT, BUT IN NO CASE SHALL EXCEED 5 ACRES AT ANY ONE TIME BEFORE DISTURBED AREAS ARE STABILIZED.	1. STONE FOR A STABILIZED CONSTRUCTION ENTRANCE SHALL BE 3 INCH STONE (MINIMUM), RECLAIMED STONE, OR RECYCLED CONCRETE EQUIVALENT.							
C	2. INSTALL SILT FENCING AND/OR HAY BALE BARRIERS AS PER DETAILS AND AT SEDIMENT MIGRATION.	2. ALL EROSION AND SEDIMENTATION CONTROL MEASURES IN THE PLAN SHALL MEET THE DESIGN BASED ON NEW HAMPSHIRE STORMWATER MANUAL, VOLUMES 1-3, DATED DECEMBER 2008, PREPARED BY NHDES.	2. THE LENGTH OF THE STABILIZED ENTRANCE SHALL NOT BE LESS THAN 75 FEET (OR 50 FEET WITH A 3 TO 6 INCH MOUNTABLE BERM).							
D	3. CONSTRUCT TREATMENT SWALES, LEVEL SPREADERS AND DETENTION STRUCTURES AS DEPICTED ON DRAWINGS.	3. AN AREA SHALL BE CONSIDERED STABLE IF ONE OF THE FOLLOWING HAS OCCURRED: • BASE COURSE GRAVELS HAVE BEEN INSTALLED IN AREAS TO BE PAVED. • A MINIMUM OF 85% VEGETATED GROWTH HAS BEEN ESTABLISHED. • A MINIMUM OF 3" OF NON-EROSIVE MATERIAL SUCH AS STONE OR RIP RAP HAS BEEN INSTALLED. • EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED.	3. THE THICKNESS OF THE STONE FOR THE STABILIZATION ENTRANCE SHALL NOT BE LESS THAN 6 INCHES.							
E	4. INSTALL TEMPORARY GRAVEL CONSTRUCTION ENTRANCE(S) AS PER DETAIL AND AT LOCATIONS SHOWN ON THE DRAWINGS. MAINTAIN (TOP DRESS) REGULARLY TO PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC STREETS.	4. ALL AREAS SHALL BE STABILIZED WITHIN 45 DAYS OF INITIAL DISTURBANCE.	4. THE WIDTH OF THE ENTRANCE SHALL NOT BE LESS THAN THE FULL WIDTH OF THE ENTRANCE WHERE INGRESS OR EGRESS OCCURS OR 10 FEET, WHICHEVER IS GREATER.							
F	5. STRIP AND STOCKPILE TOPSOIL. STABILIZE PILES OF SOIL CONSTRUCTION MATERIAL.	5. SEE WINTER CONSTRUCTION NOTES IF SCHEDULE AND DATES ARE APPLICABLE.	5. GEOTEXTILE FILTER CLOTH SHALL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING THE STONE.							
G	6. ROUGH GRADE SITE. INSTALL CULVERTS AND ROAD DITCHES.	6. ALL DITCHES, SWALES AND PONDS MUST BE STABILIZED PRIOR TO DIRECTING FLOW TO THEM.	6. ALL SURFACE WATER THAT IS FLOWING TO OR DIVERTED TOWARDS THE CONSTRUCTION ENTRANCE SHALL BE PIPED BENEATH THE ENTRANCE. IF PIPING IS IMPRACTICAL, A BERM WITH 5:1 SLOPES THAT CAN BE CROSSED BY VEHICLES MAY BE SUBSTITUTED FOR THE PIPE.							
H	7. FINISH GRADE AND COMPACT SITE.	7. ALL GROUND AREAS OPENED UP FOR CONSTRUCTION WILL BE STABILIZED IN THE SHORTEST PRACTICAL TIME. ALL SOILS FINISH GRADED MUST BE STABILIZED WITHIN SEVENTY TWO HOURS OF DISTURBANCE.	7. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING OF ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, WASHED, OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED PROMPTLY.							
	8. RE-SPREAD AND ADD TOPSOIL TO ALL ROADSIDE SLOPES. TOTAL TOPSOIL THICKNESS TO BE A MINIMUM OF FOUR TO SIX INCHES.	8. EMPLOY TEMPORARY EROSION AND SEDIMENTATION CONTROL DEVICES AS DETAILED ON THIS PLAN AS NECESSARY UNTIL ADEQUATE STABILIZATION HAS BEEN ASSURED.	8. WHEELS SHALL BE CLEANED TO REMOVE MUD PRIOR TO ENTRANCE ONTO PUBLIC RIGHTS-OF-WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.							
	9. STABILIZE ALL AREAS OF BARE SOIL WITH MULCH AND SEEDING.	9. TEMPORARY & LONG TERM SEEDING: USE SEED MIXTURES, FERTILIZER, LIME AND MULCHING AS RECOMMENDED (SEE SEEDING AND STABILIZATION NOTES).								
	10. RE-SEED PER EROSION AND SEDIMENTATION CONTROL GENERAL NOTES.	10. STRAW OR HAY BALE BARRIERS AND SILTATION FENCING TO BE SECURELY EMBEDDED AND STAKED AS DETAILED. WHEREVER POSSIBLE A VEGETATED STRIP OF AT LEAST TWENTY FIVE FEET IS TO BE KEPT BETWEEN SILT FENCE AND ANY EDGE OF NET AREA.								
	11. SILT FENCING AND HAY BALES TO REMAIN AND BE MAINTAINED FOR TWENTY FOUR MONTHS AFTER CONSTRUCTION TO INSURE ESTABLISHMENT OF ADEQUATE SOIL STABILIZATION AND VEGETATIVE COVER. ALL SILT FENCING, HAY BALES AND TRAPPED SILT ARE THEN TO BE REMOVED FROM THE SITE AND PROPERLY DISPOSED OF.	11. SEEDED AREAS WILL BE FERTILIZED AND RE-SEEDED AS NECESSARY TO ENSURE VEGETATIVE ESTABLISHMENT.								

1		ISSUED FOR CONSTRUCTION						BDS	
JUN		5/23/2022						AL	
REV. No.		DATE						BDS	
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DATE								PROJECT MANAGER	
								ENGINEER	

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Bruce D. Scamman 6/7/22
SIGNATURE DATE

WALDRON

ENGINEERING & CONSTRUCTION, INC.

DERRY, NH WALDRON.COM



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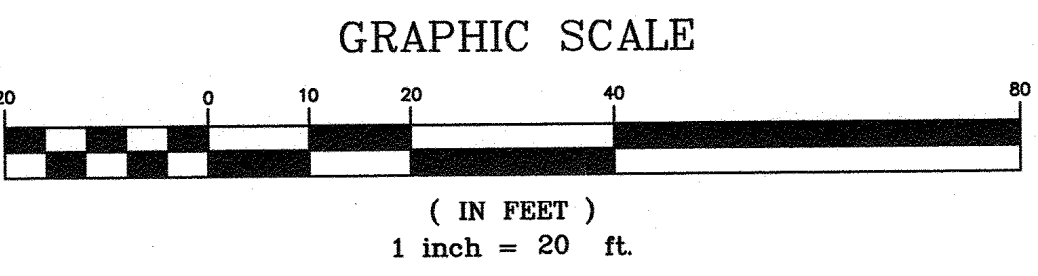
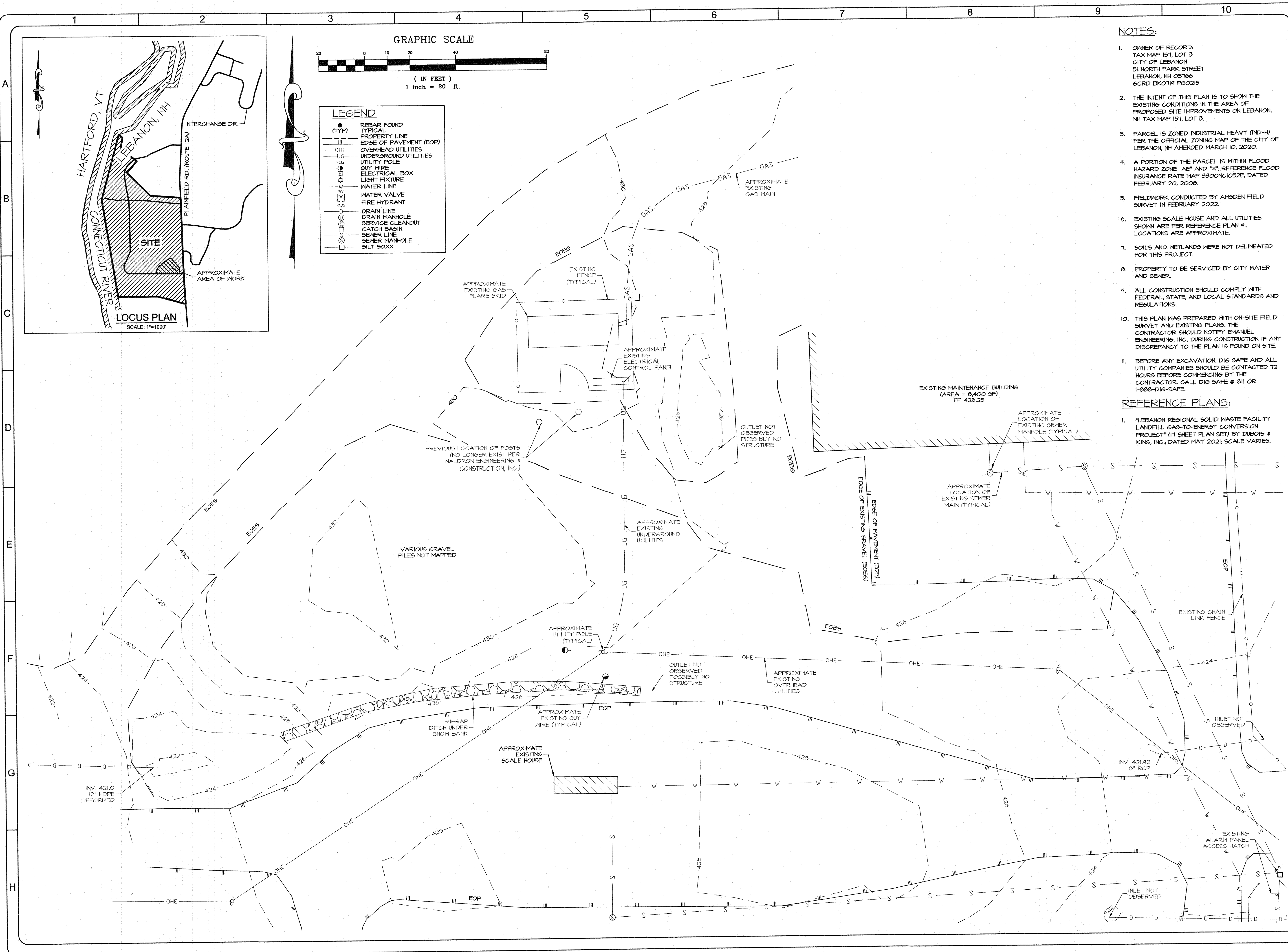
DATE 4/1/2022	ANSI D
CLIENT CITY OF LEBANON, NH	

DRAWING TITLE

**LEBANON LANDFILL GAS
TO ENERGY PROJECT**

SITE NOTES

CLIENT DRAWING No.	
W/E&C PROJECT No. 417.02	W/E&C DRAWING No. C-0001



LEGEND	
(TYP)	REBAR FOUND TYPICAL
---	PROPERTY LINE
---	EDGE OF PAVEMENT (EOP)
---	OVERHEAD UTILITIES
---	UNDERGROUND UTILITIES
---	UTILITY POLE
---	GUY WIRE
---	ELECTRICAL BOX
---	LIGHT FIXTURE
---	WATER LINE
---	WATER VALVE
---	FIRE HYDRANT
---	DRAIN LINE
---	DRAIN MANHOLE
---	SERVICE CLEANOUT
---	CATCH BASIN
---	SEWER LINE
---	SEWER MANHOLE
---	SILT SOXX

- NOTES:**
- OWNER OF RECORD: TAX MAP 157, LOT 3 CITY OF LEBANON 51 NORTH PARK STREET LEBANON, NH 03766 GCRD BK0714 PG0215
 - THE INTENT OF THIS PLAN IS TO SHOW THE EXISTING CONDITIONS IN THE AREA OF PROPOSED SITE IMPROVEMENTS ON LEBANON, NH TAX MAP 157, LOT 3.
 - PARCEL IS ZONED INDUSTRIAL HEAVY (IND-H) PER THE OFFICIAL ZONING MAP OF THE CITY OF LEBANON, NH AMENDED MARCH 10, 2020.
 - A PORTION OF THE PARCEL IS WITHIN FLOOD HAZARD ZONE "AE" AND "X", REFERENCE FLOOD INSURANCE RATE MAP 33004C1052E, DATED FEBRUARY 20, 2008.
 - FIELDWORK CONDUCTED BY AMSDEN FIELD SURVEY IN FEBRUARY 2022.
 - EXISTING SCALE HOUSE AND ALL UTILITIES SHOWN ARE PER REFERENCE PLAN #1. LOCATIONS ARE APPROXIMATE.
 - SOILS AND WETLANDS WERE NOT DELINEATED FOR THIS PROJECT.
 - PROPERTY TO BE SERVICED BY CITY WATER AND SEWER.
 - ALL CONSTRUCTION SHOULD COMPLY WITH FEDERAL, STATE, AND LOCAL STANDARDS AND REGULATIONS.
 - THIS PLAN WAS PREPARED WITH ON-SITE FIELD SURVEY AND EXISTING PLANS. THE CONTRACTOR SHOULD NOTIFY EMANUEL ENGINEERING, INC. DURING CONSTRUCTION IF ANY DISCREPANCY TO THE PLAN IS FOUND ON SITE.
 - BEFORE ANY EXCAVATION, DIG SAFE AND ALL UTILITY COMPANIES SHOULD BE CONTACTED 72 HOURS BEFORE COMMENCING BY THE CONTRACTOR. CALL DIG SAFE @ 811 OR 1-888-DIG-SAFE.
- REFERENCE PLANS:**
- "LEBANON REGIONAL SOLID WASTE FACILITY LANDFILL GAS-TO-ENERGY CONVERSION PROJECT" (17 SHEET PLAN SET) BY DUBOIS & KING, INC.; DATED MAY 2021; SCALE VARIES.

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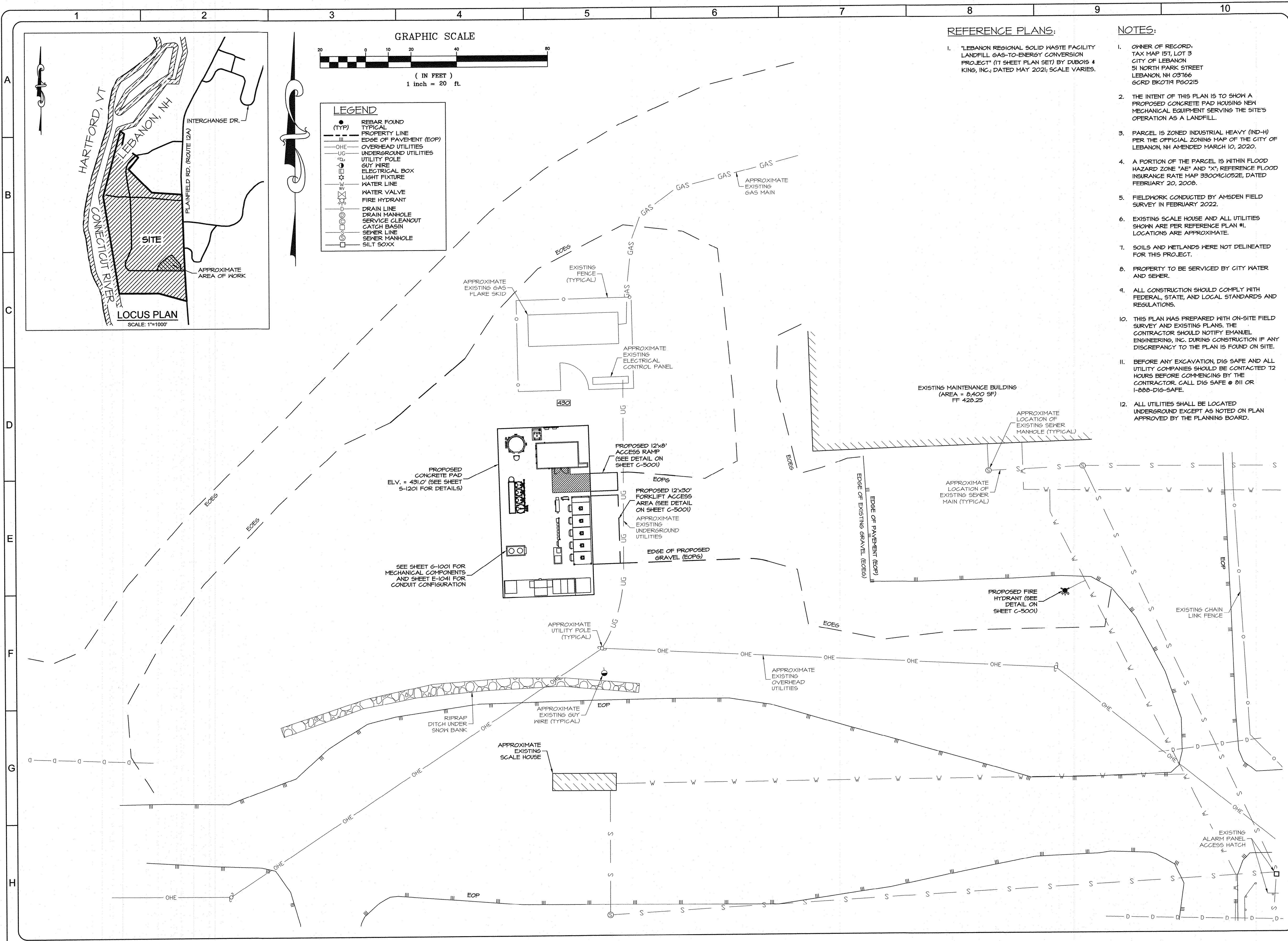
BRUCE D. SCAMMAN No. 11236 PROFESSIONAL ENGINEER

SIGNATURE: *Bruce D. Scamman* 6/7/22 DATE

WALDRON
ENGINEERING & CONSTRUCTION, INC.
DUBLIN, NH

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STRATHAM, NH 03885
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DATE	4/1/2022	ANSI D
CLIENT	CITY OF LEBANON, NH	
DRAWING TITLE	LEBANON LANDFILL GAS TO ENERGY PROJECT	
EXISTING CONDITIONS		
CLIENT DRAWING No.		
W&E PROJECT No.	417.02	W&E DRAWING No.
		C-1001



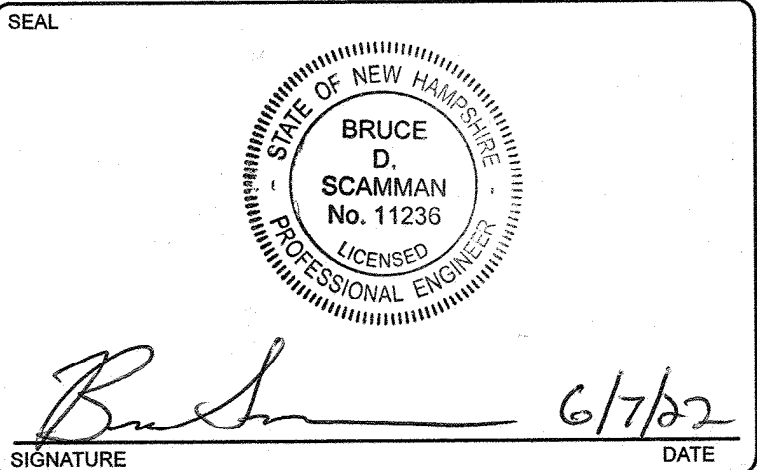
REFERENCE PLANS:

1. "LEBANON REGIONAL SOLID WASTE FACILITY LANDFILL GAS-TO-ENERGY CONVERSION PROJECT" (17 SHEET PLAN SET) BY DUBOIS & KING, INC.; DATED MAY 2021; SCALE VARIES.

NOTES:

1. OWNER OF RECORD: TAX MAP 157, LOT 3 CITY OF LEBANON 51 NORTH PARK STREET LEBANON, NH 03766 GCRD BK0714 PG0215
2. THE INTENT OF THIS PLAN IS TO SHOW A PROPOSED CONCRETE PAD HOUSING NEW MECHANICAL EQUIPMENT SERVING THE SITE'S OPERATION AS A LANDFILL.
3. PARCEL IS ZONED INDUSTRIAL HEAVY (IND-H) PER THE OFFICIAL ZONING MAP OF THE CITY OF LEBANON, NH AMENDED MARCH 10, 2020.
4. A PORTION OF THE PARCEL IS WITHIN FLOOD HAZARD ZONE "AE" AND "X", REFERENCE FLOOD INSURANCE RATE MAP 33009G1052E, DATED FEBRUARY 20, 2008.
5. FIELDWORK CONDUCTED BY AMSDEN FIELD SURVEY IN FEBRUARY 2022.
6. EXISTING SCALE HOUSE AND ALL UTILITIES SHOWN ARE PER REFERENCE PLAN #1. LOCATIONS ARE APPROXIMATE.
7. SOILS AND WETLANDS WERE NOT DELINEATED FOR THIS PROJECT.
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12. ALL UTILITIES SHALL BE LOCATED UNDERGROUND EXCEPT AS NOTED ON PLAN APPROVED BY THE PLANNING BOARD.

ISSUED FOR CONSTRUCTION				BDS	AL	BDS
REV. No	REV. BY	DATE	DESCRIPTION			
1	JJM	5/23/2022				



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CITY OF LEBANON, NH

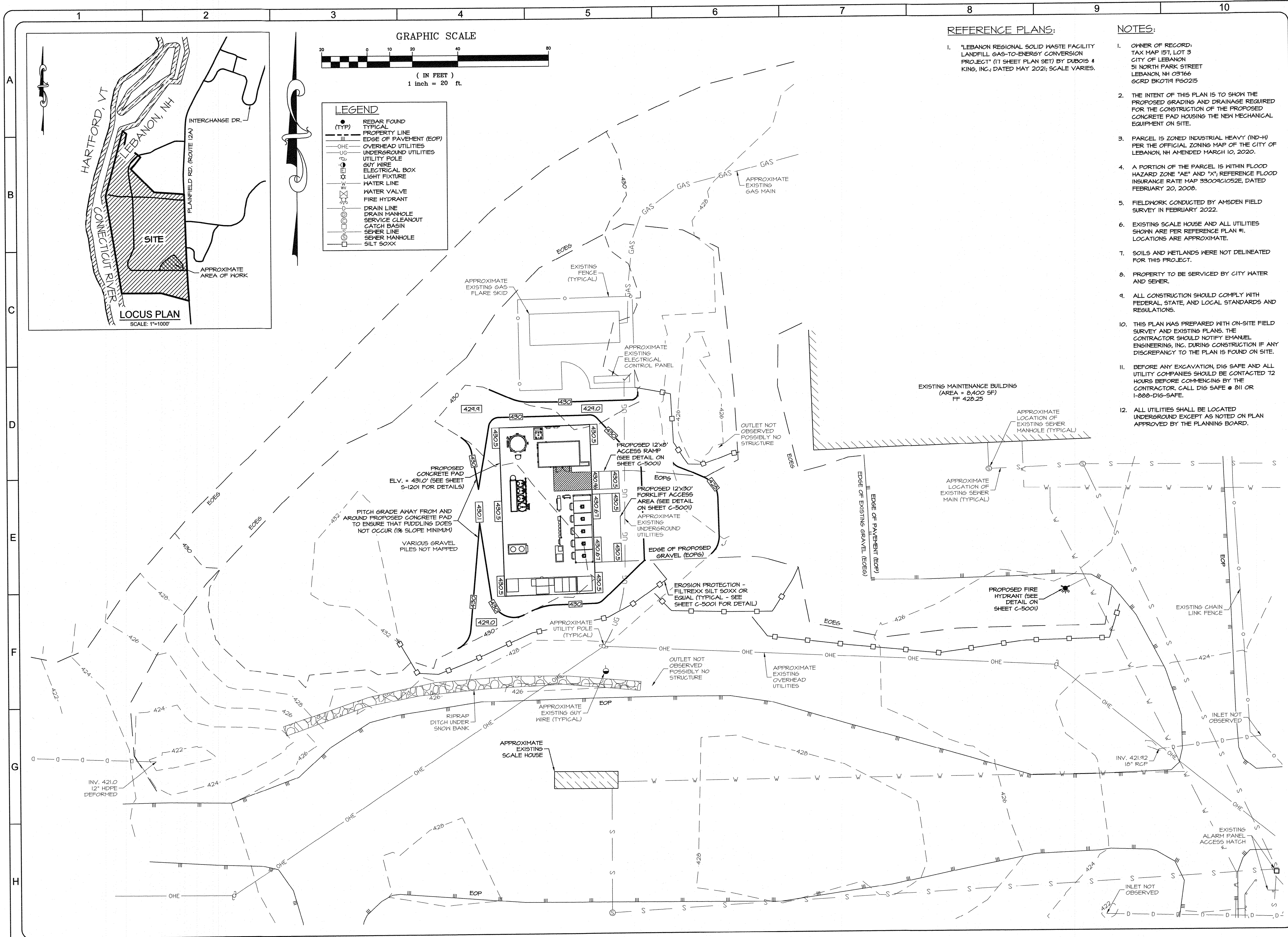
DRAWING TITLE

LEBANON LANDFILL GAS TO ENERGY PROJECT

SITE PLAN

CLIENT DRAWING No.

WE&C PROJECT No.	WE&C DRAWING No.
417.02	C-1002



REFERENCE PLANS:

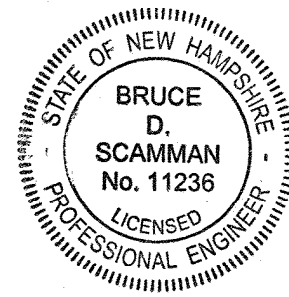
- I. "LEBANON REGIONAL SOLID WASTE FACILITY
LANDFILL GAS-TO-ENERGY CONVERSION
PROJECT" (17 SHEET PLAN SET) BY DUBOIS &
KING, INC.; DATED MAY 2021; SCALE VARIES.

NOTES:

- OWNER OF RECORD:
TAX MAP 157, LOT 3
CITY OF LEBANON
51 NORTH PARK STREET
LEBANON, NH 03616
GCRD BK0714 PGS215
2. THE INTENT OF THIS PLAN IS TO SHOW THE PROPOSED GRADING AND DRAINAGE REQUIRED FOR THE CONSTRUCTION OF THE PROPOSED CONCRETE PAD HOUSING THE NEW MECHANICAL EQUIPMENT ON SITE.
3. PARCEL IS ZONED INDUSTRIAL HEAVY (IND-H) PER THE OFFICIAL ZONING MAP OF THE CITY OF LEBANON, NH AMENDED MARCH 10, 2020.
4. A PORTION OF THE PARCEL IS WITHIN FLOOD HAZARD ZONE "AE" AND "X1", REFERENCE FLOOD INSURANCE RATE MAP 33004C1052E, DATED FEBRUARY 20, 2008.
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7. SOILS AND WETLANDS WERE NOT DELINEATED FOR THIS PROJECT.
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12. ALL UTILITIES SHALL BE LOCATED UNDERGROUND EXCEPT AS NOTED ON PLAN APPROVED BY THE PLANNING BOARD.

1	JUN	ISSUED FOR CONSTRUCTION						
	5/23/2022					BDS	AL	BDS
REV. No.	REV. BY	DATE	DESCRIPTION			CHECKED BY	PROJECT NUMBER	DESIGNED BY

SEAL



Bruce 6/7/22
SIGNATURE DATE

WALDRON
ENGINEERING & CONSTRUCTION, INC.
BETHLEHEM, NH WALDRON.COM



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STRATHAM, NH 03885
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WWW.EMANUELENGINEERING.COM

DATE	ANSI D
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4/1/2022

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CITY OF LEBANON, NH

DRAWING TITLE

LEBANON LANDFILL GAS
TO ENERGY PROJECT

GRADING & DRAINAGE PLAN

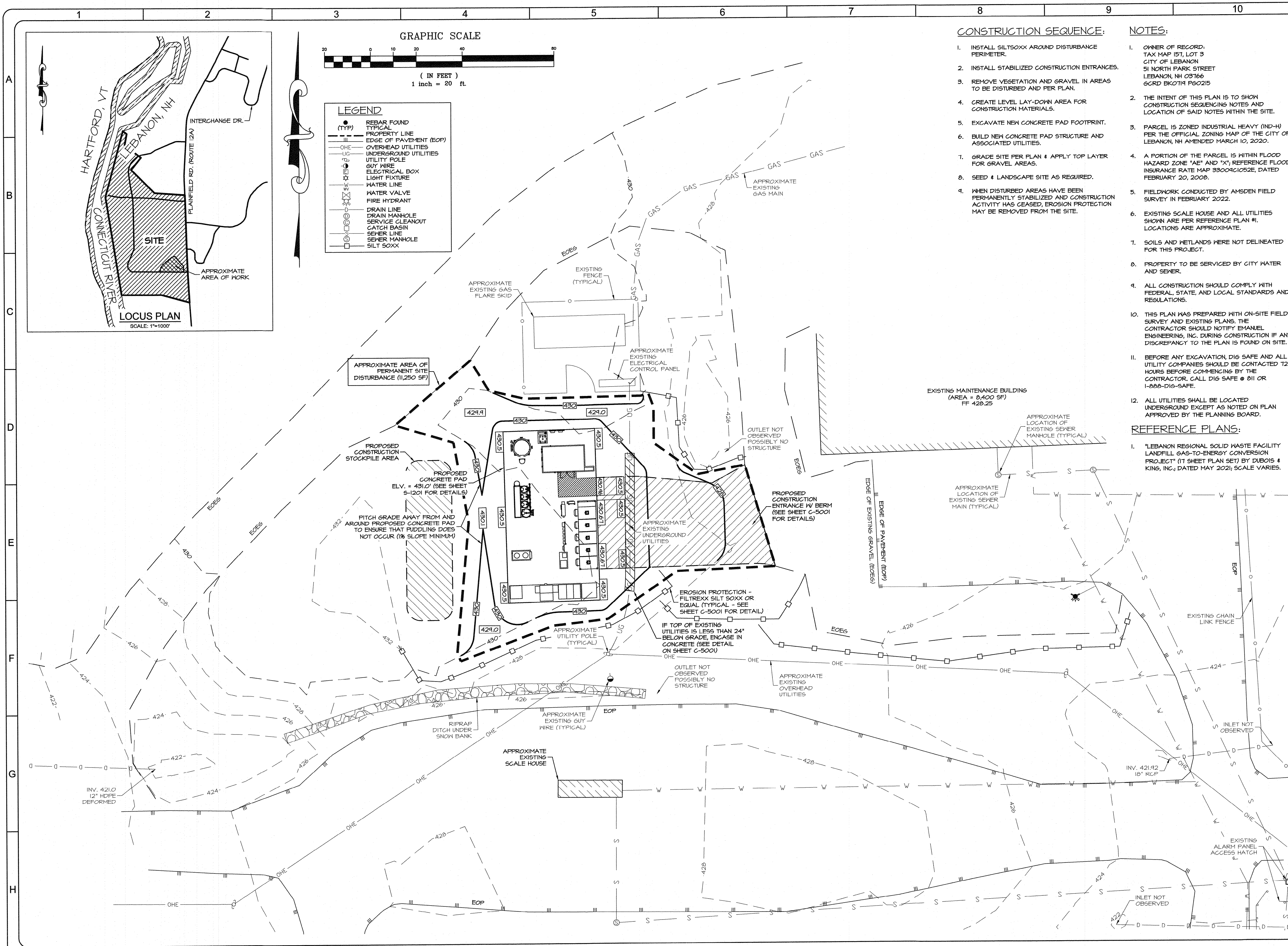
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W.E&C PROJECT No.

417.02

W.E&C DRAWING No

C-1003



CONSTRUCTION SEQUENCE:

1. INSTALL SILTXXX AROUND DISTURBANCE PERIMETER.
2. INSTALL STABILIZED CONSTRUCTION ENTRANCES.
3. REMOVE VEGETATION AND GRAVEL IN AREAS TO BE DISTURBED AND PER PLAN.
4. CREATE LEVEL LAY-DOWN AREA FOR CONSTRUCTION MATERIALS.
5. EXCAVATE NEW CONCRETE PAD FOOTPRINT.
6. BUILD NEW CONCRETE PAD STRUCTURE AND ASSOCIATED UTILITIES.
7. GRADE SITE PER PLAN & APPLY TOP LAYER FOR GRAVEL AREAS.
8. SEED & LANDSCAPE SITE AS REQUIRED.
9. WHEN DISTURBED AREAS HAVE BEEN PERMANENTLY STABILIZED AND CONSTRUCTION ACTIVITY HAS CEASED, EROSION PROTECTION MAY BE REMOVED FROM THE SITE.

NOTES:

1. OWNER OF RECORD: TAX MAP 157, LOT 3 CITY OF LEBANON 51 NORTH PARK STREET LEBANON, NH 03766 GCRD BK0714 PG0215
2. THE INTENT OF THIS PLAN IS TO SHOW CONSTRUCTION SEQUENCING NOTES AND LOCATION OF SAID NOTES WITHIN THE SITE.
3. PARCEL IS ZONED INDUSTRIAL HEAVY (IND-H) PER THE OFFICIAL ZONING MAP OF THE CITY OF LEBANON, NH AMENDED MARCH 10, 2020.
4. A PORTION OF THE PARCEL IS WITHIN FLOOD HAZARD ZONE 'AE' AND 'X', REFERENCE FLOOD INSURANCE RATE MAP 33004C1052E, DATED FEBRUARY 20, 2008.
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REFERENCE PLANS:

1. "LEBANON REGIONAL SOLID WASTE FACILITY LANDFILL GAS-TO-ENERGY CONVERSION PROJECT" (17 SHEET PLAN SET) BY DUBOIS & KING, INC., DATED MAY 2021; SCALE VARIES.

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REV. No.	REV. BY	DATE	DESCRIPTION			
1	JJM	5/23/2022				

SEAL

STATE OF NEW HAMPSHIRE
BRUCE D. SCAMMAN
No. 11238
LICENSED PROFESSIONAL ENGINEER

SIGNATURE: *Bruce D. Scamman* 6/7/22
DATE

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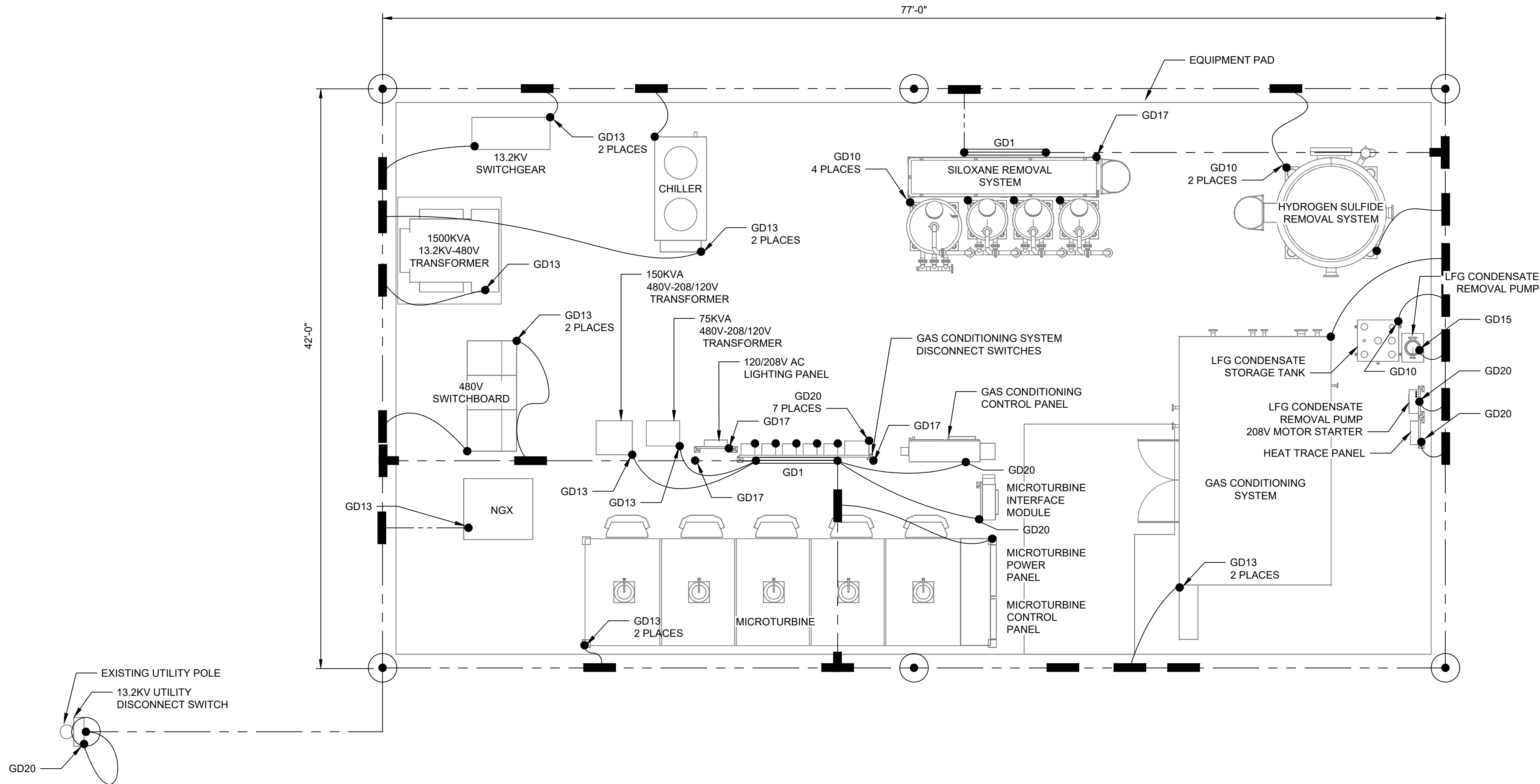
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LEBANON LANDFILL GAS TO ENERGY PROJECT

CONSTRUCTION SEQUENCING PLAN

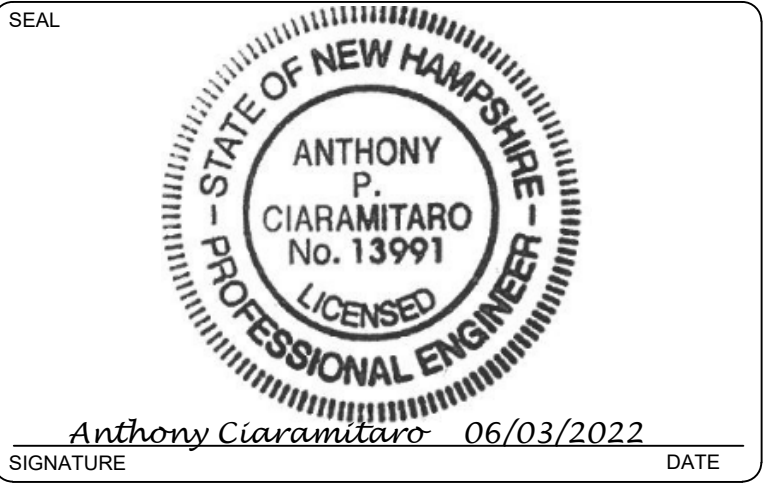
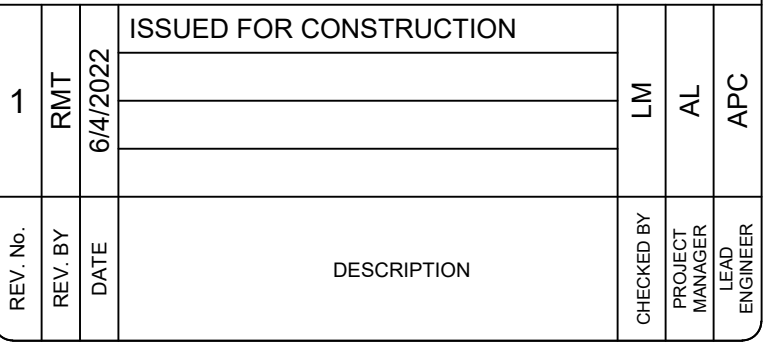
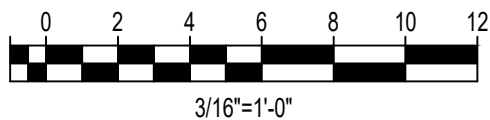
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	417.02	C-1004

- REFER TO DRAWING E-5001 FOR GENERAL AND GROUNDING NOTES AND DETAILS.
2. FOR EQUIPMENT IDENTIFICATIONS AND LOCATIONS, SEE THE MECHANICAL GENERAL ARRANGEMENT DRAWING G-1001.
3. EQUIPMENT FOUNDATIONS AS WELL AS SUPPORT STRUCTURES ARE SHOWN FOR REFERENCE ONLY. CONTRACTOR SHALL REFER TO STRUCTURAL DRAWINGS FOR CONSTRUCTION OF FOUNDATION, SUPPORT STRUCTURE PLACEMENTS AND REBAR ORIENTATION.
4. ELECTRICAL CONTRACTOR SHALL LOCATE GROUNDING PIGTAILS SUCH THAT THEY ARE EMBEDDED INSIDE HOUSEKEEPING PADS AND FOUNDATIONS FOR PHYSICAL PROTECTION WHEREVER POSSIBLE. IN THE EVENT THIS INSTALLATION IS NOT POSSIBLE THE GROUND PIGTAIL SHALL BE PHYSICALLY PROTECTED AS INDICATED IN GROUNDING DETAIL (GD13 OR GD15) AND STUB-UP DIRECTLY ADJACENT TO THE FOUNDATIONS OR HOUSEKEEPING PADS AS INDICATED ON STRUCTURAL DRAWINGS. THESE ACTIONS ARE TO BE TAKEN TO PREVENT TRIPPING HAZARDS AND ENSURE THE INTEGRITY OF THE GROUNDING/BONDING SYSTEM FOR PERSONNEL SAFETY.
5. WHERE GROUNDING CABLES COME OUT OF THE GROUND PROVIDE A PROTECTIVE RIGID CONDUIT SLEEVE A MINIMUM OF 6 INCHES ABOVE FINISHED GRADE. CONDUCTORS SHALL NOT REQUIRE PROTECTIVE SLEEVES WHEN INSTALLED INSIDE HOUSEKEEPING OR EQUIPMENT PADS.
6. GAS LINES SHALL BE BONDED ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE.
7. DURING INSTALLATION OF PLANT GROUND SYSTEM, THE FIELD SHALL ENSURE THAT THE GROUNDING SYSTEM HAS LESS THAN 5 OHMS RESISTANCE. IF THE GROUNDING SYSTEM EXCEEDS 5 OHMS, ADDITIONAL GROUND RODS SHALL BE DRIVEN UNTIL THE RESISTANCE IS LESS THAN 5 OHMS. WHEN ADDING ADDITIONAL GROUND RODS, ENSURE SPACING IS NOT LESS THAN 6' BETWEEN RODS.
8. ALL GROUNDING & BONDING DESIGN, MATERIALS AND WORKMANSHIP SHALL COMPLY WITH THE REQUIREMENTS OF THE LATEST EDITIONS OF ALL LOCAL, STATE AND FEDERAL LAWS, CODES AND REGULATIONS.
9. EACH PIECE OF ELECTRICAL EQUIPMENT SHALL HAVE A GROUND CONDUCTOR RETURN PATH TO THE SOURCE OF SUPPLY.
10. THE MAIN GROUNDING GRID AND CONNECTIONS TO GD1 SHALL BE #4/0 BARE STRANDED COPPER CABLE. BRANCH GROUND RUNS SHALL BE A MINIMUM OF #2 STRANDED COPPER WIRE.
11. GROUNDING CABLES TO EQUIPMENT ARE SHOWN DIAGRAMMATICALLY ON THE PLANS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION AND EXACT ROUTING OF THE GROUNDING CABLES IN ACCORDANCE WITH THE REQUIREMENTS HEREIN.
12. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF THE GROUND GRID CONNECTIONS. FOR ABOVEGROUND INSTALLATIONS CONTRACTOR SHALL TAKE CARE NOT TO CREATE TRIP HAZARDS.
13. ALL CONNECTIONS SHALL BE EXOTHERMIC WELDS OR ENGINEER APPROVED EQUAL. A PHYSICAL INSPECTION SHALL BE MADE OF ALL GROUNDING CONNECTIONS IN THE SYSTEM TO ASSURE TIGHTNESS AND CONTINUITY.
14. STRUCTURAL STEEL MEMBERS, METAL STAIRWAYS, AND GRATINGS ARE CONSIDERED GROUNDED THROUGH THE ATTACHMENT TO STRUCTURAL STEEL WHICH IS CONNECTED TO THE GROUNDING SYSTEM.
15. GROUND GRID SHALL BE INSTALLED WITH A MINIMUM COVER OF 10" OF EXISTING SOIL, BUT NO LESS THAN 30" OF TOTAL COVER.
16. CONNECTION TO ELECTRICAL ENCLOSURES, TRANSFORMERS, & GENERATORS SHALL BE MADE IN A MINIMUM OF TWO PLACES.
17. WHERE PRACTICAL, GROUNDING CABLES ALONG BEAMS OR COLUMNS SHALL BE RUN ON THE INSIDE OF THE FLANGE ADJACENT TO THE WEB. THE CABLE SHALL BE SECURED TO THE INSIDE OF THE FLANGE USING AN APPROPRIATE BEAM CLAMP. WHERE ABOVE GRADE GROUND CABLING IS ROUTED ON CONCRETE SURFACES, PVC SLEEVES SUPPORTED BY 1 HOLE CONDUIT CLAMPS SHALL BE UTILIZED.
18. ALL MATERIAL SHALL BE LISTED FOR THE PURPOSE.



	#4/0 BARE STRANDED COPPER (30" BELOW FINISHED GRADE MINIMUM)
	DENOTES SUB-GRADE EXOTHERMIC GROUNDING CONNECTION
	DENOTES GD6 TO GROUND GRID (UNLESS OTHERWISE INDICATED)
	DENOTES GD6 CONNECTED TO NEAREST GROUND BUS BAR GD1 (UNLESS OTHERWISE INDICATED)
	DENOTES GROUND PIGTAIL, #2 BARE STRANDED COPPER 10' MINIMUM LENGTH
	GROUNDING DETAIL CALLOUT (SEE DWG E-5001)
	DENOTES GROUND ROD UTILIZING GROUNDING DETAIL GD2 (UNLESS OTHERWISE INDICATED)
	DENOTES GD1 GROUND BUS BAR (SEE DWG E-5001)

LEBANON LANDFILL



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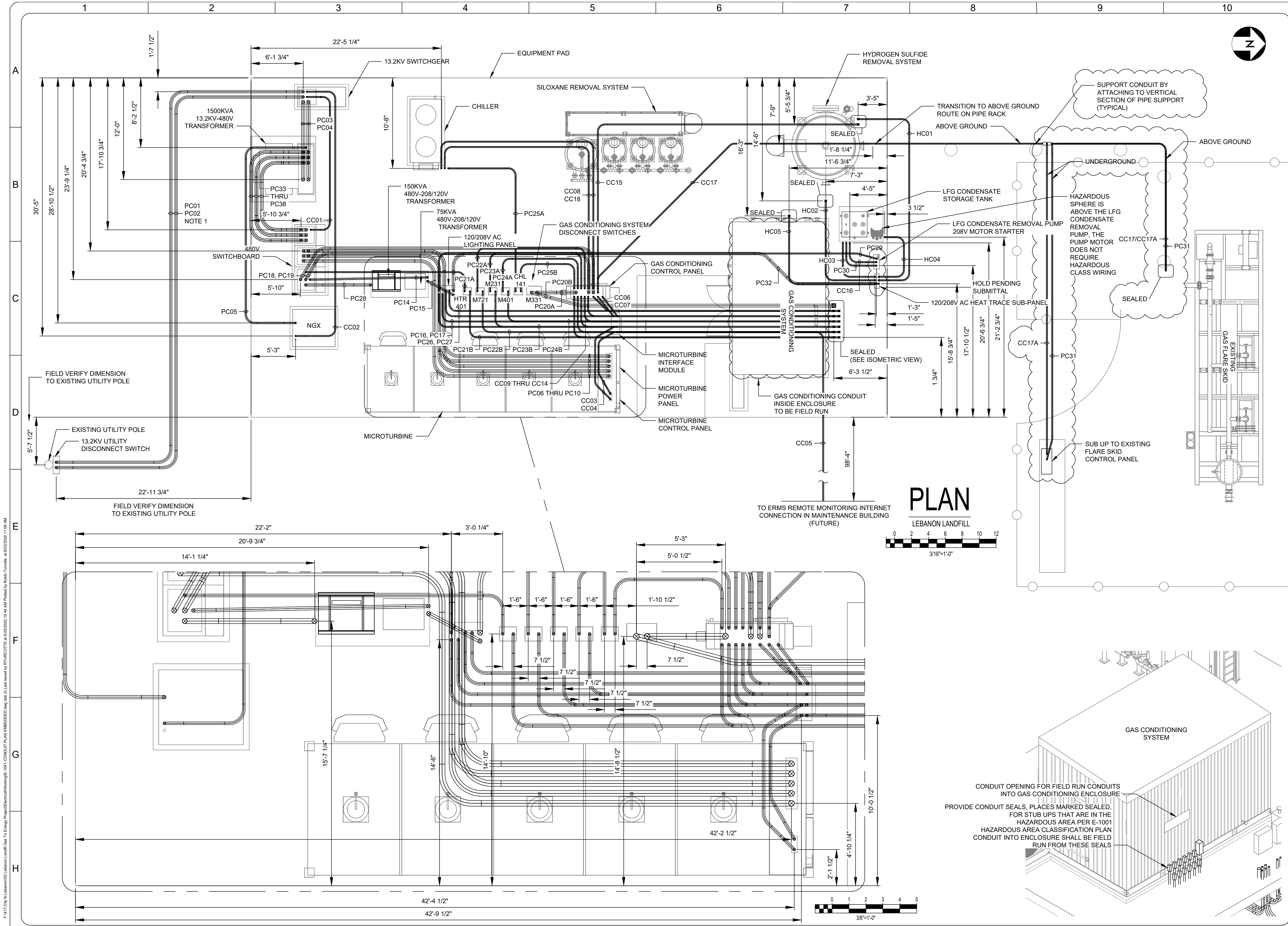
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LEBANON LANDFILL GAS
TO ENERGY PROJECT

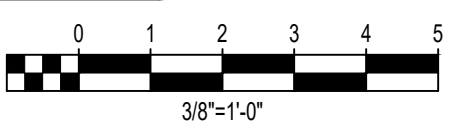
GROUNDING PLAN

CLIENT DRAWING No.	
W.E.C PROJECT No.	W.E.C DRAWING No.
417.02	E-1031

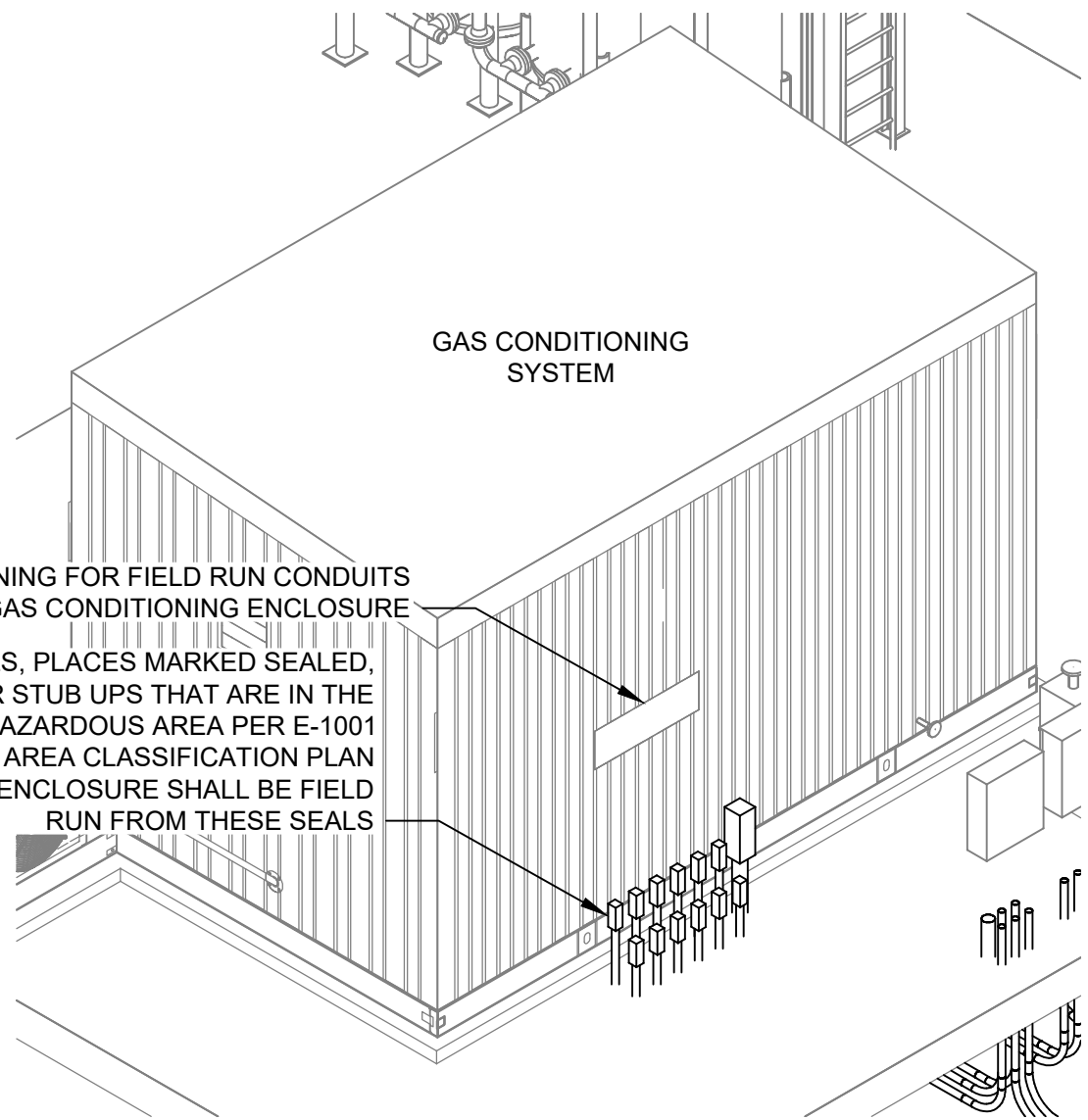
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PLAN



CONDUIT OPENING FOR FIELD RUN CONDUITS INTO GAS CONDITIONING ENCLOSURE
PROVIDE CONDUIT SEALS, PLACES MARKED SEALED, FOR STUB UPS THAT ARE IN THE HAZARDOUS AREA PER E-1001
HAZARDOUS AREA CLASSIFICATION PLAN
CONDUIT INTO ENCLOSURE SHALL BE FIELD RUN FROM THESE SEALS



NOTES:

- 15KV CABLES SHALL BE INSTALLED IN CONCRETE DUCTBANK. ALL OTHER CONDUITS SHALL BE DIRECT BURIED CONDUIT IN ACCORDANCE WITH DUCTBANK DETAILS PER DRAWING E-5004.

REV. No.	REV. BY	DATE	DESCRIPTION	CHECKED BY	PROJECT MANAGER	ENGINEER
2	RMT	6/23/2022	ISSUED FOR CONSTRUCTION		LBM	ALC
1	RMT	6/4/2022	ISSUED FOR CONSTRUCTION		LBM	ALC

SEAL

ANTHONY P. CIARAMITARO
No. 13991
LICENSED PROFESSIONAL ENGINEER

SIGNATURE DATE

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DRAWING TITLE

LEBANON LANDFILL GAS TO ENERGY PROJECT

CONDUIT PLAN EMBEDDED

CLIENT DRAWING No.

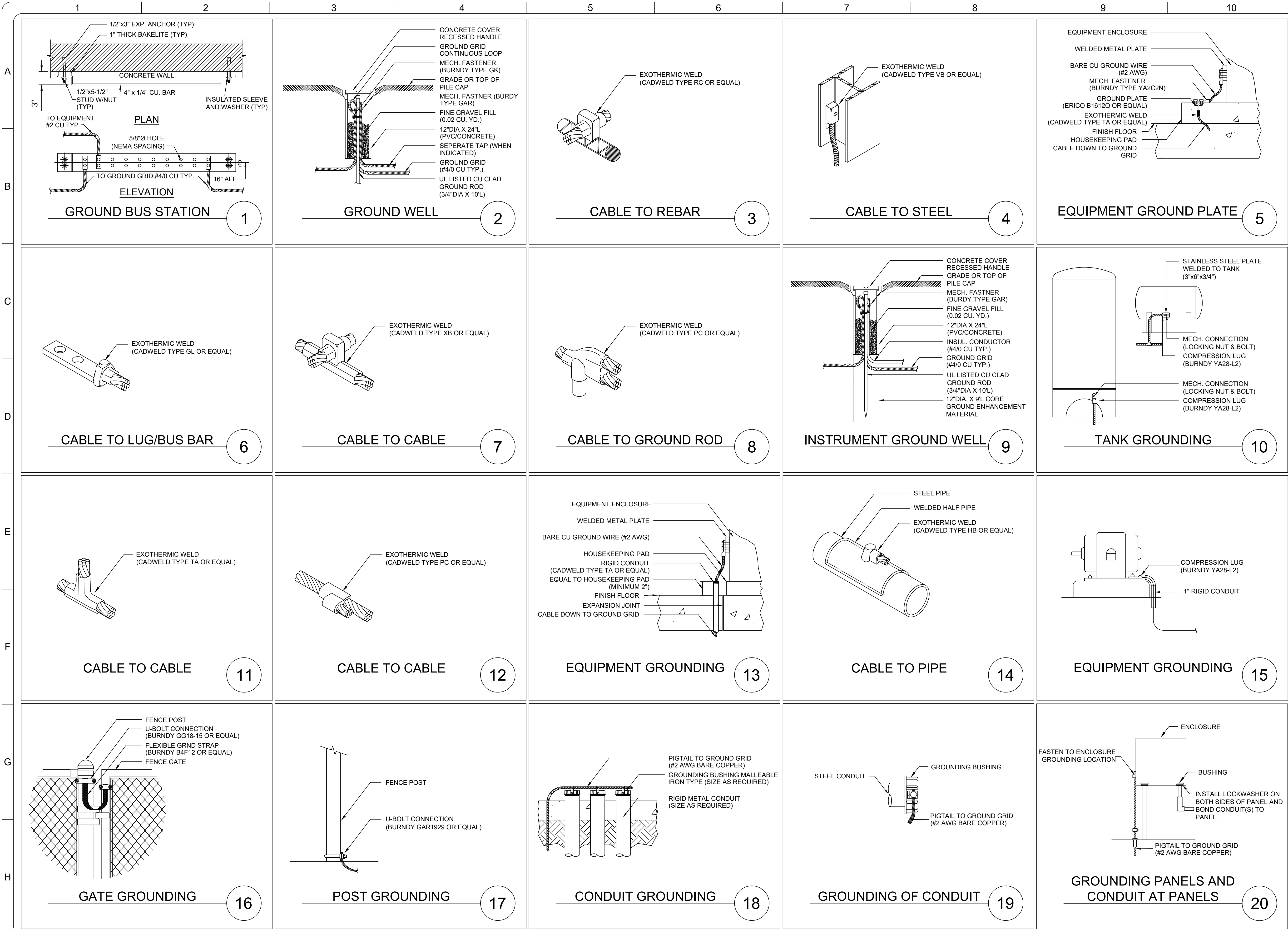
W.E.C PROJECT No. 417.02 W.E.C DRAWING No. E-1041

F:\177 City of Lebanon\02 Lebanon Landfill Gas To Energy Project\Electrical\Working\E-1042 CONDUIT PLAN EMBEDDED.dwg (tab 2) Last saved by: RTURCOTTE at 6/23/2022 11:51 AM Plotted by: Robin Turcotte at 6/23/2022 11:51 AM

A	POWER CONDUIT					
	TAG	SIZE	CONTENTS	FROM	TO	
	PC01	3"	3-1C #2 AWG (13.2KV AC) 1-1C #6 AWG (GND)	13.2KV UTILITY DISCONNECT SWITCH	13.2KV SWITCHGEAR	
	PC02	3"	SPARE	13.2KV UTILITY DISCONNECT SWITCH	13.2KV SWITCHGEAR	
	PC03	4"	3-1C #2 AWG (13.2KV AC) 1-1C #6 AWG (GND)	13.2KV SWITCHGEAR	1500KVA 3.2KV-480V TRANSFORMER	
	PC04	4"	SPARE	13.2KV SWITCHGEAR	1500KVA 3.2KV-480V TRANSFORMER	
	PC05	2"	2-1C #2 AWG (GND)	1500KVA 3.2KV-480V TRANSFORMER	NGX	
	PC06	3 1/2"	4-1C #500 KCMIL (480V AC) 1-1C #4/0 KCMIL (GND)	480V SWITCHBOARD	MICROTURBINE POWER PANEL	
	PC07	3 1/2"	4-1C #500 KCMIL (480V AC) 1-1C #4/0 KCMIL (GND)	480V SWITCHBOARD	MICROTURBINE POWER PANEL	
	PC08	3 1/2"	4-1C #500 KCMIL (480V AC) 1-1C #4/0 KCMIL (GND)	480V SWITCHBOARD	MICROTURBINE POWER PANEL	
	PC09	3 1/2"	4-1C #500 KCMIL (480V AC) 1-1C #4/0 KCMIL (GND)	480V SWITCHBOARD	MICROTURBINE POWER PANEL	
	PC10	3 1/2"	SPARE	480V SWITCHBOARD	MICROTURBINE POWER PANEL	
	B	PC11	-	NOT USED		
PC12		-	NOT USED			
PC13		-	NOT USED			
PC14		2"	3-1C #2 AWG (480V AC) 1-1C #8 AWG (GND)	480V SWITCHBOARD	75KV 480V-208/120V TRANSFORMER	
PC15		2 1/2"	3-1C #350 KCMIL (480V AC) 1-1C #4 AWG (GND)	75KV 480V-208/120V TRANSFORMER	120/208V AC LIGHTING PANEL	
PC16		1 1/2"	3-1C #12 AWG (120V AC + GND)	MICROTURBINE INTERFACE MODULE	120/208V AC LIGHTING PANEL	
PC17		1 1/2"	3-1C #12 AWG (120V AC + GND)	MICROTURBINE INTERFACE MODULE	120/208V AC LIGHTING PANEL	
PC18		3"	3-1C #250 KCMIL (480V AC) 1-1C #3 AWG (GND)	GAS CONDITIONING CONTROL PANEL	480V SWITCHBOARD	
PC19		3"	3-1C #250 KCMIL (480V AC) 1-1C #3 AWG (GND)	GAS CONDITIONING CONTROL PANEL	480V SWITCHBOARD	
C		PC20A	3 1/2"	1-3C #4/0 AWG + 4 AWG (480V AC) VFD CABLE	150HP GAS BLOWER DISCONNECT SWITCH (M331)	GAS CONDITIONING CONTROL PANEL
		PC20B	3 1/2"	2-1C-#14 (120V AC THERMAL SW)	150HP GAS BLOWER DISCONNECT SWITCH (M331)	GAS CONDITIONING SYSTEM (M331 VFD)
				1-3C #4/0 AWG + 4 AWG (480V AC) VFD CABLE		
		PC21A	1 1/2"	3-1C #12 AWG (480V AC + GND)	ENCLOSURE HEATER DISCONNECT SWITCH (HTR401)	480V SWITCHBOARD
	PC21B	1 1/2"	3-1C #12 AWG (480V AC + GND)	ENCLOSURE HEATER DISCONNECT SWITCH (HTR401)	GAS CONDITIONING SYSTEM (HTR401)	
	PC22A	1 1/2"	3-1C #12 AWG (480V AC + GND) 2-1C-#14 (120V AC THERMAL SW)	1/2HP CONDESATE PUMP DISCONNECT SWITCH (M721)	GAS CONDITIONING CONTROL PANEL	
	PC22B	1 1/2"	3-1C #12 AWG (480V AC + GND) 2-1C-#14 (120V AC THERMAL SW)	1/2HP CONDESATE PUMP DISCONNECT SWITCH (M721)	GAS CONDITIONING SYSTEM (M721)	
	PC23A	1 1/2"	3-1C #12 AWG (480V AC + GND) 2-1C-#14 (120V AC THERMAL SW)	3HP CONDESATE PUMP DISCONNECT SWITCH (M231)	GAS CONDITIONING CONTROL PANEL	
	PC23B	1 1/2"	3-1C #12 AWG (480V AC + GND) 2-1C-#14 (120V AC THERMAL SW)	3HP CONDESATE PUMP DISCONNECT SWITCH (M231)	GAS CONDITIONING SYSTEM (M231)	
	PC24A	1 1/2"	3-1C #12 AWG (480V AC + GND) 2-1C-#14 (120V AC THERMAL SW)	ENCLOSURE EXHAUST FAN DISCONNECT SWITCH (M401)	GAS CONDITIONING CONTROL PANEL	
	PC24B	1 1/2"	3-1C #12 AWG (480V AC + GND) 2-1C-#14 (120V AC THERMAL SW)	ENCLOSURE EXHAUST FAN DISCONNECT SWITCH (M401)	GAS CONDITIONING SYSTEM (M401)	
	D	PC25A	1 1/2"	3-1C #2 AWG (480V AC) 1-1C #8 AWG (GND)	GLYCOL CHILLER DISCONNECT SWITCH (CHL141)	GAS CONDITIONING CONTROL PANEL
		PC25B	1 1/2"	3-1C #2 AWG (480V AC) 1-1C #8 AWG (GND)	GLYCOL CHILLER DISCONNECT SWITCH (CHL141)	GLYCOL CHILLER (CHL141)
PC26		1 1/2"	1-1C #12 AWG (120V AC + GND)	120/208V AC LIGHTING PANEL	GAS CONDITIONING SYSTEM ENCLOSURE LIGHT	
PC27		1 1/2"	SPARE	120/208V AC LIGHTING PANEL	GAS CONDITIONING SYSTEM	
PC28		3"	3-1C #4/0 AWG (480V AC) 1-1C #4 AWG (GND)	480V SWITCHBOARD	150KV 480V-208/120V TRANSFORMER	
PC29		1 1/2"	3-1C #12 AWG (208V AC + GND)	120/208V AC LIGHTING PANEL	LFG CONDENSATE REMOVAL PUMP 208V MOTOR STARTER	
PC30		1 1/2"	3-1C #12 AWG (208V AC + GND)	LFG CONDENSATE REMOVAL PUMP 208V MOTOR STARTER	LFG CONDENSATE REMOVAL PUMP 208V MOTOR	
			3-1C #12 AWG (120V AC + GND)	LFG CONDENSATE REMOVAL PUMP 208V MOTOR STARTER	LFG CONDENSATE STORAGE TANK CONTOL POWER (INSTRUMENTS)	
PC31		1 1/2"	3-1C #12 AWG (120V AC + GND)	FLARE SKID CONTROL PANEL	120/208V AC TO FLARE SKID INSTRUMENTS	
PC32		3"	3-1C #4 AWG (120V AC) 1-1C #10 AWG (GND)	120/208V AC LIGHTING PANEL	120/208V AC HEAT TRACE SUB-PANEL	
E		PC33	3 1/2"	3-1C #750 KCMIL (480V AC) 1-1C #250 KCMIL (GND)	1500KVA 3.2KV-480V TRANSFORMER	480V SWITCHBOARD
		PC34	3 1/2"	3-1C #750 KCMIL (480V AC) 1-1C #250 KCMIL (GND)	1500KVA 3.2KV-480V TRANSFORMER	480V SWITCHBOARD
		PC35	3 1/2"	3-1C #750 KCMIL (480V AC) 1-1C #250 KCMIL (GND)	1500KVA 3.2KV-480V TRANSFORMER	480V SWITCHBOARD
	PC36	3 1/2"	3-1C #750 KCMIL (480V AC) 1-1C #250 KCMIL (GND)	1500KVA 3.2KV-480V TRANSFORMER	480V SWITCHBOARD	
	PC37	3 1/2"	3-1C #750 KCMIL (480V AC) 1-1C #250 KCMIL (GND)	1500KVA 3.2KV-480V TRANSFORMER	480V SWITCHBOARD	
	PC38	3 1/2"	SPARE	1500KVA 3.2KV-480V TRANSFORMER	480V SWITCHBOARD	
	F	CONTROLS CONDUIT				
		TAG	SIZE	CONTENTS	FROM	TO
		CC01	1 1/2"	4-1C #14 AWG (2 DISCRETE)	13.2KV SWITCHGEAR	480V SWITCHBOARD
		CC02	1 1/2"	2-1C #10 AWG (1CT)	13.2KV SWITCHGEAR	NGX
		CC03	1 1/2"	10-1C #14 AWG (5 DISCRETE)	MICROTURBINE ITERFACE MODULE	MICROTURBINE CONTROL PANEL
				1-CAT6 (COMMS) 3-1C #10 AWG (24VDC PWR)		
		CC04	1 1/2"	SPARE	MICROTURBINE ITERFACE MODULE	MICROTURBINE CONTROL PANEL
CC05		1 1/2"	1-CAT6 (COMMS) 1-1C #14 AWG (GND)	MICROTURBINE ITERFACE MODULE	ROUTE MICROTURBINE ERMS REMOTE MONITORING INTERNET CONNECTION	
CC06		1 1/2"	1-CAT6 (COMMS) 1-10C #14 AWG (5 DISCRETE)	MICROTURBINE INTERFACE MODULE	GAS CONDITIONING CONTROL PANEL	
CC07		1 1/2"	SPARE	MICROTURBINE INTERFACE MODULE	GAS CONDITIONING CONTROL PANEL	
CC08		1 1/2"	2-1C #14 AWG (1 120V AC DISCRETE)	GAS CONDITIONING CONTROL PANEL	CHILLER	
CC09		1 1/2"	9-1C #14 AWG (7 120V AC DISCRETE)	GAS CONDITIONING CONTROL PANEL	GAS CONDITIONING SYSTEM (JB21)	
CC10		1 1/2"	10-1C #14 AWG (8 DISCRETE)	GAS CONDITIONING CONTROL PANEL	GAS CONDITIONING SYSTEM (JB31)	
CC11	1 1/2"	9-STP #16 AWG (9 ANALOG) 1-1C #16 AWG (GND)	GAS CONDITIONING CONTROL PANEL	GAS CONDITIONING SYSTEM (JB31)		
CC12	1 1/2"	9-STT #16 AWG (9 RTD) 1-1C #16 AWG (GND)	GAS CONDITIONING CONTROL PANEL	GAS CONDITIONING SYSTEM (JB31)		
CC13	1 1/2"	SPARE	GAS CONDITIONING CONTROL PANEL	GAS CONDITIONING SYSTEM		
CC14	1 1/2"	SPARE	GAS CONDITIONING CONTROL PANEL	GAS CONDITIONING SYSTEM		
CC15	1 1/2"	1-STP #16 AWG (1 ANALOG) 1-1C #16 AWG (GND)	GAS CONDITIONING CONTROL PANEL	HYDROGEN SULFIDE REMOVAL SYSTEM (PIT-301)		
CC16	1 1/2"	4-1C #14 AWG (2 DISCRETE)	LFG CONDENSATE REMOVAL PUMP 208V MOTOR STARTER	LFG CONDENSATE REMOVAL PUMP CONTROL SIGNALS		
CC17	1 1/2"	10-1C #14 AWG (5 DISCRETE)	GAS CONDITIONING CONTROL PANEL	FLARE SKID CONTROL PANEL		
CC17A	1 1/2"	10-1C #14 AWG (5 DISCRETE)	FLARE SKID CONTROL PANEL	FLARE SKID INSTRUMENTS		
CC18	1 1/2"	2-1C #14 AWG (1 DISCRETE)	GAS CONDITIONING CONTROL PANEL	CHILLER		
G	HEAT TRACE CONDUIT					
	TAG	SIZE	CONTENTS	FROM	TO	
	HC01	1 1/2"	2 CIRCUITS	120/208V AC HEAT TRACE SUB-PANEL	HYDROGEN SULFIDE REMOVAL SYSTEM (2 PIPES TO FLARE SKID)	
	HC02	1 1/2"	4 CIRCUITS	120/208V AC HEAT TRACE SUB-PANEL	HYDROGEN SULFIDE REMOVAL SYSTEM (4 FOR TANK FLT-301AND PIPING TO GAS CONDITIONING SYSTEM, MICRON FILTER INSIDE ENCLOSURE)	
	HC03	1 1/2"	2 CIRCUITS	120/208V AC HEAT TRACE SUB-PANEL	LFG CONDENSATE STORAGE TANK CND-TK1 (2 CIRCUITS FOR TANK AND ASSOCIATED PIPING)	
	HC04	1 1/2"	2 CIRCUITS	120/208V AC HEAT TRACE SUB-PANEL	LFG CONDENSATE REMOVAL PUMP CND-P1 (2 CIRCUITS FOR PUMP AND ASSOCIATED PIPING)	
	HC05	1 1/2"	1 CIRCUIT	120/208V AC HEAT TRACE SUB-PANEL	LFG PIPING AT GAS CONDITIONING SYSTEM (1 PIPE TO MICROTURBINE)	
	H					

CONTROLS CONDUIT				
TAG	SIZE	CONTENTS	FROM	TO
CC01	1 1/2"	4-1C #14 AWG (2 DISCRETE)	13.2KV SWITCHGEAR	480V SWITCHBOARD
CC02	1 1/2"	2-1C #10 AWG (1CT)	13.2KV SWITCHGEAR	NGX
CC03	1 1/2"	10-1C #14 AWG (5 DISCRETE)	MICROTURBINE ITERFACE MODULE	MICROTURBINE CONTROL PANEL
		1-CAT6 (COMMS)		
		3-1C #10 AWG (24VDC PWR)		
CC04	1 1/2"	SPARE	MICROTURBINE ITERFACE MODULE	MICROTURBINE CONTROL PANEL
CC05	1 1/2"	1-CAT6 (COMMS)	MICROTURBINE ITERFACE MODULE	ROUTE MICROTURBINE ERMS REMOTE MONITORING INTERNET CONNECTION
		1-1C #14 AWG (GND)		
CC06	1 1/2"	1-CAT6 (COMMS)	MICROTURBINE INTERFACE MODULE	GAS CONDITIONING CONTROL PANEL
		1-10C #14 AWG (5 DISCRETE)		
CC07	1 1/2"	SPARE	MICROTURBINE INTERFACE MODULE	GAS CONDITIONING CONTROL PANEL
CC08	1 1/2"	2-1C #14 AWG (1 120V AC DISCRETE)	GAS CONDITIONING CONTROL PANEL	CHILLER
CC09	1 1/2"	9-1C #14 AWG (7 120V AC DISCRETE)	GAS CONDITIONING CONTROL PANEL	GAS CONDITIONING SYSTEM (JB21)
CC10	1 1/2"	10-1C #14 AWG (8 DISCRETE)	GAS CONDITIONING CONTROL PANEL	GAS CONDITIONING SYSTEM (JB31)
CC11	1 1/2"	9-STP #16 AWG (9 ANALOG)	GAS CONDITIONING CONTROL PANEL	GAS CONDITIONING SYSTEM (JB31)
		1-1C #16 AWG (GND)		
CC12	1 1/2"	9-STT #16 AWG (9 RTD)	GAS CONDITIONING CONTROL PANEL	GAS CONDITIONING SYSTEM (JB31)
		1-1C #16 AWG (GND)		
CC13	1 1/2"	SPARE	GAS CONDITIONING CONTROL PANEL	GAS CONDITIONING SYSTEM
CC14	1 1/2"	SPARE	GAS CONDITIONING CONTROL PANEL	GAS CONDITIONING SYSTEM
CC15	1 1/2"	1-STP #16 AWG (1 ANALOG)	GAS CONDITIONING CONTROL PANEL	HYDROGEN SULFIDE REMOVAL SYSTEM (PIT-301)
		1-1C #16 AWG (GND)		
CC16	1 1/2"	4-1C #14 AWG (2 DISCRETE)	LFG CONDENSATE REMOVAL PUMP 208V MOTOR STARTER	LFG CONDENSATE REMOVAL PUMP CONTROL SIGNALS
CC17	1 1/2"	10-1C #14 AWG (5 DISCRETE)	GAS CONDITIONING CONTROL PANEL	FLARE SKID CONTROL PANEL
CC17A	1 1/2"	10-1C #14 AWG (5 DISCRETE)	FLARE SKID CONTROL PANEL	FLARE SKID INSTRUMENTS
CC18	1 1/2"	2-1C #14 AWG (1 DISCRETE)	GAS CONDITIONING CONTROL PANEL	CHILLER

F:\177 City of Lebanon\02 Lebanon Landfill Gas To Energy Project\Electrical\Working\5001-GROUNDING DETAILS.dwg (tab 1) Last saved by: RTURCOTTE at 5/31/2022 5:38 AM Printed by: Robin Turcotte at 6/1/2022 1:48 PM



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STATE OF NEW HAMPSHIRE
ANTHONY P. CIARAMITARO
No. 13991
LICENSED PROFESSIONAL ENGINEER

Anthony Ciaramitaro 06/03/2022
SIGNATURE DATE

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DATE: 3/24/2022 ANSI D

CLIENT: CITY OF LEBANON, NH

DRAWING TITLE: LEBANON LANDFILL GAS TO ENERGY PROJECT

GROUNDING DETAILS

CLIENT DRAWING No. W.E.C PROJECT No. 417.02 W.E.C DRAWING No. E-5001

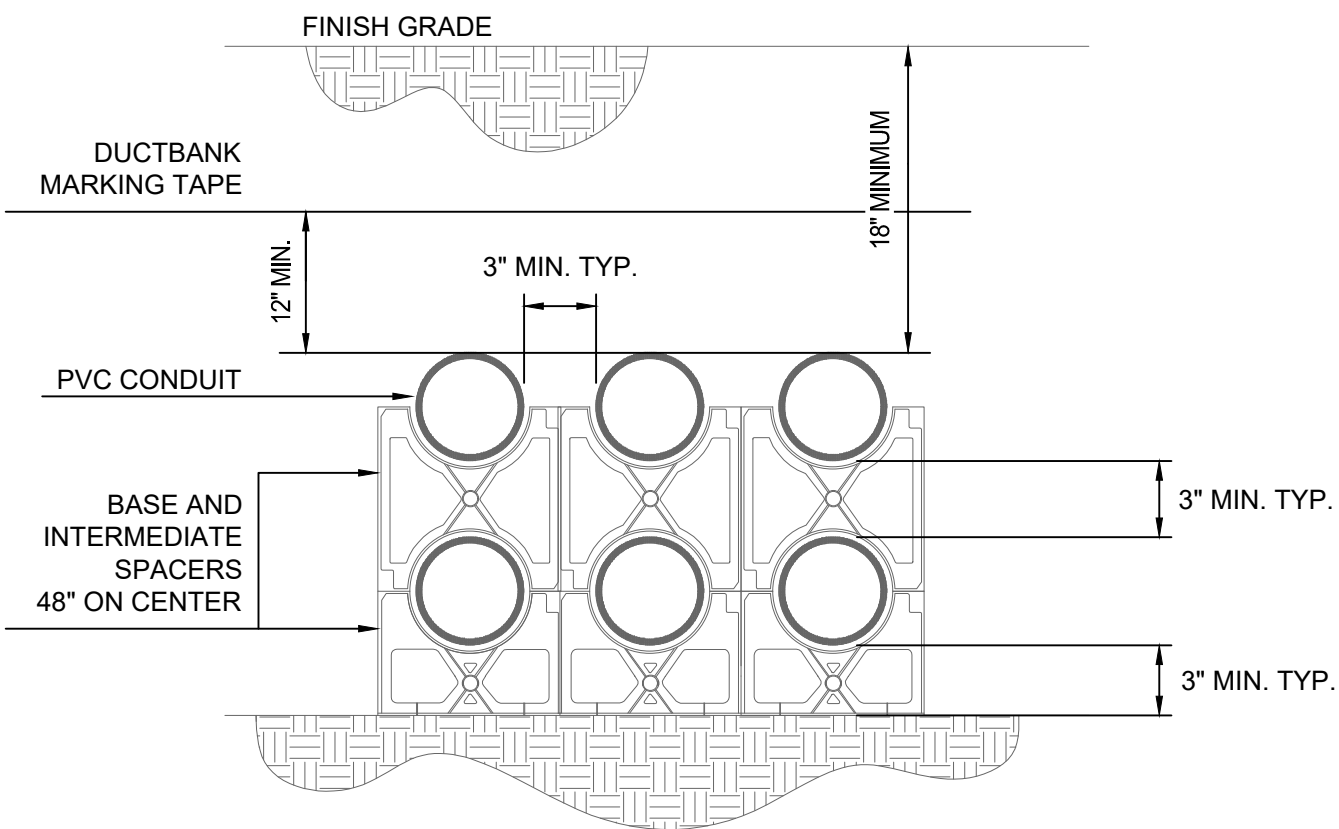
NOTES:

- CONDUIT SPACERS SHALL BE INSTALLED TO SECURE CONDUITS IN PLACE WHILE POURING CONCRETE OR DIRT FILL. SPACERS SHALL BE HIGH DENSITY POLYETHYLENE (HDPE) INTERLOCKING MODULAR TYPE SPACERS AS MANUFACTURED BY CANTEX OR ENGINEER APPROVED EQUAL. NO WOOD OR OTHER MATERIALS SUBJECT TO DECAY SHALL BE USED. SPACERS SHALL PROVIDE HORIZONTAL AND VERTICAL SPACING BETWEEN CONDUITS AS SHOWN ON THIS DRAWING.
- UNLESS OTHERWISE SPECIFIED ON THE CONSTRUCTION DRAWINGS THE SPACING BETWEEN CONDUITS SHALL BE MINIMUM 7-1/2" ON CENTER.
- COMPRESSIVE STRENGTH OF CONCRETE (F'C) SHALL BE 3000 PSI AFTER 28 DAYS PER ACI 318 DEFINITION MINIMUM.
- REBAR SHALL BE ASTM-A615 GRADE 60 DEFORMED BARS, UNLESS OTHERWISE NOTED.
- CONTRACTOR SHALL ENSURE 1'-0" BED OF ENGINEERED FILL SOIL OR 4" CONCRETE MUD MAT EXTENDING AT LEAST 1'-0" BEYOND THE DUCTBANK, IN ADDITION THE CONTRACTOR SHALL REMOVE ALL SOFT SPOTS ENCOUNTERED DOWN TO A MAXIMUM OF 3'-0" BELOW THE BOTTOM OF THE DUCTBANK AND REPLACE WITH ENGINEERED FILL COMPACTED TO 95% OF MODIFIED PROCTOR.
- A #4/0 AWG GROUND CONDUCTOR SHALL BE ROUTED WITH THE DUCTBANK INSTALLED INSIDE OF THE CONCRETE ENCASEMENT. GROUND CONDUCTOR SHALL BE CONNECTED TO DUCTBANK REBAR EVERY 20FT UTILIZING GROUNDING DETAIL "GD3", SEE GROUNDING DETAIL DRAWING E-5001.
- ALL CONDUIT BENDS SHALL BE RIGID METAL CONDUIT.
- UNLESS OTHERWISE SPECIFIED ON THE CONSTRUCTION DRAWINGS THE MINIMUM RADII OF BENDS SHALL BE:

RADIUS OF CONDUIT AND TUBING BENDS	
TRADE SIZE	RADII OF BENDS
1 1/2	10
2	12
3	18
3 1/2	21
4	24

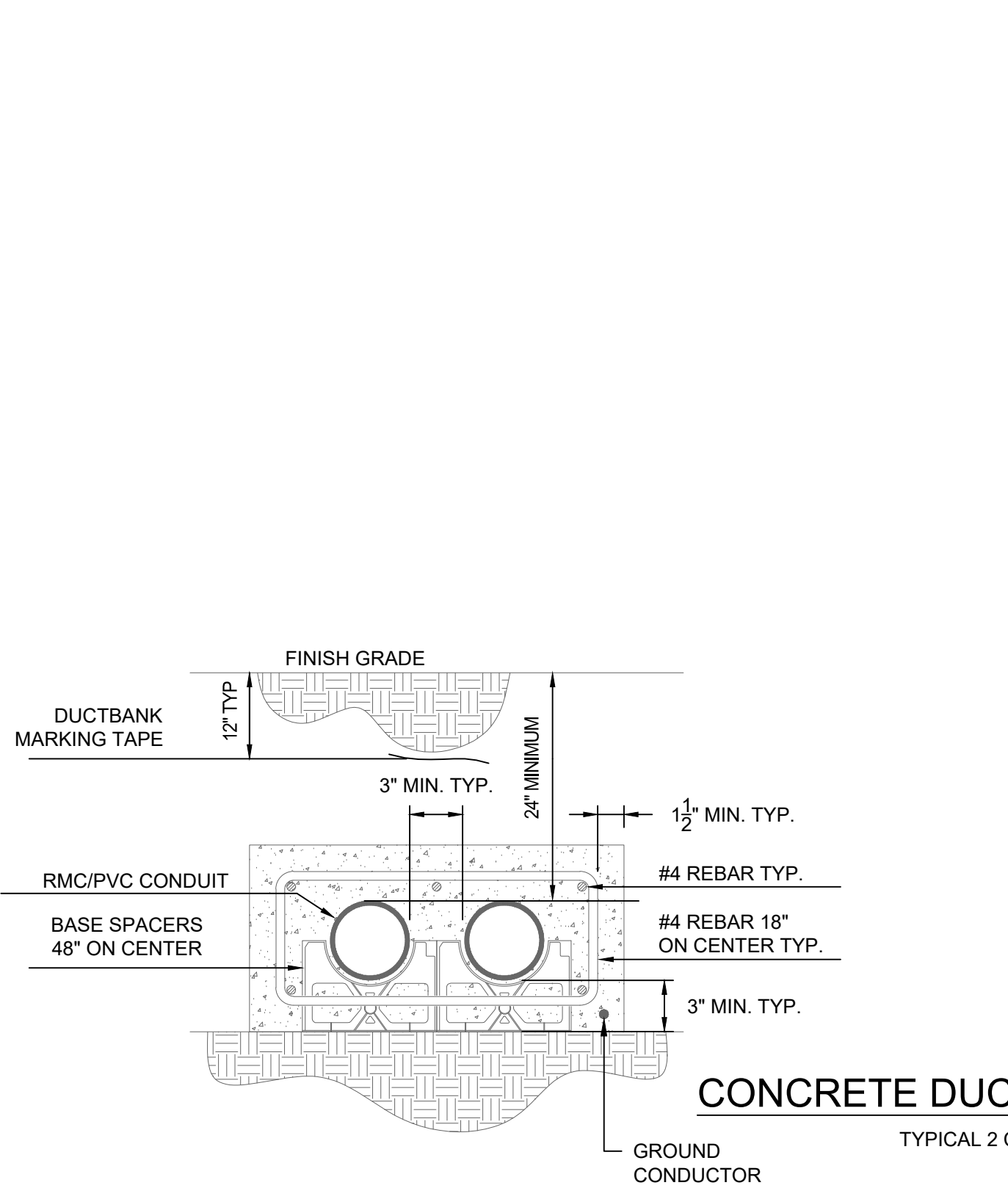
DIRECT BURIED CONDUIT DETAIL 1

TYPICAL 2 CONDUIT



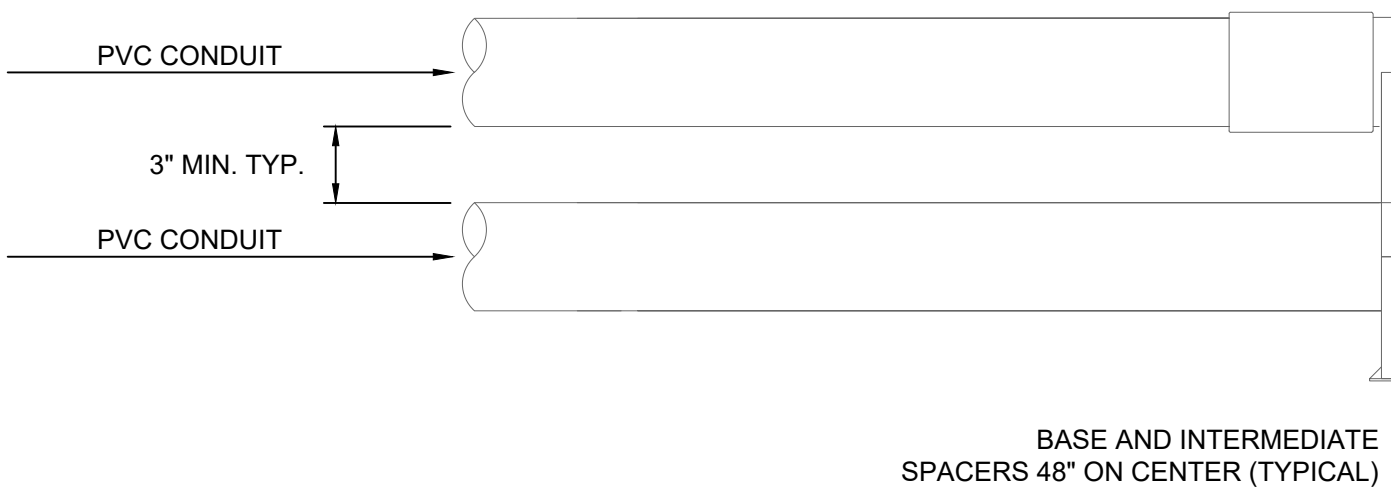
DIRECT BURIED CONDUIT DETAIL 2

TYPICAL 6 CONDUIT



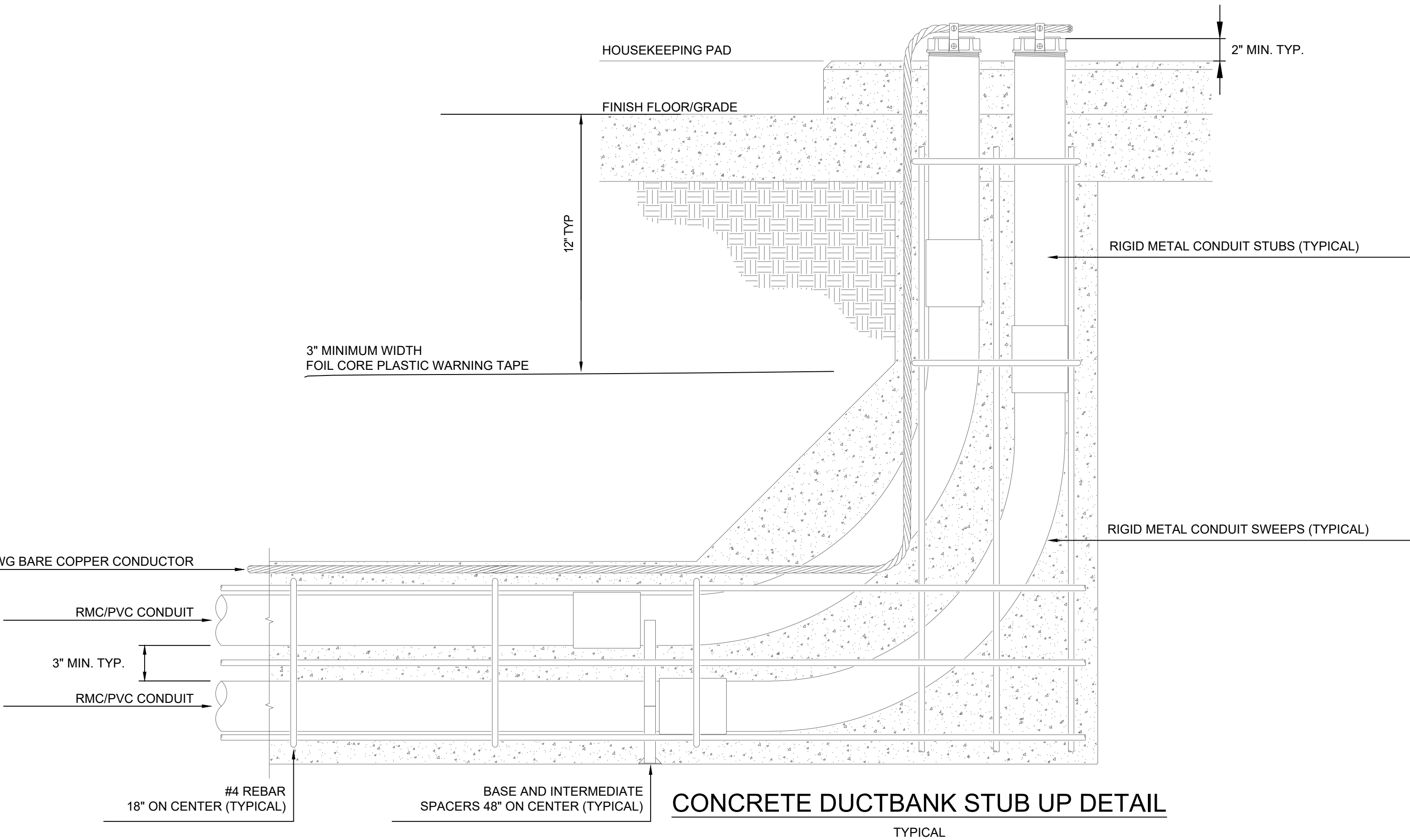
CONCRETE DUCTBANK DETAIL

TYPICAL 2 CONDUIT



DIRECT BURIED CONDUIT STUB UP DETAIL

TYPICAL



CONCRETE DUCTBANK STUB UP DETAIL

TYPICAL

DRAWING NOT TO SCALE



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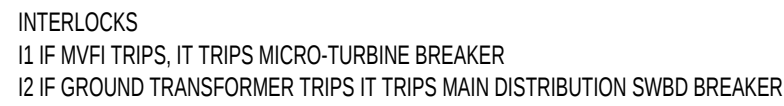
LEBANON LANDFILL GAS
TO ENERGY PROJECT

DUCTBANK DETAILS

CLIENT DRAWING No.

W.E.C PROJECT No.
417.02

W.E.C DRAWING No.
E-5004



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| 1 | RMT | 6/4/2022 | ISSUED FOR CONSTRUCTION | LBM | AL | APC |
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W.E&C PROJECT No. 417.02	W.E&C DRAWING No. E-6001
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GENERAL NOTES:

CODES & STANDARDS:

ALL WORK SHALL CONFORM TO THE FOLLOWING REFERENCE STANDARDS:
2015 INTERNATIONAL BUILDING CODE AS MODIFIED BY THE FOLLOWING:
-NEW HAMPSHIRE STATE BUILDING CODE

GENERAL:

1. IN THE CASE OF CONFLICT BETWEEN THE REFERENCED CODES, STANDARD PROJECT SPECIFICATIONS, AND PLANS, THE MORE STRINGENT REQUIREMENT SHALL APPLY. IN CASES WHERE THIS IS NOT EVIDENT, STRUCTURAL ENGINEER OF RECORD OR HIS DESIGNATE SHALL MAKE THIS DETERMINATION.

2. CONTRACTOR SHALL VERIFY AND COORDINATE ALL DIMENSIONS AND DETAILS RELATED TO THIS PROJECT. DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE STRUCTURAL ENGINEER OF RECORD OR HIS DESIGNATE PRIOR TO PROCEEDING WITH THE AFFECTED WORK. ANY CHANGES OR SUBSTITUTIONS OF MATERIALS OR DETAILS FROM THOSE INDICATED ON THE CONTRACT DOCUMENTS MAY BE MADE ONLY WITH PRIOR APPROVAL OF THE STRUCTURAL ENGINEER OF RECORD.

3. CONTRACTOR SHALL BE RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, COORDINATION OF OTHER TRADES, AND TECHNIQUES TO PRODUCE A SOUND AND QUALITY PROJECT.

4. CONTRACTOR SHALL BE RESPONSIBLE FOR JOB SAFETY AND OSHA COMPLIANCE DURING CONSTRUCTION INCLUDING BUT NOT LIMITED TO SHEETING, SHORING, AND GUYING STRUCTURES, BARRIERS AND SIGNAGE.

5. DETAILS AND NOTES SHOWN ON CONTRACT DOCUMENTS SHALL BE CONSIDERED TYPICAL FOR SIMILAR CONDITIONS EXCEPT WHERE SPECIFICALLY REQUIRED OTHERWISE.

6. MAIN FRAMING OR STRUCTURAL MEMBERS ARE NOT TO BE MODIFIED, ALTERED, OR CUT WITHOUT THE PRIOR APPROVAL OF THE STRUCTURAL ENGINEER OF RECORD OR HIS DESIGNATE.

7. CONTRACTOR SHALL COMPLY WITH INSPECTION REQUIREMENTS IN THE STATEMENT OF SPECIAL INSPECTIONS AND NOTES ON DRAWINGS.

8. CONTRACTOR SHALL REVIEW EACH SUBMITTAL AND CHECK FOR COORDINATION WITH OTHER WORK OF THE CONTRACT AND FOR COMPLIANCE WITH THE CONTRACT DOCUMENTS. NOTE CORRECTIONS AND FIELD DIMENSIONS. MARK WITH APPROVAL STAMP BEFORE SUBMITTING TO ENGINEER OF RECORD FOR REVIEW.

9. CONTRACTOR SHALL STAMP EACH SUBMITTAL WITH A UNIFORM, APPROVAL STAMP INDICATING THAT THE ENTIRE SUBMITTAL HAS BEEN REVIEWED, ENGINEER OF RECORD WILL NOT REVIEW SUBMITTALS THAT DO NOT BEAR CONTRACTORS APPROVAL STAMP AND WILL RETURN THEM WITHOUT ACTION

EXISTING CONDITIONS:

1. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY ACTUAL FIELD CONDITIONS & DIMENSIONS SHOWN ON THESE PLANS & REPORT ANY DISCREPANCIES TO THE STRUCTURAL ENGINEER OF RECORD PRIOR TO BEGINNING CONSTRUCTION.

2. THE NOTATION "(E)" MEANS TO DESCRIBE THE SUBJECT ITEM AS EXISTING, EXCEPT FOR REINFORCEMENT WHERE IT MEANS EXTERIOR. THE NOTATION "(N)" MEANS TO DESCRIBE THE SUBJECT ITEMS AS BEING NEWLY PROVIDED WITH THIS PROJECT.

STRUCTURAL LOADS:

1. DEAD LOADS
- PER WEIGHT OF MATERIALS USED.

2. LIVE LOADS
- CONCRETE FLOORS..... 250 PSF

3. SPECIAL LOADS (EQUIPMENT LOADS)
- MICROTURBINE..... 48.5 KIP
- HYDROGEN SULFIDE REMOVAL SYSTEM..... 43 KIP
- SILOXANE REMOVAL SYSTEM
- (1) 48 IN. TANK..... 12.9 KIP
- (3) 36 IN. TANK..... 7.7 KIP EA.
- (1) PLATFORM..... 2 KIP
- GAS COMPRESSION AND MOISTURE
REMOVAL ENCLOSURE..... 30 KIP
- CHILLER..... 3 KIP
- TRANSFORMER..... 10.3 KIP
- SWITCHGEAR..... 2.2 KIP
- SWITCHBOARD..... 5.2 KIP
- NGR..... 0.9 KIP

4. SNOW LOADS:
GROUND SNOW LOAD (Pg)..... 80 PSF
EXPOSURE COEFFICIENT (Ce)..... 0.9
THERMAL FACTOR (Ct)..... 1.2
IMPORTANCE FACTOR (I)..... 1.0
RISK CATEGORY..... II

5. WIND LOADS:
EXPOSURE CATEGORY..... C
BASIC WIND SPEED (3 SEC GUST)..... 115 MPH
HURRICANE PRONE REGION..... NO
WIND BORN DEBRIS REGION..... NO

6. ICE LOADS (ATMOSPHERIC)..... 3/4" UNIFORM THICKNESS

7. EARTHQUAKE LOADS:
IMPORTANCE FACTOR..... 1.0
Ss..... 0.243
S1..... 0.07
SITE SOIL CLASSIFICATION..... E
SEISMIC DESIGN CATEGORY..... C
ANALYSIS PROCEDURE USED..... EQUIVALENT LATERAL FORCE PROCEDURE

8. ALLOWABLE SOIL BEARING CAPACITY..... 2000 PSF
SOIL BEARING CAPACITY AND SITE CLASSIFICATION ARE BASED ON THE DUBOIS AND KING TECHNICAL MEMORANDUM DATED JULY 6, 2020.

CONCRETE:

1. ALL WORK SHALL CONFORM TO THE FOLLOWING REFERENCE STANDARDS:
* "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS"
* "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE"
* "GUIDE FOR MEASURING, MIXING, TRANSPORTING AND PLACING CONCRETE"
* "GUIDE TO HOT WEATHER CONCRETING"
* "GUIDE TO COLD WEATHER CONCRETING"
* "GUIDE TO CURING CONCRETE"
* "SPECIFICATIONS FOR CURING CONCRETE"
* "STRUCTURAL WELDING CODE - REINFORCING STEEL"

- ACI 301-10.
- ACI 318-14.
- ACI 304R-00.
- ACI 305R-10.
- ACI 306R-10.
- ACI 308R-01.
- ACI 308.1-11.
- AWS D1.4/D1.4M 2011

2. COMPRESSIVE STRENGTH OF CONCRETE (FC) SHALL BE 5000 PSI AFTER 28 DAYS PER ACI 318.

3. REINFORCING STEEL SHALL BE ASTM-A615 GRADE 60. DEFORMED BARS UNLESS OTHERWISE NOTED (UON). DETAILS AND DETAILING OF CONCRETE REINFORCING SHALL BE IN ACCORDANCE WITH ACI 315. SUBMIT SHOP DRAWINGS TO STRUCTURAL ENGINEER OF RECORD FOR REVIEW PRIOR TO FABRICATION.

4. REINFORCING BARS SHALL BE LAPPED TO DEVELOP MAXIMUM TENSION OF THE BAR IN ACCORDANCE WITH ACI 318 SECTION 12. STAGGER ALL SPLICES. SEE LAP SPlice SCHEDULE THIS SHEET FOR SPECIFIC INFORMATION.

5. CONCRETE COVER REQUIREMENTS OVER REINFORCING STEEL ARE AS FOLLOWS UNLESS OTHERWISE NOTED:
CONCRETE CAST AGAINST EARTH..... 3"
CONCRETE EXPOSED TO WEATHER OR EARTH..... 2"

CONCRETE (CONTINUED):

6. PLACEMENT OF CONCRETE SHALL BE IN ACCORDANCE WITH ACI 304 AND BE A CONTINUOUS OPERATION AVOIDING THE FORMATION OF HORIZONTAL JOINTS. ALL CONCRETE SHALL BE WELL CONSOLIDATED WITH THE USE OF VIBRATORY EQUIPMENT. DO NOT USE VIBRATORY EQUIPMENT TO MOVE CONCRETE ACROSS FORMS.

7. CONTRACTOR TO NOTIFY OWNER'S REPRESENTATIVE 48 HOURS IN ADVANCE OF CONCRETE PLACEMENT SO FORMWORK AND REINFORCEMENT MAY BE INSPECTED.

8. BACKFILL AND COMPACTION CAN BEGIN IMMEDIATELY FOLLOWING REMOVAL OF FORMS FOR CAST ON EARTH FOUNDATIONS.

9. AS A GUIDELINE, NO POINT LOADS OVER 1 KIP AND NO DISTRIBUTED LOADS OVER 100 PSF WILL BE ALLOWED FOR 7 DAYS, UNLESS APPROVED IN WRITING BY THE STRUCTURAL ENGINEER OF RECORD. TO APPROVE EARLY LOADING, THE STRUCTURAL ENGINEER OF RECORD SHALL BE PRESENTED WITH (IN WRITING) LOADING INFORMATION & THE RESULTS OF ASTM C31 FIELD CURED SPECIMENS TESTING.

10. WHEN ATTACHING EXISTING AND NEW CONCRETE ROUGHEN EXISTING SURFACE TO A 1/4" AMPLITUDE. CLEAN EXISTING SURFACE BY REMOVING ALL SUBSTANCES DETRIMENTAL TO BOND OF EPOXY COMPOUNDS, INCLUDING LAITANCE, CURING MEMBRANES, DUST, DIRT, GREASE, OILS, FATTY ACIDS AND OTHER DEBRIS RESULTING FROM SURFACE PREPARATION. APPLY AN APPROVED BONDING AGENT TO SURFACE OF EXISTING CONCRETE PER MANUFACTURER'S WRITTEN INSTRUCTIONS PRIOR TO PLACEMENT OF NEW CONCRETE.

11. TESTING AND SPECIAL INSPECTIONS SHALL BE PERFORMED BY AN INDEPENDENT THIRD PARTY COMPANY HIRED BY OWNER AND IN COMPLIANCE WITH THE BUILDING CODE. CYLINDER TESTING SHALL BE PER ACI 318 AND BUILDING CODE PROVISIONS.

12. BUILDING CODE REQUIREMENTS FOR PLACING CONCRETE AND REINFORCING, REFER TO ACI 318, ACI 301 AND THE RECOMMENDED PRACTICES IN ACI 305R FOR HOT WEATHER CONCRETING AND ACI 306R FOR COLD WEATHER CONCRETING.

13. CONCRETE SHALL CONTAIN TYPE I OR TYPE II CEMENT CONFORMING WITH ASTM-C150. THE WATER CEMENT RATIO SHALL NOT EXCEED 0.40. ALTERNATE CEMENTITIOUS MATERIALS MAY BE SUBSTITUTED IN ACCORDANCE WITH ACI 318-14 TABLE 26.4.2.2(B).

14. AGGREGATE SHALL BE SOUND AND CONFORM TO THE PROVISIONS OF ASTM C33. COARSE AGGREGATE SIZE SHALL NOT EXCEED 3/4".

15. SLUMP SHALL BE 4" +/- 1" PRIOR TO THE ADDITION OF WATER REDUCING ADMIXTURE, AND IN ACCORDANCE WITH ASTM C143. CONDUCT TEST FOR EACH SAMPLE.

16. ALL EXPOSED CORNERS SHALL HAVE 3/4" INCH CHAMFERS.

17. FLAT AREAS SHALL BE STRUCK OFF WITH A SCREED. ALL SURFACES SHALL RECEIVE A FLOAT FINISH. A SMOOTH FORM FINISH IS REQUIRED FOR SURFACES EXPOSED TO VIEW EXCEPT WHERE NOTED OTHERWISE. FORMED SURFACES SHALL HAVE FINS REMOVED AND IMPERFECTIONS REPAIRED.

18. REPAIR OF SURFACE DEFECTS SHALL BE IN ACCORDANCE WITH ACI 301.

19. CONCRETE MIX DESIGNS WITH TEST RESULTS AT 28 DAYS SHALL BE SUBMITTED TO OWNER AND STRUCTURAL ENGINEER OF RECORD FOR APPROVAL ONE WEEK PRIOR TO CONCRETE DELIVERY. MAXIMUM TIME FROM BATCHING TO PLACEMENT SHALL BE NOTED FOR EACH TRUCK.

20. TRUCKS EXCEEDING MAXIMUM TIME/TEMPERATURE UPON DELIVERY, PER REQUIREMENTS SET FORTH IN ACI 301, WILL BE REJECTED.

21. ENTRAINED AIR IN CONCRETE SHALL BE 6 PERCENT +/- 1 PERCENT FOR CONCRETE EXPOSED TO THE ELEMENTS AND SHALL CONFORM TO ASTM C231 OR ASTM C173. AIR ENTRAINING ADMIXTURE SHALL CONFORM TO ASTM C260. CONDUCT TEST FOR EACH SAMPLE.

22. CURING OF CONCRETE SHALL BE AS RECOMMENDED IN ACI 308.1. WATER CURING SHALL BE USED TO THE GREATEST EXTENT POSSIBLE.

23. CONCRETE TEST CYLINDERS ARE REQUIRED PER ACI 318. AT A MINIMUM, OBTAIN ONE SAMPLE FOR EACH DAY'S POUR, OF EACH CONCRETE MIXTURE. OBTAIN A SAMPLE FOR EVERY 150 CU YDS OR FRACTION THEREOF OR 5000 SQ. FT. OR FRACTION THEREOF. TESTING SHALL BE CONDUCTED FROM A MINIMUM OF FIVE RANDOMLY SELECTED BATCHES OR FROM EACH BATCH IF FEWER THAN FIVE ARE USED.

REMOVAL AND DISPOSAL OF CONTAMINATED SOIL

1. SHOULD CONTRACTOR ENCOUNTER SUSPECTED CONTAMINATED SOIL IN WORK AREA BEYOND THAT MENTIONED IN CONTRACT DOCUMENTS, CONTRACTOR SHALL STOP ALL WORK IN AREA OF SUSPECTED CONTAMINATION AND NOTIFY STRUCTURAL ENGINEER OF RECORD FOR DIRECTION PRIOR TO CONTINUING WORK.

2. CONTAMINATED SOIL IS DEFINED AS SOIL THAT PRODUCES A FUEL OR CHEMICAL ODOR, PRODUCES AN OIL SHEEN ON SURFACE OF WATER, HAS STAINING, CONTAINS DEBRIS OR OTHER VISIBLE INDICATORS, OR SOIL DESIGNATED BY OWNER AS CONTAMINATED.

STRUCTURAL STEEL:

1. ALL STEEL FRAMING WORK SHALL CONFORM TO THE FOLLOWING REFERENCE STANDARDS:
(a) "SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS" - (AISC 360-10).
(a) "STRUCTURAL WELDING CODE / STEEL" - (AWS D1.4/D1.4M-2011).

2. ALL STEEL FRAMING SHALL CONSIST OF THE FOLLOWING:
(a) WF & WT SHAPES - ASTM A992 GRADE 50
(b) PLATES, ANGLES, S-SHAPES & CHANNELS - ASTM A36
(c) SQUARE TUBE COLUMNS - ASTM A500 - GRADE B: Fy=46 KSI
(d) TUBE COLUMNS - ASTM A500 - GRADE B: Fy=42 KSI
(e) BOLTS: - CONNECTIONS ASTM A325, ANCHOR RODS ASTM F1554
(f) WELDING ELECTRODES: E70XX SERIES OR EQUAL

3. SUBMIT SHOP DRAWINGS TO STRUCTURAL ENGINEER OF RECORD FOR ALL STEEL MEMBERS, INCLUDING THOSE PREPARED FROM FIELD DIMENSIONS, FOR REVIEW BEFORE PROCEEDING WITH FABRICATION. CONNECTIONS SHALL BE DESIGNED AND STAMPED BY AN ENGINEER REGISTERED IN THE STATE IN WHICH THIS PROJECT IS PHYSICALLY LOCATED. CALCULATIONS SHALL BE SUBMITTED TO THE STRUCTURAL ENGINEER OF RECORD FOR REVIEW

4. GALVANIZE ALL STEEL EXPOSED TO WEATHER.

5. ALL WELDING SHALL BE PERFORMED BY QUALIFIED WELDERS USING QUALIFIED WELD PROCEDURES IN ACCORDANCE WITH AWS D1.1.

6. SURFACES OF THE EXISTING STEEL MEMBERS TO RECEIVE FIELD WELDING ARE TO BE PREPARED ACCORDING TO THE REQUIREMENTS OF NACE STANDARD SSPC-SP11 POWER TOOL CLEANING TO BARE METAL.

7. SHOP FABRICATE TO THE GREATEST EXTENT POSSIBLE BY WELDING. PROVIDE ALL BEAM AND COLUMN STIFFENERS, COLUMN CAPS AND BASE PLATES WITH HOLES AS REQUIRED. PROVIDE ALL NECESSARY CONNECTION HARDWARE.

8. PROVIDE ALL ANCHOR RODS, LEVELING PLATES, AND ALL NECESSARY HARDWARE TO ERECT THE STEEL PLUMB, LEVEL AND SQUARE. INSTALL TEMPORARY BRACING UNTIL PERMANENT STRUCTURE IS IN PLACE.

9. CONTRACTOR SHALL FIELD TOUCH UP ALL ABRASIONS, BURRS AND SIMILAR DEFECTS IN GALVANIZING OF ALL STRUCTURAL STEEL. REPAIR DAMAGED GALVANIZED SURFACES WITH GALVANIZED REPAIR PAINTS ACCORDING TO ASTM A 780 "STANDARD PRACTICE FOR REPAIR OF DAMAGED AND UNCOATED AREAS OF HOT DIP GALVANIZING" AND MANUFACTURER'S WRITTEN INSTRUCTIONS.

ISSUED FOR CONSTRUCTION

1

5/27/2022

1

REV. No.

REV. BY

DATE

DESCRIPTION

CHECKED BY

PROJECT

IN CHARGE

LEAD

ENGINEER

5/27/2022

SIGNATURE

DATE

SEAL

STATE OF NEW HAMPSHIRE

BRADLEY

LOEB

No. 16885

PROFESSIONAL ENGINEER

5/27/2022

WALDRON

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EXETER, NH

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DATE DRAWN

3/24/2022

ORIGINAL SIZE

ANSI D

CLIENT

CITY OF LEBANON, NH

DRAWING TITLE

LANDFILL GAS TO ENERGY PROJECT

STRUCTURAL NOTES I

CLIENT DRAWING No.

W&E&C PROJECT No.

417.02

W&E&C DRAWING No.

S-0001

CONCRETE											
MINIMUM SPLICE AND DEVELOPMENT LENGTH SCHEDULE											
(UNLESS OTHERWISE SHOWN ON DRAWINGS)											
fc=5000 PSI	BAR SIZE		#3	#4	#5	#6	#7	#8	#9	#10	#11
	CLASS 'B' TENSION SPLICE LENGTH	TOP BARS	22"	29"	36"	44"	63"	72"	81"	90"	99"
		OTHER BARS	17"	23"	28"	34"	49"	56"	63"	69"	76"
	DEVELOPMENT LENGTH & ALL OTHER SPLICE LENGTHS	TOP BARS	17"	23"	28"	34"	49"	56"	63"	69"	76"
		OTHER BARS	13"	17"	22"	26"	38"	43"	48"	54"	59"

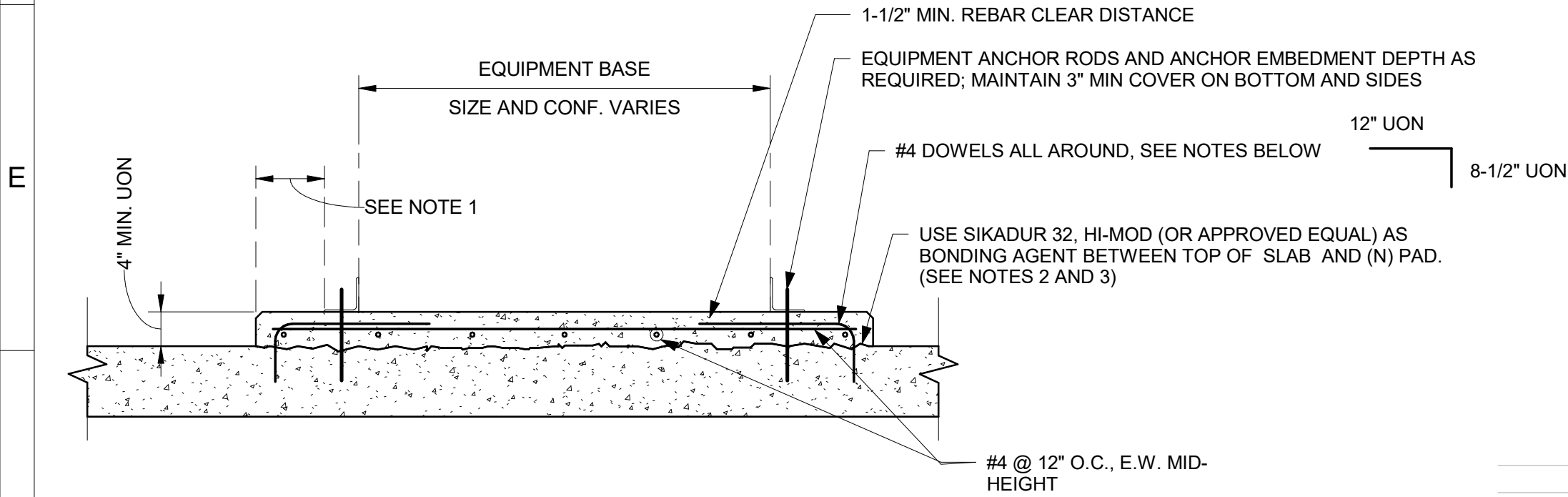
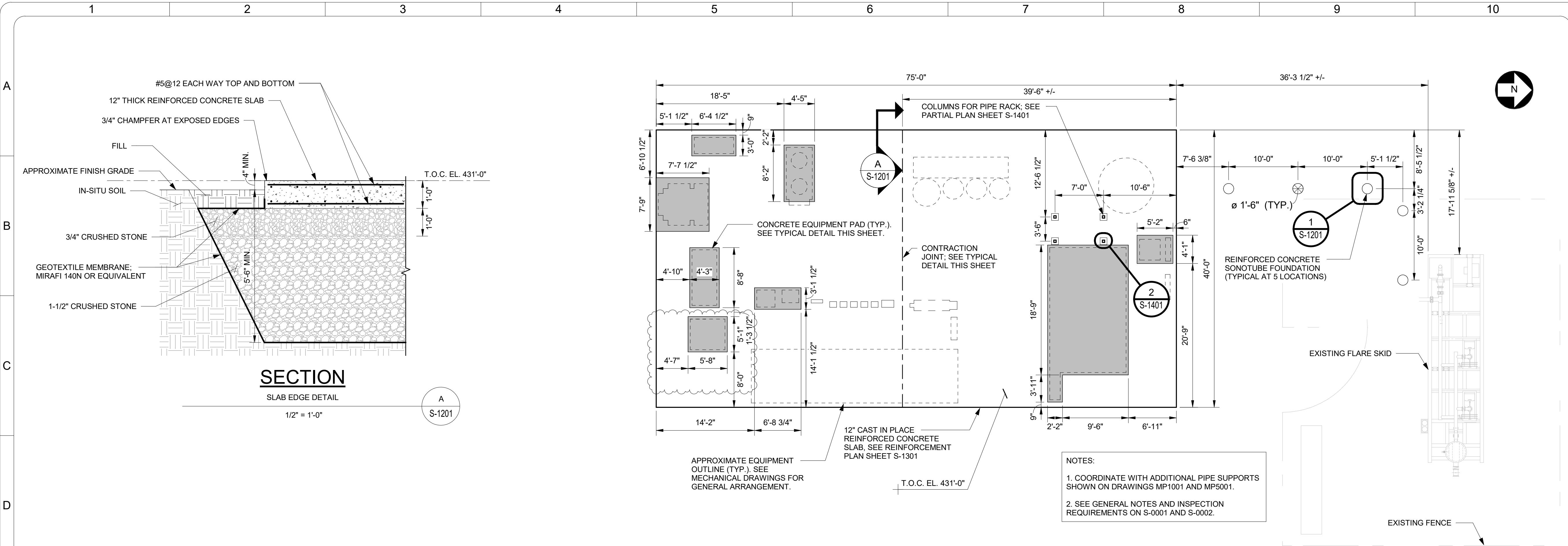
1. ALL REINFORCEMENT SPLICES SHALL BE CLASSIFIED AS CLASS 'B' SPLICES UNLESS INDICATED ON THE DRAWINGS AS A "CLASS 'A' SPLICE".

2. AVOID SPLICES IN REGIONS OF MAXIMUM MOMENT. IF THIS IS NOT POSSIBLE, STAGGER SPLICES SO THAT NOT MORE THAN 50% OF THE BARS ARE SPLICED WITHIN A REQUIRED SPLICE LENGTH, OTHERWISE INCREASE SPLICE LENGTH BY 30%.

3. TOP BARS ARE DEFINED AS HORIZONTAL BARS WITH MORE THAN 12" OF FRESH CONCRETE CAST BELOW THE REINFORCEMENT.

ABBREVIATIONS	
(E)	EXISTING
(N)	NEW
ADDL	ADDITIONAL
ARCH	ARCHITECTURAL
BOT.	BOTTOM
CJ	CONTRACTION JOINT
CL	CLEAR
CMU	CONCRETE MASONRY UNIT
COL	COLUMN
CONC	CONCRETE
CONT	CONTINUOUS
DIA	DIAMETER
DN	DOWN
EA	EACH
EF	EACH FACE
EL	ELEVATION
ELEC	ELECTRICAL
EW	EACH WAY
EXIST.	EXISTING
EXP	EXPANSION
EXT	EXTERIOR
FDN.	FOUNDATION
FTG	FOOTING
GALV.	GALVANIZED
HP	HIGH POINT
INT	INTERIOR
I.F.	INNER FACE
LLBB	LONG LEG BACK TO BACK
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LP	LOW POINT
MAX	MAXIMUM
MECH	MECHANICAL
MIN	MINIMUM
NEG.	NEGATIVE
NO	NUMBER
NTS	NOT TO SCALE
OC	ON CENTER
OF	OUTER FACE
OPNG	OPENING
PL	PLATE
REINF	REINFORCEMENT
SER	STRUCTURAL ENGINEER OF RECORD
SQ.	SQUARE
SLH	SHORT LEG HORIZONTAL
SLV	SHORT LEG VERTICAL
SLBB	SHORT LEG BACK TO BACK
STD	STANDARD
STRUC	STRUCTURAL
T&B	TOP AND BOTTOM
TBD	TO BE DETERMINED
TOS	TOP OF STEEL
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
UON	UNLESS OTHERWISE NOTED
W, W/	WITH
WWF	WELDED WIRE FABRIC

Page 25 of 29



- NOTES:
- (N) REINFORCED CONCRETE EQUIPMENT PADS SHALL HAVE PLAN DIMENSIONS A MINIMUM OF 3 INCHES AND A MAXIMUM OF 6 INCHES GREATER THAN THE OVERALL LENGTH AND WIDTH OF THE EQUIPMENT BASE. SEE PLAN FOR MORE INFORMATION. COORDINATE WITH ANCHOR REQUIREMENTS.
 - IF FRESH CONCRETE IS TO BE IN CONTACT WITH CURED CONCRETE, PREPARE SURFACE AS DETAILED IN STRUCTURAL NOTES.
 - APPLY APPROVED BONDING AGENT TO PREPARED, CAST CONCRETE PRIOR TO PLACEMENT OF FRESH CONCRETE.
 - EQUIPMENT ANCHORS SHALL BE AS NOTED BY MANUFACTURER. SHOULD NO ANCHORS BE RECOMMENDED BY MANUFACTURER, USE 1/2"Ø THREADED RODS SET IN HILTI HIT-HY 200 ADHESIVE WITH 4-1/2" EMBEDMENT INTO CONCRETE. SPACE ANCHORS AT 12" O.C. OR IN EACH ANCHOR LOCATION PROVIDED BY EQUIPMENT MANUFACTURER.
 - IF (E) SLAB THICKNESS IS INSUFFICIENT FOR REQUIRED ANCHOR EMBEDMENT, REQUEST CLARIFICATION BY STRUCTURAL ENGINEER OF RECORD.
 - THERE SHALL BE A MINIMUM OF FOUR DOWELS PER PAD (ONE IN EACH CORNER) FOR PADS LESS THAN TEN SQUARE FEET. TWO ADDITIONAL DOWELS SHALL BE INSTALLED, EQUALLY SPACED BETWEEN CORNER DOWELS AND TO THE GREATEST EXTENT POSSIBLE, FOR EACH ADDITIONAL TEN SQUARE FEET.
A. WHEN CASTING AGAINST PREVIOUSLY CURED CONCRETE, DRILL AND SET DOWELS IN CONCRETE WITH HILTI HIT-HY 200 ADHESIVE WITH 4" MIN. EMBEDMENT.
B. WET SET DOWELS WHEN CASTING AGAINST FRESH CONCRETE.

THE NUMBER OF DOWELS SHALL CONFORM, BUT IS NOT LIMITED TO, THE TABLE BELOW.

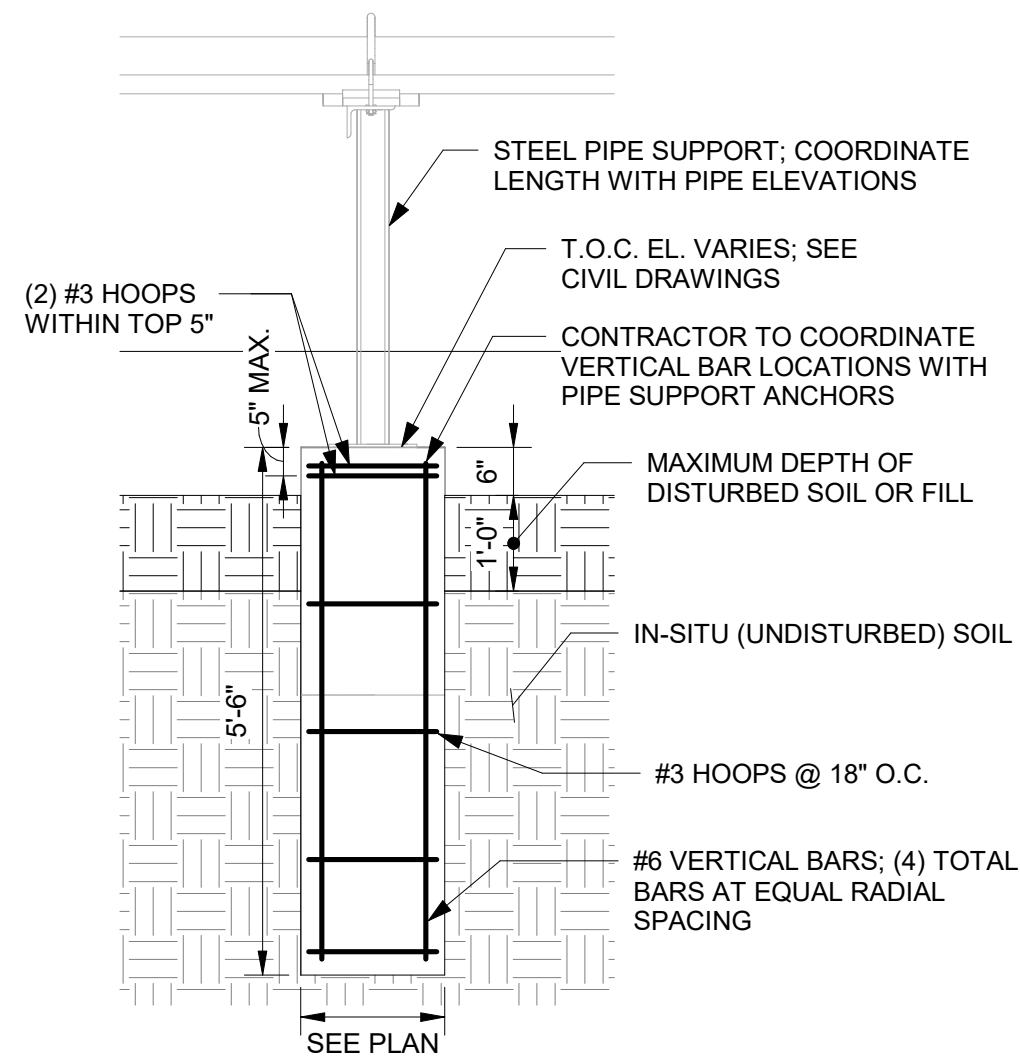
PAD SIZE SQ. FT.	NUMBER OF DOWELS
0-10	4
10-20	6
20-30	8

TYPICAL DETAIL

TYPICAL EQUIPMENT PAD DETAIL

N.T.S.

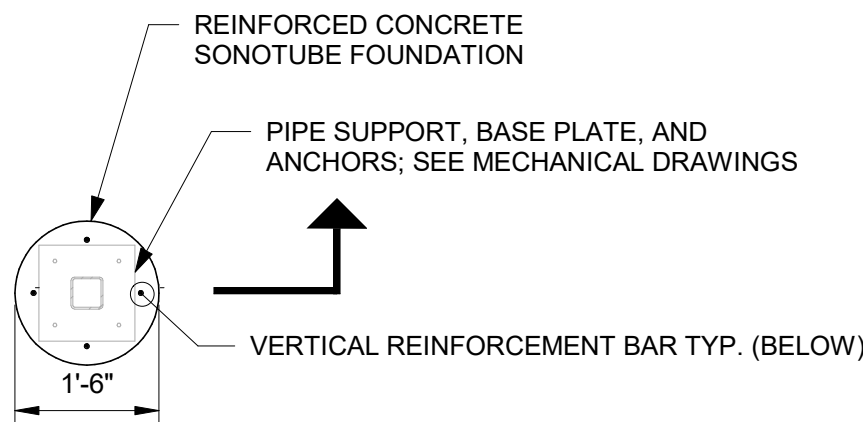
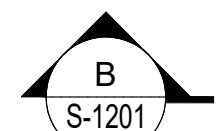
TD1



SECTION

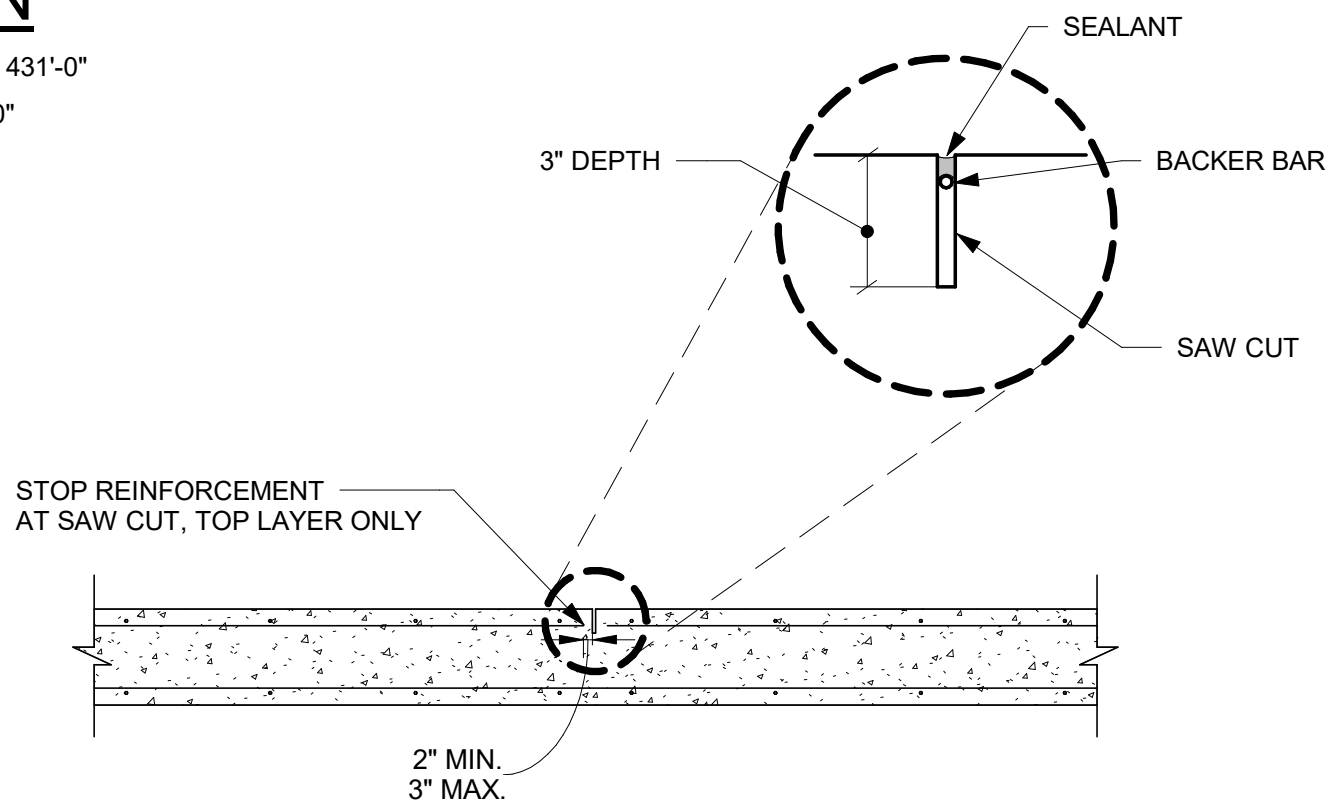
SONOTUBE DETAIL

1/2" = 1'-0"



PLAN

SLAB T.O.C. EL. 431'-0"
1/8" = 1'-0"



TYPICAL DETAIL

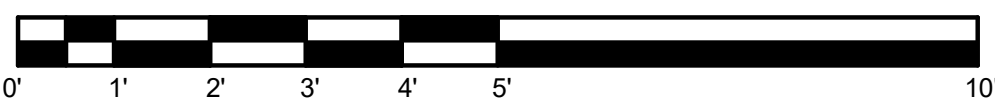
TYPICAL CONTRACTION JOINT

N.T.S.

TD2



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



GRAPHIC SCALE FOR: 1/2" = 1'-0"

REV. No.	REV. BY	REV. DATE	DESCRIPTION	CHECKED BY	PROJECT LEAD	ENGINEER
2	CWW	6/1/2022	REVISED FOR EQUIPMENT	BRL	AL	BRL
1	CWW	5/27/2022	ISSUED FOR CONSTRUCTION	BRL	AL	BRL

SEAL

STATE OF NEW HAMPSHIRE
BRADLEY LOEB
No. 16885
LICENSED PROFESSIONAL ENGINEER
6/1/22

SIGNATURE _____ DATE _____

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WALDRON.COM

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DATE DRAWN	ORIGINAL SIZE
3/24/2022	ANSI D

CLIENT

CITY OF LEBANON, NH

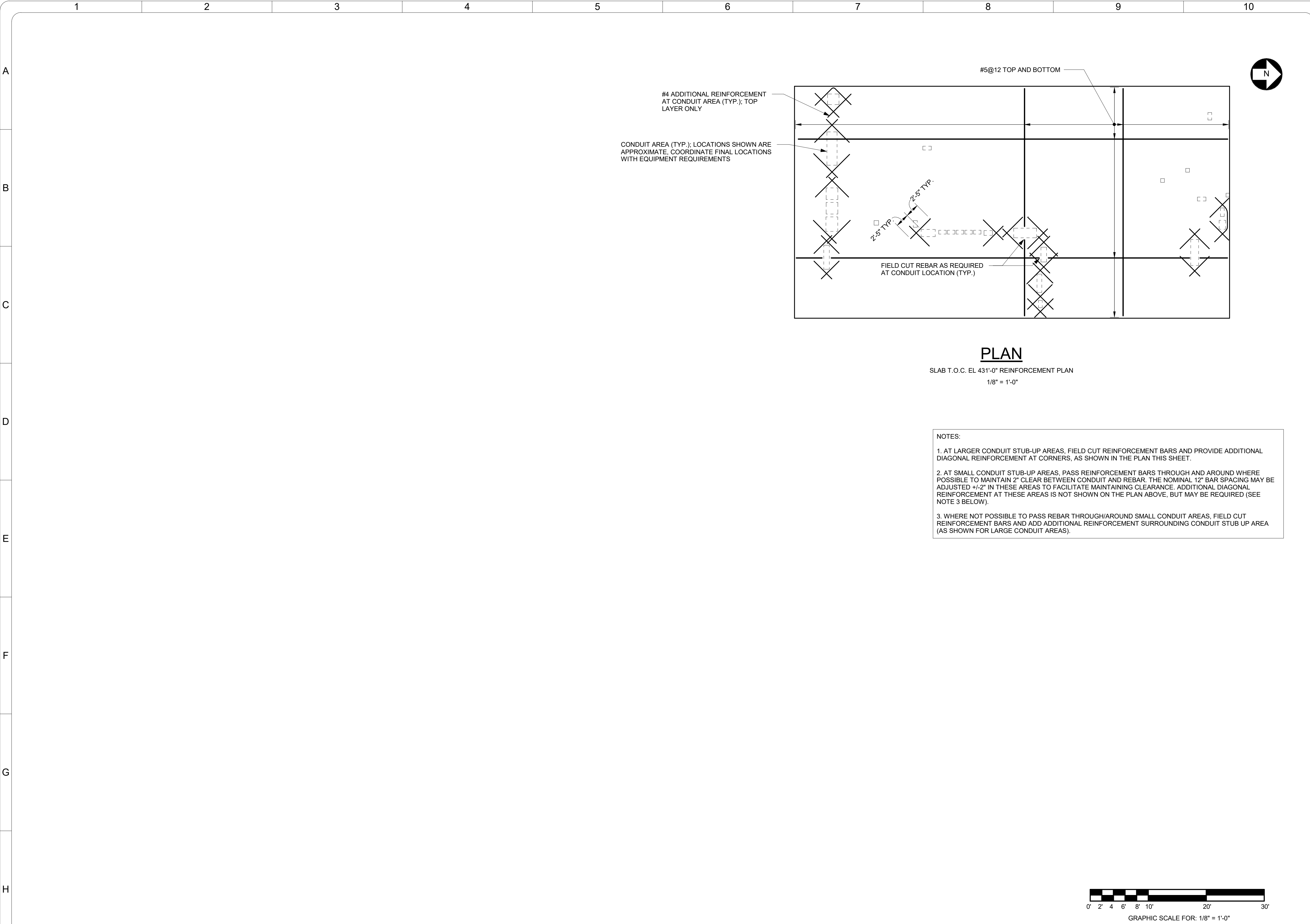
DRAWING TITLE

LANDFILL GAS TO ENERGY PROJECT

FOUNDATION PLANS
SECTIONS AND DETAILS

CLIENT DRAWING No.

W.E&C PROJECT No.	W.E&C DRAWING No.
417.02	S-1201



ISSUED FOR CONSTRUCTION				BRL		AL	BRL
1	CW	5/27/2022					
REV. No.	REV. BY	DATE	DESCRIPTION				CHECKED BY
							PROJECT LEAD
							ENGINEER

SEAL

5/27/2022

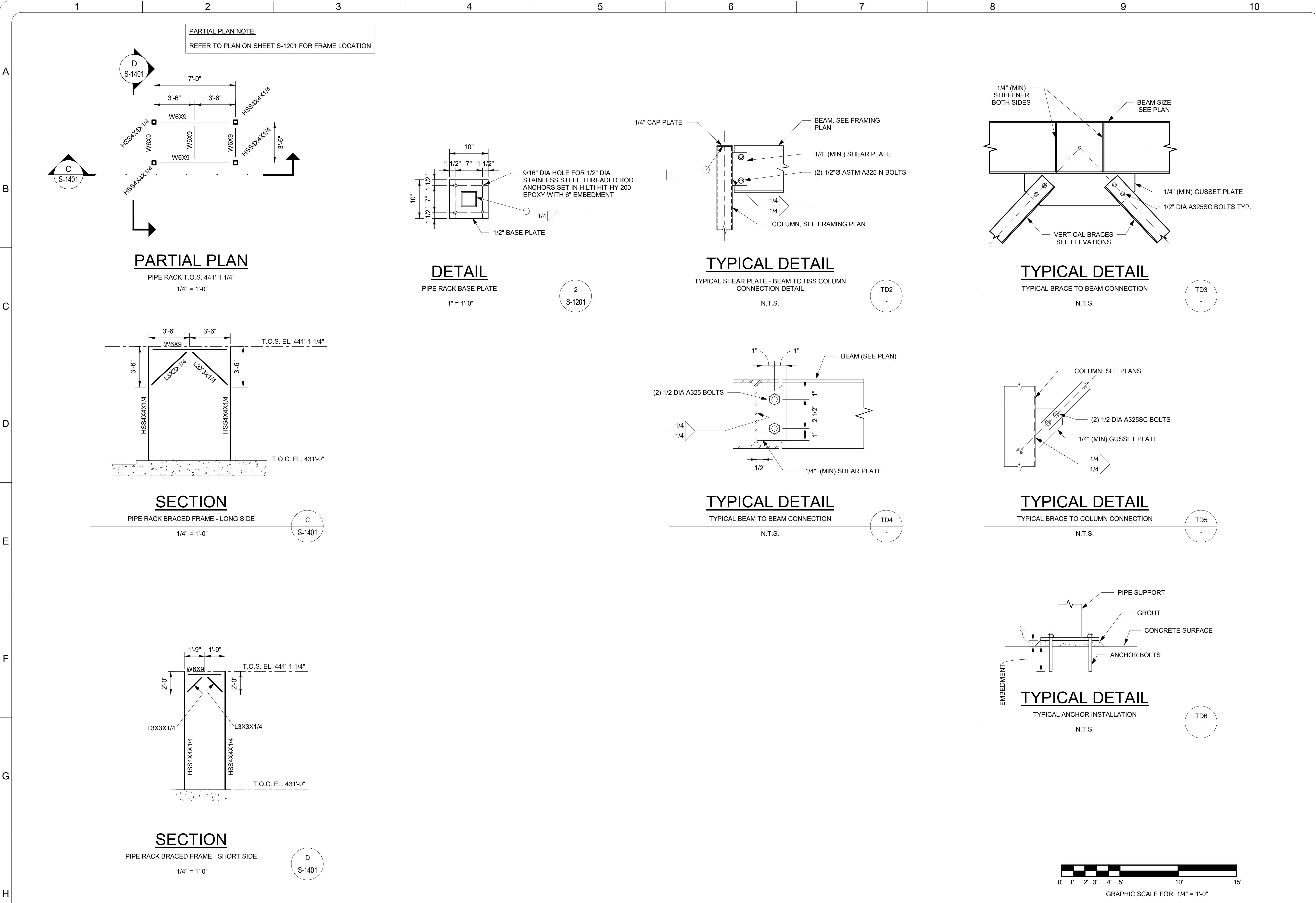
SIGNATURE DATE

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DATE DRAWN 05/24/22	ORIGINAL SIZE ANSI D
CLIENT CITY OF LEBANON, NH	
DRAWING TITLE LANDFILL GAS TO ENERGY PROJECT REINFORCEMENT PLAN	
CLIENT DRAWING No.	
W.E&C PROJECT No. 417.02	W.E&C DRAWING No. S-1301



1

CVW

5/27/2022

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DESCRIPTION

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PROJECT

DATE

LEAD

ENGINEER

SEAL

STATE OF NEW HAMPSHIRE

BRADLEY LOEB

No. 16885

PROFESSIONAL ENGINEER

5/27/2022

SIGNATURE

DATE

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DATE DRAWN

05/03/22

ORIGINAL SIZE

ANSI D

CLIENT

CITY OF LEBANON, NH

DRAWING TITLE

LANDFILL GAS TO ENERGY PROJECT

STEEL PLANS SECTIONS AND DETAILS

CLIENT DRAWING No.

W.E&C PROJECT No.

417.02

W.E&C DRAWING No.

S-1401

