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# California Underground Facilities Safe Excavation Board

July 10-11, 2023

## Agenda Item No. 19 Information Item – Staff Report

*Planning and Design Ticket Development Update*

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### **PRESENTER**

Anona Bonner, Policy Manager

### **SUMMARY**

At its April meeting, the Board discussed planning and design survey results and requested a demonstration from Pennsylvania 811. In June, the Planning and Design Committee facilitated a workshop to gain insight on how one of the leading states handles design tickets and to hear from stakeholders on how they would structure a design ticket. Staff recommends the Board direct staff and the committee to develop the design request process and conduct outreach to designers, operators, and regional notification centers for feedback regarding the process. In addition, Board should direct staff and the committee to begin identifying which aspects of the design request process may be suitable for legislation, regulations, and/or safety standards.

### **STRATEGIC PLAN**

2020 Strategic Plan Objective: Improve Excavation and Location Practice Safety

2023 Plan Activity: Develop a Planning and Design Ticket

### **BACKGROUND**

Government Code Section 4216.18 requires the Board to develop standards relevant to safety practices in excavating around utilities and procedures and guidance in encouraging those practices. State law does not currently require regional notification centers to offer a design ticket option or require anyone to use it, though some laws (such as California Public Utilities Commission General Order 128) require operators to provide underground facility location information.<sup>1</sup>

The Board has identified several problems that could be addressed through a structured planning and design process:

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<sup>1</sup> CPUC [General Order 128](#), Rule 17.7.

- In January 2022 the Board discussed the 2019 explosion in the Richmond District of San Francisco occurred when a contract excavator installing fiber through trench excavation struck a gas line. Had the location of existing buried facilities considered in developing the engineering plans, engineers might have directed construction away from the gas line or at least alerted the construction crew to locations of potential conflict.<sup>2</sup>
- During the November 2021 meeting, the Board reviewed simulations that demonstrated that even a relatively small percentage of excavators requesting a start date later than the legal minimum can dramatically reduce workload volatility at a system-wide level.<sup>3</sup>

The Board has examined how a structured planning and design process could benefit the state:

- During the Board's May 2021 meeting<sup>4</sup> and later,<sup>5</sup> the Board discussed whether a new type of ticket targeted at planning and design could alleviate delays in the locate and mark process.
- During the Board meeting in November 2021, the Board reviewed how communication between designers and utility operators could be facilitated through a process such as Colorado's 811 engineer (or planning) ticket.<sup>6</sup> While not mandated to do so, both California call centers have created an option for designers to look up utility contacts for design purposes through their respective websites. In California, designers must currently contact the operators themselves to request underground utility information. The Board also reviewed Colorado's use of subsurface utility engineering<sup>7</sup> and implementation of the Common Ground Alliance's recommendation for a flexible ticketing process.<sup>8</sup>
- The Board held a virtual Planning Ticket Workshop in February 2022 led by Member Johns and released surveys for both designers and operators on the Board website. Building designers cited the need information in the design phase and that having precise location of utilities early helps them identify challenges to the excavation before construction begins.

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<sup>2</sup> [19SA1279: Geary Street Natural Gas Explosion and Fire](#)

<sup>3</sup> [November 9, 2021, Agenda Item No. 7, "Measuring Ticket Volatility and Estimating Locator Workload"](#)

<sup>4</sup> [May 11, 2021, Agenda Item No. 9, Issues Identified by USA North 811 Regarding Locate-and-Mark Responses and Tickets"](#)

<sup>5</sup> [July 13, 2021, Agenda Item No. 8, "Discussion on Locate and Mark Issues"](#)

<sup>6</sup> [November 9, 2021, Agenda Item No. 6, "Planning and Design Ticket -- Comparing & Contrasting California with Colorado"](#)

<sup>7</sup> [Colorado 811 Statutes §103](#)

<sup>8</sup> [Common Ground Alliance NEXT Practices Report February 2021](#)

- In its September 2022 meeting,<sup>9</sup> the Board discussed the need to further define the project size and the timeframes as needs may vary by project. The Board created a Planning and Design Committee of Members Johns and Johnson, to clearly define “design” and the components of the design process and identify what types of information designers need at different stages of the design process.
- In its April 2023 meeting,<sup>10</sup> the Board discussed survey results that indicated that designers need buried facility information early in the design process and requested a demonstration from Pennsylvania 811 of its *Coordinate PA* web design application.

## DISCUSSION

To continue developing a design request process, Board staff seeks to understand different design request options that could meet the needs of Californians.

### Planning and Design Workshop<sup>11</sup>

The Planning and Design Committee held a workshop to gain insight on how one of the leading states handles design tickets and to hear from stakeholders on how they would structure a design ticket.

### Pennsylvania (PA) Design Ticket Overview and *Coordinate PA* Demonstration

Pennsylvania 811 provided an overview two types of design notifications: Preliminary and Final Design. Preliminary notifications occur early in the design process when the scope of the project is being determined and occurs more than 90 business days before the completion of the final design. The final design notification occurs between 10 and 90 business days prior to the completion of the final design. Within 10 business days, the operator is required by law to mark-up the drawing provided, send the designer information, or provide information via an alternate method that the designer agrees to.<sup>12</sup> The design notification option has been a part of the PA Underground Utility Line Protection Law since the inception of law. Pennsylvania 811’s approach to the design ticket is that safety begins at design, not during construction when the excavation occurs.

Pennsylvania 811 completed a live demonstration of the *Coordinate PA*<sup>13,14</sup> application. The application allows designers, local governments, etc. to upload upcoming project designs into a centralized software application to foster collaboration and utility coordination throughout the project lifecycle. Below are highlights from the *Coordinate PA* demonstration:

- Pennsylvania 811 does not charge to use *Coordinate PA* application.
- *Coordinate PA* supports all Pennsylvania 811 ticket types throughout the project

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<sup>9</sup> [September 13, 2022, Agenda Item No. 7, "Planning Ticket Update"](#)

<sup>10</sup> April 10, 2023, Agenda Item No. 11, “Planning [and](#) Design Ticket Development Update”

<sup>11</sup> [June 2023 Planning and Design Workshop](#)

<sup>12</sup> [Designers | Pennsylvania One Call System \(pa1call.org\)](#)

<sup>13</sup> [PA811 Excavation Safety Guide 2023, pp. II-V](#)

<sup>14</sup> [Coordinate PA | Pennsylvania One Call System \(pa1call.org\)](#)

lifecycle.

- Designers can start *Coordinate PA* once they have a concept drawing.
- Designers are required by law to send the drawings electronically to Pennsylvania 811.
- If the operator does not have drawings depicting the subsurface utilities, then the operator can mark up the designers drawing and state that is the best that they have within *Coordinate PA*.
- Users can share project information and change settings to allow others to see the project. For example, local governments can upload upcoming right of way or paving projects allowing them to collaborate with other project designers looking to complete excavation projects within each of the project site. Utilizing the *Coordinate PA* application, Bellevue Borough was able to pave twice as many miles of roadway in their Borough when they collaborated with Columbia Gas during their pipeline replacement. Columbia Gas was able to use the same contractor and received a 50% reduction in their per foot cost of paving for the area that there was not joint work going on.
- The designer can choose not to share the design project within *Coordinate PA*. Once the designer submits the final design then the ticket is shared. This functionality had helped with dealing with competitive concerns.
- Designers can upload shape files or xml files to load multiple projects at once.
- Pennsylvania established Coordinating Committees<sup>15</sup> throughout the state to collaborate on design projects within their respective region. Typically, *Coordinate PA* is utilized during the meeting to discuss overlapping projects.
- The Pennsylvania 811 Liaison Team<sup>16</sup> receives daily notifications containing a summary of utility coordination meetings scheduled. The liaison provide training to designers on how to process their design projects through *Coordinate PA* within their assigned region. The liaisons reach out on every project to see if assistance is needed. The liaison typically facilitates the Coordinator Committees.
- Pennsylvania 811 is willing to partner with other states. They are currently talking to other states like Oklahoma. They have built an API to connect to the existing ticketing system. They are also in the process of connecting to PennDOT system, so the state's transportation agency can enter information one time and the information transfers directly into *Coordinate PA*.

### Workshop

The workshop asked the stakeholders two questions.

- 1) Several states have implemented design requests and have structured the requests in in different ways. Below are a couple of examples of design requests. How would you structure an 811-design request? Do you have any comments regarding the examples below?

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<sup>15</sup> [Pennsylvania 811 Coordinating Committees \(pa1call.org\)](http://pa1call.org)

<sup>16</sup> [Pennsylvania 811 Liaison Regions \(pa1call.org\)](http://pa1call.org)

#### One Ticket Example:

- a. Designer requests operator information affecting the excavation area (including but not limited to maps, surveys, as-builts, drawings or other information regarding subsurface infrastructure) OR locate and mark if information is not available. No excavation shall occur with a Design Ticket.

#### Two Ticket Example:

- a. Information only: Designer requests operator information affecting the excavation area (including but not limited to maps, surveys, as-builts, drawings or other information regarding subsurface infrastructure). No excavation shall occur with a Design Ticket.
  - b. Locate and Mark: Designer requests operator to locate and mark existing subsurface facilities for design, bidding, or other advance planning purposes. A design locate request may not be used for excavation purposes. Cannot be submitted unless designer previously submitted a design Information request.
- 2) What information should designers provide in a design request? What information gets designers what they need? What information is lacking in many design requests that makes the requests challenging to fulfill?

The workshop portion yielded one public comment indicating the need for legislation before the Board develops a design ticket as well as the need to get stakeholder agreement on items such as requiring a reasonable timeframe for operators to respond to design tickets, to specify what the operator is required to provide, and to determine if operators can charge for drawings.

### **Other States Design Requests**

Below are examples of design tickets in other states:

#### Inquiry Only

An inquiry only option allows designers to obtain a list of affected utility operators within the planned project area and their contact information from the regional notification center. After obtaining the information, the designer contacts each of the utility operators to obtain information regarding subsurface utilities within the planned project area. This is an information request only. No excavation shall occur.<sup>17,18</sup>

Additional Information:

- Currently, the inquiry only option is informally in place with the regional notification

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<sup>17</sup> [Project Designers - Arizona 811](#)

<sup>18</sup> [Alaska 811 Digline Inc](#)

centers.<sup>19,20</sup>

- No enforcements if operators don't respond or don't respond timely to designers.
- Designer feedback indicates it generally requires multiple follow-ups with the operator and they may or may not receive information. Designers also provided feedback that operator information is often out of date.

### Information Only (No Option for Field Marks)

The designers submit an information request through the regional notification center, who then send the design ticket information to the affected utilities in the planned project area to provide records such as maps and surveys. This is an information request. No excavation shall occur.<sup>21</sup>

#### Additional Information:

- Designers as well as operators have expressed concerns of quality of the maps provided and deciphering documents without context.
- No locate and marks are provided with this option.
- The process would need to address "What happens if the operator does not have maps and the only information is to locate and mark?" Michigan's Law includes a clause that the operator shall mark if they do not have drawings or records depicting the location of the subsurface installations.<sup>22</sup>
- Designers utilizing subsurface utility engineering would be able to achieve quality level D, C, B with this information.

### Information Only (Includes Option for Field Marks)

The designer submits a design request through the regional notification center, which then sends the design ticket information to the affected utilities in the planned project area. Each operator has the option to do one of the following: locate and mark, provide information or drawings, or allow records to be inspected/copied by the requestor. This is an information request. No excavation shall occur.<sup>23,24,25,26,27,28,29,30,31</sup>

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<sup>19</sup> [DigAlert Contact Lookup](#)

<sup>20</sup> [USA North Utility Member Contact Request](#)

<sup>21</sup> [Michigan Miss Dig Underground Facility Damage Prevention and Safety Act Section 460.726a](#)

<sup>22</sup> [Michigan Miss Dig Underground Facility Damage Prevention and Safety Act Section 460.726a](#)

<sup>23</sup> [Alabama Underground Damage Prevention Law Section 37-15-4.1](#)

<sup>24</sup> [Georgia Code Title 25 Chapter 9 Section 25-9-4](#)

<sup>25</sup> [Indiana Code Chapter 26 Damage to Underground Facilities Section 8-1-26-18](#)

<sup>26</sup> [Mississippi Code of 1972 Title 77 Chapter 13 Section 77-13-9\(7\)](#)

<sup>27</sup> [North Carolina Underground Utility Safety and Damage Prevention Act Section 87-127](#)

<sup>28</sup> [South Carolina Underground Facility Damage Prevention Act Section 58-36-100](#)

<sup>29</sup> [Tennessee Underground Utility Damage Prevention Act Section 65-31-118](#)

<sup>30</sup> [Oregon Utility Notification Center 952-001-0080](#)

<sup>31</sup> [Kentucky Revised Statutes Chapter 367 Section 367.4909\(8\)](#)

Or

The designers submit an information request through the regional notification center, who then send the design ticket information to the affected utilities in the planned project area to provide records such as maps or field marks. This is an information request. No excavation shall occur.<sup>32</sup>

Additional Information:

- Provides options for the operator to choose from.
- Designers as well as operators have expressed concerns of quality of the maps provided and deciphering documents without context.
- California law does not specify records can be inspected/copied by the requestor.
- Designers utilizing subsurface utility engineering would be able to achieve quality level D, C, B with this information.

#### Design Locate

Designers submit a request to the regional notification center to obtain field marks. The regional notification center sends the ticket information to the affected utility operators and the utility operators respond with paint or flags at the project's site. This is an information request. No excavation shall occur.<sup>33,34</sup>

Additional Information:

- Virginia's Underground Utility Damage Prevention Act allows operator to provide information through various mean including but not limited to, "field locates, maps, surveys, installation records or other means." However, "if the designer request field locates, the operator shall provide field locates..."<sup>35</sup>
- Provides an opportunity for the designer to obtain locate and marks.
- If the designer will be potholing utilities as part of the design, then a standard locate request is submitted. Potholing meets the definition of excavation.<sup>36</sup>
- Designers utilizing subsurface utility engineering would be able to achieve quality level D, C, B with this information.

Alternate Considerations:

The design locate could be structured to allow potholing only. The ticket could allow for additional time for locators to mark the site than the standard locate request. Designer utilizing subsurface engineering would be able to achieve quality level A.

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<sup>32</sup> [Minnesota Gopher State One Call 2023 Handbook](#)

<sup>33</sup> [New Mexico Pipeline Safety Excavation Damage Prevention Section 18.60.5.12\(A\)\(3\)](#)

<sup>34</sup> [Missouri Underground Facility Safety and Damage Prevention Section 319.027](#)

<sup>35</sup> [Code of Virginia Underground Utility Damage Prevention Act Section 56-265.17:3](#)

<sup>36</sup> [Government Code §4216\(g\)](#)

## Utility Coordination Meetings

Some states allow designers to submit pre-construction or utility coordination meetings request<sup>37,38, 39,40,41</sup> to assist in advancing the design, on large/complex, or government projects.

Additional Information:

- Connecticut states requires public utilities to “attend all preconstruction meetings of which it has knowledge related to excavation or demolitions which might affect its facilities for the purpose of addressing special or particular issues related to public safety as well as other issues related to the proposed excavation or demolition.”<sup>42</sup>

## **Legislative, Regulatory, and Standards Needs**

As the Planning and Design Committee and staff develop the design request process, they will need to evaluate which components need legislation, which should be in regulation, and which should be a safety standard.

## **RECOMMENDATION**

Staff recommends the Board direct staff and the Planning and Design Committee to develop the design request process and conduct outreach to designers, operators, and regional notification centers for feedback regarding the process. In addition, Board should direct staff and the committee to begin identifying which aspects of the design process may be suitable for legislation, regulations, and/or safety standards.

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<sup>37</sup> [Oregon Secretary of State Administrative Rules](#)

<sup>38</sup> [§ 56-265.22:1. Meetings between excavators and operators \(virginia.gov\)](#)

<sup>39</sup> [Wyoming Damage to underground Public Utility Facilities Section 37-12-307\(b\)](#)

<sup>40</sup> [New Mexico Pipeline Safety Excavation Damage Prevention Section 18.60.5.12\(B\)\(3\)](#)

<sup>41</sup> [Minnesota Gopher State One Call 2023 Handbook](#)

<sup>42</sup> [Connecticut Agencies Regulation Section 16-345-3\(e\)](#)