Texas Western Model Railroad Club

ProTrak Weekend 2015

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May 2015

Agenda

- Introduction
- Requirement
- Approach
- Design
- Construction
- Operations
- Discussion

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The Old Home

A New Home

- A permanent home was leased at 6808 Forest Hill Drive, Forest Hill, TX
- The old City of Forest Hill Community Center building with approximately 4700 square feet of total space.
- Areas for meetings, museum displays, a kitchen, full size restrooms, work areas, *and* yes a model train layout too!
- But…at 2441 square feet the space for layout was approximately 25% smaller than current layout footprint.
- The new layout will more accurately represent railroading in Fort Worth and the Southwest than the previous layout.
- Careful modeling will provide a educational and historical depiction of what the railroads were about in the 1950's.

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The Requirement

Through a membership survey the direction and type of layout and building usage was determined.

- At the top of the list were prototypical freight and passenger operations, a separate area for programming, and running trains around the layout with long runs.
- Also high on the survey was having a place for clinics, a work area, museum area, and storage areas.
- Most popular era was about what we have currently, but expanded from 1959. 1942-1962

More Choices

The survey further asked about the geographical area that should be represented.

- The summary of the choices indicates that most members like representing the main part of Fort Worth as we did on the old layout but want to add other Railroads and their associated yards.
- The members also chose to incorporate an active Tower 55 and to have standard gauge in Texas and narrow 3’ gauge in Colorado and New Mexico.
- Further, we chose “somewhat prototypically accurate modeling with structures typical of the era” as our standard for authenticity. Correct enough to make areas recognizable to most visitors.

Must Have

During one of the general business meetings we listed items that the membership felt "Must" be represented on the new layout if at all possible:

- Fort Worth with the Passenger and Freight Stations.
- Tower 55 with prototypically correct double track diamond
- Lancaster Yard and engine facilities
- Stockyards
- Santa Fe Passenger and Freight stations with small yard
- FW&D yard and engine services
- Grain Elevators (Saginaw & Fort Worth)
- Narrow gauge railroads in Colorado and New Mexico
- Steel Mill Complex
- Timber industry
- Oil and Refinery
- Agriculture – open fields with crops

Like to Have

Similarly, we listed some items that we would "Like" to have on our layout:

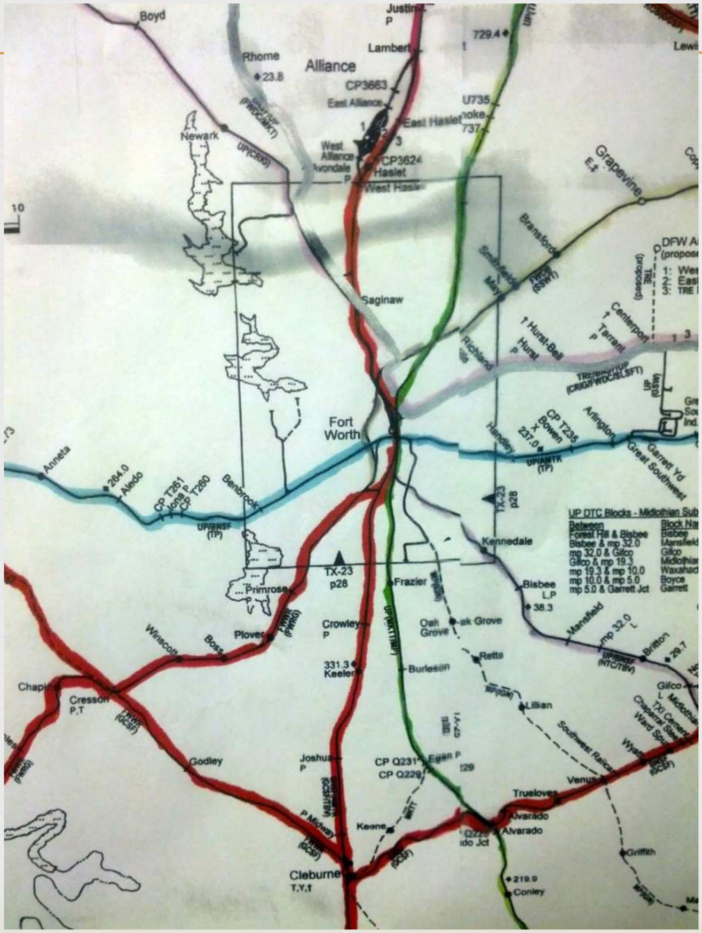
- Cities of Houston, Dallas, Waco, Temple, Abilene, Amarillo, OKC, and Marshall.
- Also wanted to show coal and iron mining
- And if possible a trolley to a Forest Hill stop.

Railroads to Represent:

The club selected almost all of the area's railroads.

- Texas & Pacific / MoPac
- AT&SF
- FW&D
- Southern Pacific
- MKT
- Rock Island
- Frisco

The Tarantula



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The Approach

- Use a committee of five expert layout designers guided by the requirements to create competing designs.
- Socialize the designs at committee meetings.
- Narrow the candidate designs down to two.
- Select one design and present it to the club for approval.
- This worked, but what really happened was that designers incorporated ideas from each other's designs, so in the end they weren't that much different which was very good for relationships…

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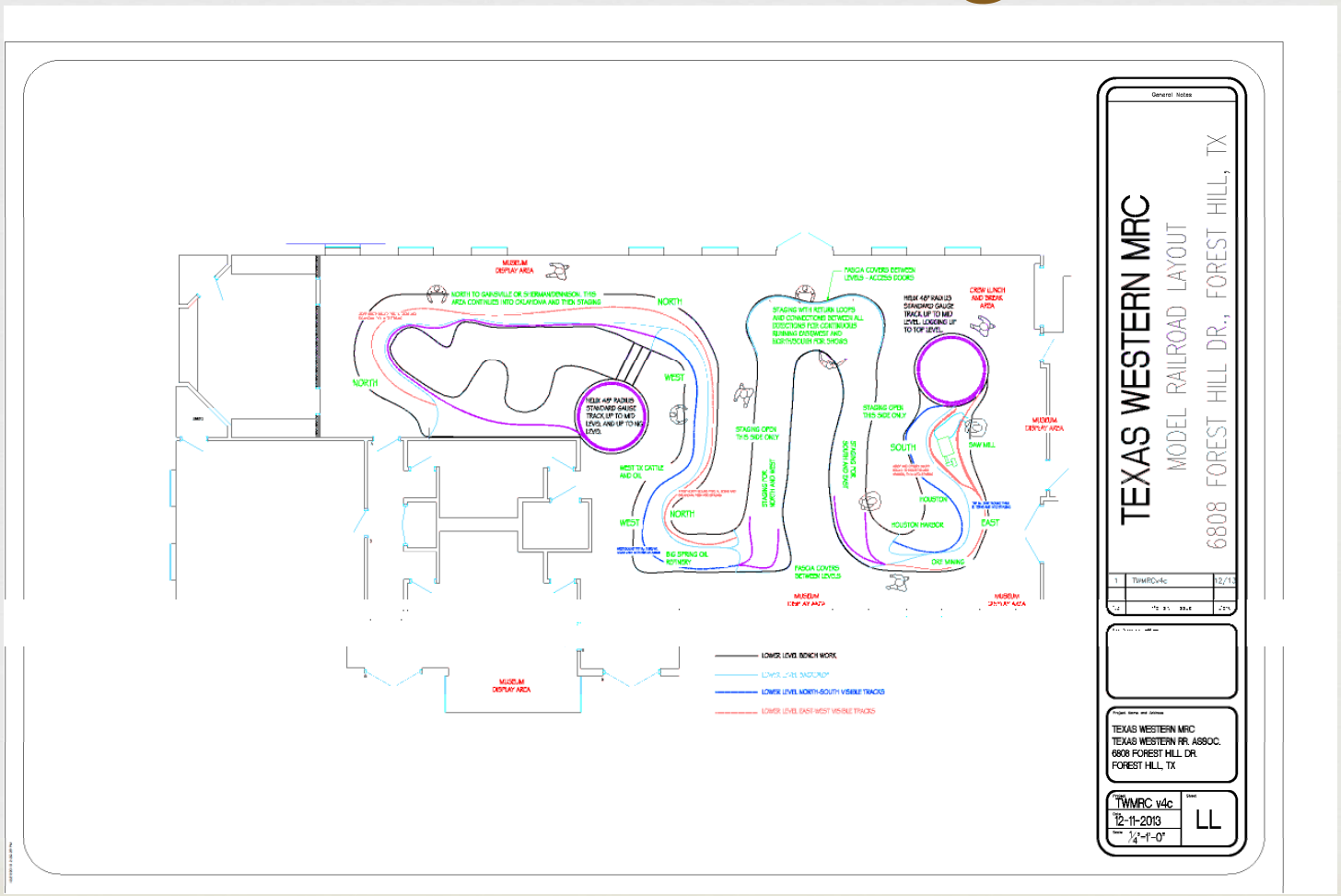
The Design

The Tower 55 Dilemma:

- By choosing to represent a working Tower 55 we created an issue. Our layout now has to be an "X".
- This "X" is the crossing at Tower 55 and effectively divides the available length of train runs by half!
- Instead of one long serpentine layout (such as the old layout) running along in the available space, we now have an X which needs more space.
- A LOT of time and discussion went into how we could model Tower 55 **AND** still have ***long runs*** for our trains.
- By flattening the "X" we were able to put different directions on opposite sides of the same bench work and give us much longer runs.
- Still with this overall shortening of layout run length, it was decided to keep towns represented within a roughly 100 mile radius of Fort Worth, with the exception of Houston.

Lower Level Diagram



Lower Level Notes

Lower Level Notes

- There are two helix structures at each end of the layout permitting travel between the three levels.
  - The benchwork for the helix is 9′ in diameter which will allow for 8′ diameter inside track. With a circumference of 25′-1″ the grade would be 1.16%, very light.
  - The 7′-6″ inside diameter track would have a circumference of 23′-6″ the grade would be 1.24%, still manageable for most trains as we run locomotive heavy most of the time anyway.
- The lower level will be approximately 30″ above floor, but is not definite.
- The center section of the lower level is the main staging area for North, South, East, and West and will be accessible or viewable only on one side of the bench work. The other side will have a full skirt between the levels.
- Staging yards have room for return loops, cross over tracks, and the ability to run continuous for Open House. However, with Tower 55 you will now need to monitor traffic like never before during loop running.
- The lower level also has visible modeled portions in all four compass directions for additional operations and scenery.

Middle Level Notes

Middle Level Notes

- The middle level is where the major scenery and most action takes place.
- It will be approximately 48" above the floor, easy viewing for most people.
- The main focus of the middle level is Tower 55 and the double diamond crossing viewable from both sides of the layout. All nearby radius are within standards for passenger operations and trains can be turned per prototype operations.
- T&P passenger, freight, round house, and diesel engine facility are reused.
- The Post Office and REA are also reused along with much of the Fort Worth flats behind them.
- Lancaster Yard will be downsized due to the increased number of other railroad's smaller yards now taking a share of the load.
- Santa Fe passenger and freight building will be added with yard trackage.
- Santa Fe now runs past Saginaw and down to the lower level representing far north Texas and central Oklahoma before entering staging.

Middle Level Diagram

Middle Level Notes II

Middle Level Notes

- Fort Worth & Denver will have their yard, small engine facilities, and turn table shown.
- The FW&D also will be the connection to the narrow gauge via the helix up to Alamosa on the top level.
- Southern Pacific and MKT also have small representative yards and places to go.
- The Stockyards will still be represented in approximately the same space but with access by more railroads per typical operations.
- The well-known "Race Track" with three tracks running north of Fort Worth will be represented with the three bridges over the river.
- Saginaw has been added with large grain silos and switching before going into staging.
- The Steel mill is now in east Texas with ore mining on the lower level.

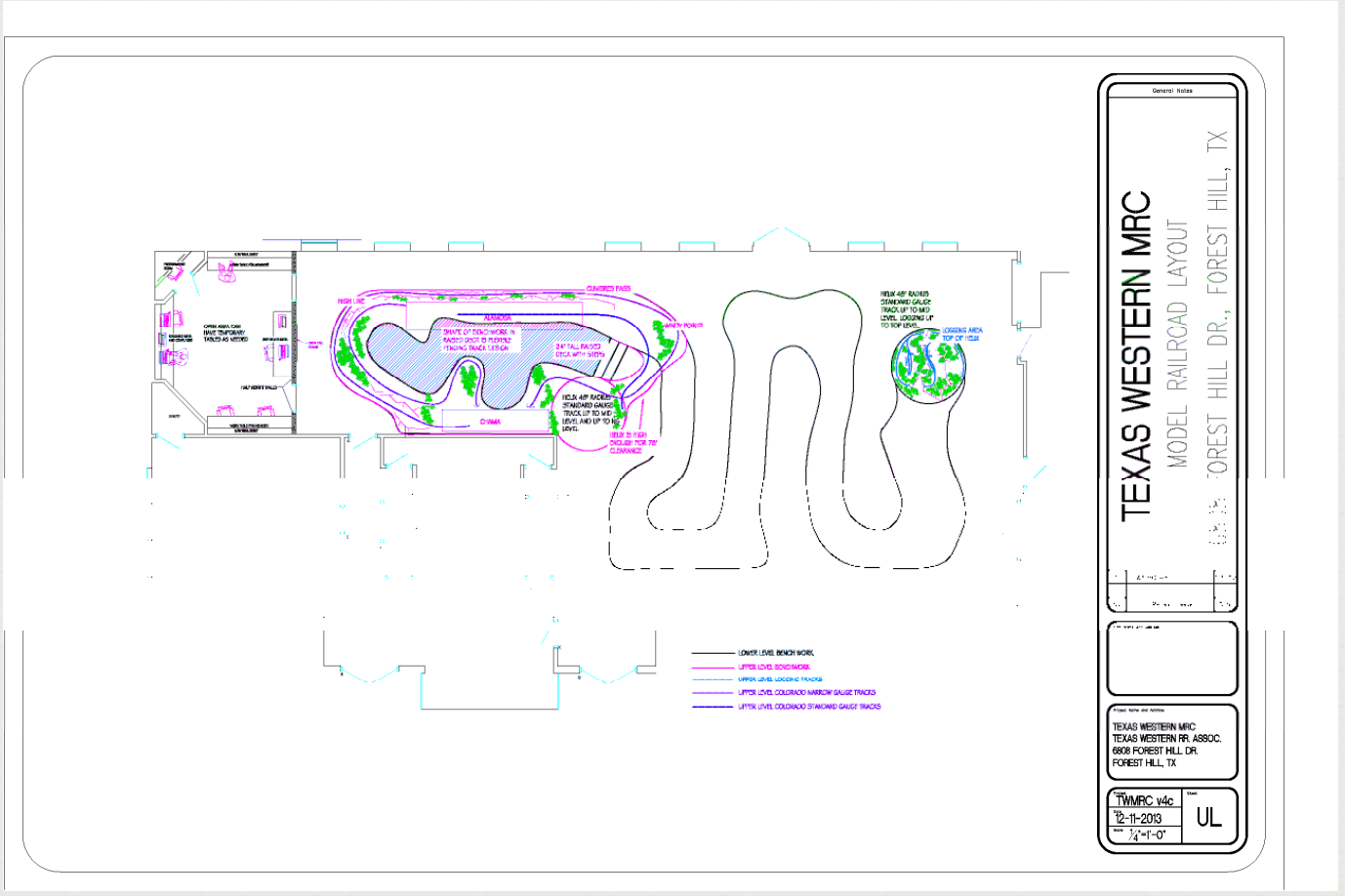
Show Middle Level

- Discuss Tower 55 and operations.
- Discuss full path of trains traveling N-S-E-W. Discuss use of lower level at this point for Houston, the saw mill,, ore mining, the refinery in Big Spring, and west Texas cattle/oil.
- Discuss the staging yards, operations, and visibility.

Revisit Lower Level

- Note that trains running south will terminate in Houston and the harbor or enter staging. It will be downsized some, but still a viable yard.
- Middle deck is very narrow behind downtown Houston buildings and trains will be hidden for much of the travel behind.
- The saw mill complex is on lower level with middle level very narrow above for better viewing.
- Trains passing the saw mill heading east will pass ore mining before entering hidden staging.
- Santa Fe heading north can travel into OK for better operations and connections to the east coast. This is an excellent place for farm land and open running.
- Trains heading west will go to the refinery in Big Springs and then on to Abilene for cattle and connections to west coast in staging.

Upper Level Diagram



Upper Level Notes

Narrow Gauge area

- The deck is 24″ tall and has steps up at the Lancaster yard area. It is not ADA compliant.
- FW&D travels to top of helix and enters Alamosa. The helix is tall enough that the cross over is minimum of 6′-6″ tall like a door way. No ducking under!
- Alamosa is the end of the line for standard gauge where trains. They are turned and sent back southeast.
- Alamosa is sized as it was so little modification should be needed.
- Only narrow gauge trains leave Alamosa and travel around this mountainous level in two loops.
- Chama is also intact and incorporated into the area.
- Narrow gauge aficionados will determine track plan, additional towns needed, and terrain to best take advantage of the top deck.

Upper Level Continued:

Logging area

- Top of 9′ diameter helix has timber areas and standard gauge logging operations representing those in east Texas. Top of helix should be about 5′-6″ so a small pull out step may be needed.
- A ridge could divide the area to form a back drop with a lumber camp on either side.
- Shays travel up and down the helix to the saw mill on the lower level. *This trip is going to take a while, so it is good it is so close to the kitchen area*.
- Provides a nice opportunity to show off some scenic wooded areas and logging operations. Trees will look especially tall when viewed from eye level.

Show Upper levels:

- Discuss area where helix crosses aisle by Lancaster yard.
- Discuss shape of deck and bench work is flexible.
- Discuss middle level “hidden” tracks are visible through slot in fascia all along their path for easy cleaning and operations.
- Discuss how this area might be viewed from outside deck.
- Track work is very representational and not actual.
- Show logging operations area.

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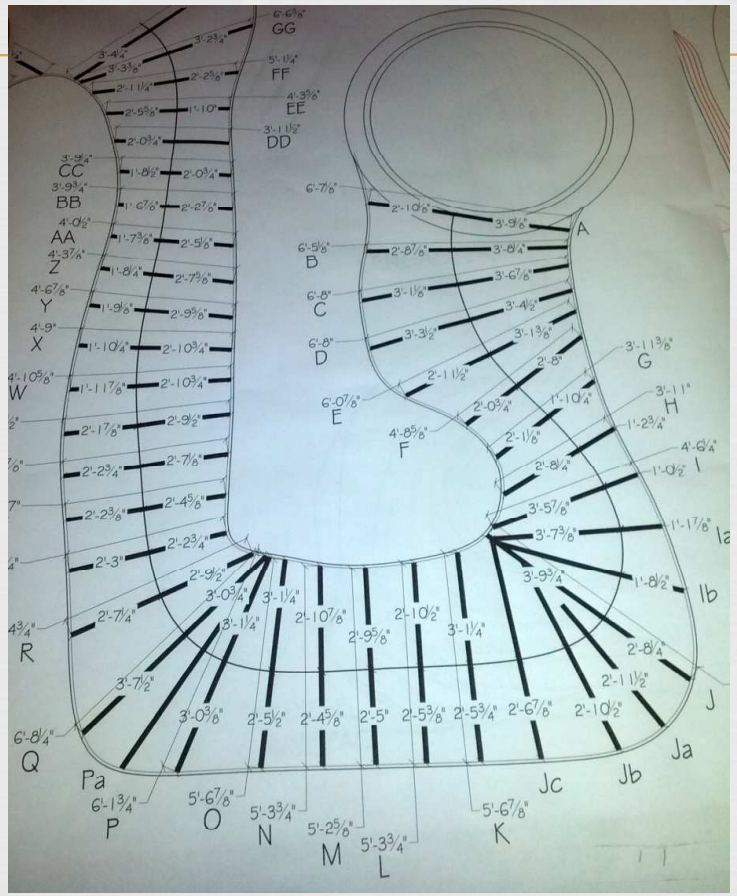
Construction

Construction is steel, plywood, and foam.

- The layout will be in two levels with a third level for the narrow gauge in NM and CO.
- The backbone or center wall will be constructed from steel studs and a flexible steel (FlexC) base and top cap. Cross members are from steel studs, too.
- The layout will be cantilevered from each side of the center wall with a base of ½ plywood topped with foam.
- All isles will be ADA compliant at four feet with five foot turning circles.

Bi-level Mockup

Bi-level Mockup



Slide Show of Construction

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Operations

Questions to be answered

- Should we use one ProTrak database for all railroads or separate instances for each railroad – the objective is smaller personnel requirements for operations. Just operate one railroad if few people are available. The talent requirements for seven yard masters is very scary to us.
- We are leaning toward one instance of ProTrak because we don't want to try to manage the integration of all those railroads and life is too short!

Operations - *continued*

More questions to be answered

- How would we set up Divisions? We think divisions are political boundaries for management of territorial assets, e.g., personnel, track, repair, maintenance…but know we must configure them in ProTrak. If we use one division for all those railroads, will there be any down side?
- How do we set up transfers between the yards? This is new to us but it is an essential part of prototypical Fort Worth operations.

Operations - *continued*

Yet more questions to be answered

- We want to set up Passenger Operations configuration of ProTrak first, then follow with freight, yard, etc. We think it would be easier for our people to learn the new layout and for us to configure ;-O Are we wrong, and if so, why?
- We think coordination between the dispatcher and a tower operator at Tower 55 would be difficult, so we are thinking about using the dispatcher to control the tower.

Operations - *continued*

And yet more questions to be answered

- We think we can represent all the railroad's timetables in ProTrak but integrated as one schedule. Is this true?
- How would we operate the power desk for each yard?
- Can we represent the service activities for each yard, e.g., diesel fuel, coal, and sand replenishment.
- And how about that RIP track?

Operations - *continued*

And still more questions to be answered

- We haven't look at crew calling yet, but think that can be handled with the train switch list, right? We think we could simply concatenate their names with the railroad, e.g., Friscomike. I have been told he is unique…
- Should we use separate staging tracks for each railroad although they may be in the same city?

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Discussion!